Kastamonu Education Journal, 2026, Vol. 34, No. 2, 408-427

https://doi.org/10.24106/kefdergi.1939398

| Systematic Review / Sistematik Derleme |

Systematic Review of Studies on Digital Literacy in Türkiye

Türkiye'de Dijital Okuryazarlığa Yönelik Yapılan Çalışmaların Sistematik İncelenmesi

Zehra Esra Ketenoğlu Kayabaşı[1], Emine Karasu Avcı[2]

Keywords

Digital literacy

Systematic review

Literacies

Abstract

This study aims to examine digital literacy studies conducted at the primary and secondary school levels in Türkiye between 2014 and 2024, according to specific criteria and to determine the general trend in the field This research used a systematic review with PRISMA. The universe of this research sources searched digital literacy studies found in the YÖK Academic [Council of Higher Education (CoHE)], National Thesis Center of the CoHE, Google Scholar search engines, and the National Academic Network and Information Center (ULAKBİM), which includes the index of peer-reviewed and scientific Turkish academic journals. The PRISMA method was used to obtain the research data, and the definition, screening, selection, and inclusion stages were followed. Then, in the separation and inclusion processes, the purposeful sampling method was used in line with the inclusion criteria determined by the researchers. The keyword "digital literacy" was used to support the screening process. The deadline for included studies was given as 03.10.2024. After applying the predefined inclusion and exclusion criteria, the number of studies identified through the digital literacy keyword search was reduced from 893 to 21 theses and 16 articles included in the analysis. In Türkiye, it is observed that the general patterns in processes related to digital literacy primarily focus on prediction and level determination, and that the subject has become more detailed in recent years. It has been determined that the articles and theses cover topics such as program review, scale development and application, skill level, student opinion, digital literacy level, evaluation of programs and textbooks, the success of digital literacy and its effect on permanence. It is observed that the research models used in the articles and theses are screening (qualitative/quantitative), case study and document analysis. The processes carried out are mostly reported at the secondary school level. Document review, interview protocols, and the use of scales or development companies have been identified as data collection tools in the articles and theses.

Anahtar Sözcükler

Dijital okuryazarlık

Sistematik derleme

Okuryazarlıklar

Öz

Bu araştırmada Türkiye'de 2014-2024 yılları arasında ilkokul ve ortaokul düzeyinde yapılan dijital okuryazarlık çalışmalarını belirli ölçütlere göre incelemek ve alandaki genel eğilimi belirlemek hedeflenmiştir. Çalışma tarama modelinde betimsel yaklaşımla gerçekleştirilmiştir. Bu araştırmanın evrenini YÖK Akademik, YÖK Ulusal Tez Merkezi, ULAKBİM ve Google Akademik veritabanlarında yer alan dijital okuryazarlık çalışmaları oluşturmaktadır. Araştırma verilerinin elde edilmesinde PRISMA yönteminden yararlanılmış olup yöntemin tanımlama, tarama, ayırma ve dâhil etme aşamaları süreçte izlenmiştir. Ardından ayırma ve dahil etme süreçlerinde araştırmacılar tarafından belirlenen dahil etme kriterleri doğrultusunda amaçlı örnekleme yöntemi kullanılmıştır. Tarama sürecinin amacına hizmet etmek üzere "dijital okuryazarlık" anahtar kelimesi kullanılmıştır. Dahil edilecek çalışmalar için son tarih 03.10.2024 olarak belirlenmiştir. Dijital okuryazarlık anahtar kelimesi veritabanı araması ile başlangıçta 893 çalışmaya erişilmiş olup, kriterlere yönelik elemeler yapıldığında 21 tez ve 16 makale çalışmaya dahil edilmiştir. Türkiye'de dijital okuryazarlıkla ilgili yapılan çalışmalardaki genel eğilimin daha çok yordama ve düzey tespitinde olduğu ve son yıllarda bu konuyla ilgili yapılan çalışmalarda artış olduğu görülmektedir. Makaleler ve tezlerde program inceleme, ölçek geliştirme ve uygulama, beceri düzeyi, öğrenci görüşü, dijital okuryazarlık düzeyi, program ve ders kitaplarının değerlendirilmesi, dijital okuryazarlığın başarı ve kalıcılığa etkisi gibi başlıkların ele alındığı tespit edilmiştir. Makale ve tezlerde kullanılan araştırma modellerinin tarama (nitel/nicel), durum çalışması ve doküman analizi olduğu; yapılan çalışmaların daha çok ortaokul düzeyindeki öğrencilerle olduğu gözlenmektedir. Makalelerde ve tezlerde veri toplama aracı olarak doküman inceleme, görüşme formu, ölçek kullanma ya da geliştirme kullanıldığı tespit edilmiştir.

[1] **Corresponding Author,** Kastamonu University, Faculty of Education, Department of Primary Education, Kastamonu, Türkiye, ketenoglu@kastamonu.edu.tr, https://orcid.org/0000-0002-0921-7658

[2] Kastamonu University, Faculty of Education, Department of Turkish and Social Sciences Education, Kastamonu, Türkiye, eavci@kastamonu.edu.tr, https://orcid.org/0000-0002-3135-2557

Citation/Atıf: Ketenoğlu Kayabaşı, Z. E. & Karasu Avcı, E. (2026). Systematic review of studies on digital literacy in Türkiye. *Kastamonu Education Journal, 34*(2), 408-427. https://doi.org/10.24106/kefdergi.1939398

Received / Başvuru: 29.10.2024

Accepted / Kabul: 19.02.2025

Introduction

The 21st century has witnessed profound changes across sectors, including education, health, security, and both public and personal domains. Numerous terms have emerged to characterize this era, such as “digital age,” “digital life,” “digital world,” and “digital planet.” The concept of “digital” has become central to our existence, prompting a reevaluation of traditional meanings of various concepts. Literacy, in particular, has evolved beyond its conventional definitions. Today, literacy encompasses much more than mere reading and writing skills. The constant development and proliferation of digital technologies have given rise to the concept of digital literacy. Digital literacy can be defined as the ability to effectively use digital technology and the internet to access relevant content, as well as to evaluate, utilize, share, critique, and create that content (Özkaya & Erat, 2022). Individuals are now empowered to access, understand, analyze, and disseminate information through digital tools tailored to their needs (Uçkun, 2024). United Nations Educational, Scientific and Cultural Organization (UNESCO) further articulates digital literacy as "the ability to access, manage, understand, integrate, communicate, evaluate, and create information safely and appropriately through digital technologies for employment, good jobs, and entrepreneurship" (UNESCO, 2018, p.6).

In information societies, digital literacy is a crucial factor in shaping political and economic strategies for social development and democratization (Etike, 2021). The rapid production and consumption of information, the predominance of digital resources, and the growing emphasis on lifelong learning underscore the significance of digital literacy (Kuru, 2019). Individuals who possess digital literacy are expected to adeptly utilize technology, manage data transfer and storage, locate, download, and install applications, use email, and navigate ethical, moral, and legal considerations. Additionally, they should communicate effectively, employing appropriate language and expressions (Uçkun, 2024).

While engaging in these activities, digitally literate individuals must also access information from reliable sources and critically evaluate its validity (Şahin & Sarıçam, 2022). Therefore, digital literacy should not be confined to merely operating a device or software; rather, it encompasses cognitive, sociological, and emotional processes (Karabacak & Sezgin, 2019). Digital literacy is one of the skills that individuals called global citizens must have (Görmez & Şen, 2021). Digital literacy, which is also perceived as reading and writing on a screen, has become a skill that people can no longer exclude from their lives (Maden et al., 2018). Individuals' ability to address society and develop their knowledge and power depends on acquiring this skill (Direkçi et al., 2019). Being digitally literate also requires individuals to be investigative, questioning, problem-solving, able to make and take decisions, and to have critical thinking skills (Duran & Özen, 2018). In the digital age, the processes of developing effective communication and establishing cooperation on accessing, understanding, interpreting, and sharing information are also very important (Bahşi & Ateş, 2024). Individuals' adaptation to changing conditions and their equipping themselves with the requirements of the age are directly proportional to the extent to which they have acquired digital literacy skills.

In recent years, digital literacy has increasingly been conceptualized not only as an individual competence but also as an essential educational outcome, particularly within compulsory education. Digital literacy education refers to the systematic development of students’ abilities to access, analyze, evaluate, create, and communicate information using digital technologies in a critical, ethical, and responsible manner (Hobbs, 2010; Ng, 2012). In this respect, schools play a central role in equipping learners with the foundational digital skills required to participate effectively in contemporary society.

At the international level, digital literacy education has been integrated into primary and secondary school curricula through various frameworks and policy documents. For instance, UNESCO emphasizes digital literacy as a core component of education for sustainable development and lifelong learning, highlighting its role in fostering critical thinking, citizenship, and employability skills (UNESCO, 2018). Similarly, the European Commission’s DigComp framework defines digital competence as a multidimensional construct encompassing information and data literacy, communication and collaboration, digital content creation, safety, and problem solving. It underscores the importance of introducing these competencies progressively across school levels (Carretero Gomez et al., 2017).

In Türkiye, digital literacy has received increasing attention in national education policies and curricula, particularly in compulsory education. Digital competencies are addressed across subjects and grade levels rather than confined to a single course, reflecting an interdisciplinary approach. Primary and secondary school curricula emphasize skills such as information literacy, media literacy, digital citizenship, and ethical use of technology, aiming to prepare students for the demands of the digital age. This curricular orientation highlights the need for empirical research focusing specifically on how digital literacy is conceptualized, implemented, and studied at these educational levels.

Digital literacy is widely acknowledged as a multifaceted construct comprising cognitive, technical, social, and ethical dimensions (Ng, 2012; van Laar et al., 2017). Beyond technical skills, it involves critical evaluation of digital content, awareness of digital safety and security, understanding of digital rights and responsibilities, and ethical participation in online environments. Consequently, digital literacy is closely related to other contemporary literacy forms, such as media literacy and citizenship literacy. These literacy domains share common conceptual ground in areas including digital ethics, digital law, online security, intellectual property, cybercrime, digital rights, and responsibilities, thereby reinforcing their interconnectedness (Hobbs, 2010; Livingstone, 2014).

Given the increasing exposure of children and adolescents to digital environments, the primary and secondary school years are a critical period for developing digital literacy skills. Research conducted at these levels is particularly important for understanding how digital literacy is fostered within formal education settings and how students and teachers engage with digital competencies in practice. Therefore, examining digital literacy studies conducted at the primary and secondary school levels provides valuable insights into both educational practices and research trends in this field.

The purpose of this research is to examine digital literacy studies conducted at the primary and secondary school levels in Türkiye between 2014 and 2024, applying specific criteria, and to determine the general research trends in this field. Although studies on digital literacy research have addressed it from a bibliometric or thematic perspective (Bahşi & Ateş, 2024; Erat & Özkaya, 2022; Yeşiltaş et al., 2023), these studies predominantly approach digital literacy broadly and comprehensively, without focusing specifically on school-level distinctions. In this context, numerous studies conducted at the primary and secondary school levels within the specified time frame have been identified (Duran & Özen, 2018; Maden et al., 2018; Aydemir et al., 2019; Direkçi et al., 2019; Zurnacı Parlak, 2019; Çelik, 2021; Erdoğan, 2021; Görmez & Şen, 2021; Gür et al., 2021; İpek Süslü, 2022; Laçin, 2021; Nerse, 2021; Özaydın & Kumral, 2021; Taşçı Ağaoğlu & Durmaz, 2021; Üstündağ, 2021; Aydoğdu, 2022; Şahin et al., 2022; Ekemen, 2022; Kaptan, 2022; Kasap, 2022; Metin, 2022; Şahin & Sarıçam, 2022; Vural, 2022; Bayzan et al., 2023; Gürbüz, 2023; Karakuş Yılmaz et al., 2023; Demirel & Çaydere, 2023; Koç, 2023; Aşçı, 2024; Banaz, 2024; Berkay & Hazar, 2024; Bucak, 2024; Durmuş, 2024; Gönen, 2024; Gülmez, 2024; Kartal, 2024; Kök, 2024). However, despite the growing number of studies, there is a noticeable gap in the literature for a systematic, comprehensive analysis of digital literacy research conducted at the primary and secondary school levels in Türkiye over the past 10 years. The deadline for included studies was given as 03.10.2024. Existing reviews tend to overlook school-level differentiation, methodological tendencies, sample characteristics, research designs, and thematic orientations specific to compulsory education. Therefore, this study aims to fill this gap by examining primary and secondary school–level digital literacy studies conducted between 2014 and 2024 within a clearly defined analytical framework, thereby revealing current trends, research priorities, and methodological patterns in the field. In doing so, the study seeks to contribute to the digital literacy literature by providing a focused and level-specific overview that can inform future research and educational practices. This research aims to examine digital literacy studies conducted at the primary and secondary school levels in Türkiye from 2014 to 2024, using specific criteria to identify general trends in the field. In line with this aim, the following research questions were investigated.

1. What are the publication years, publication type, and grade level of the analyzed digital literacy studies?

2. What are the topics of the analyzed digital literacy studies?

3. What is the design/research method of the studies?

4. What is the method/technique/strategy/measurement tool applied in the studies?
5. What is the sample of the studies?
6. What methods were used in the analyzed digital literacy studies?
7. What are the impact and results of the analyzed digital literacy studies?

Method

Research Design

This research aims to investigate digital literacy studies conducted at primary and secondary school levels in Türkiye from 2014 to 2024, using specific criteria to identify the general trends in this field. It employs a descriptive approach within a descriptive survey design. The survey model is designed to portray a past or present situation as it exists, focusing on defining the individual or object of study within its context and as it is (Karasar, 2012).

Data Collection Process

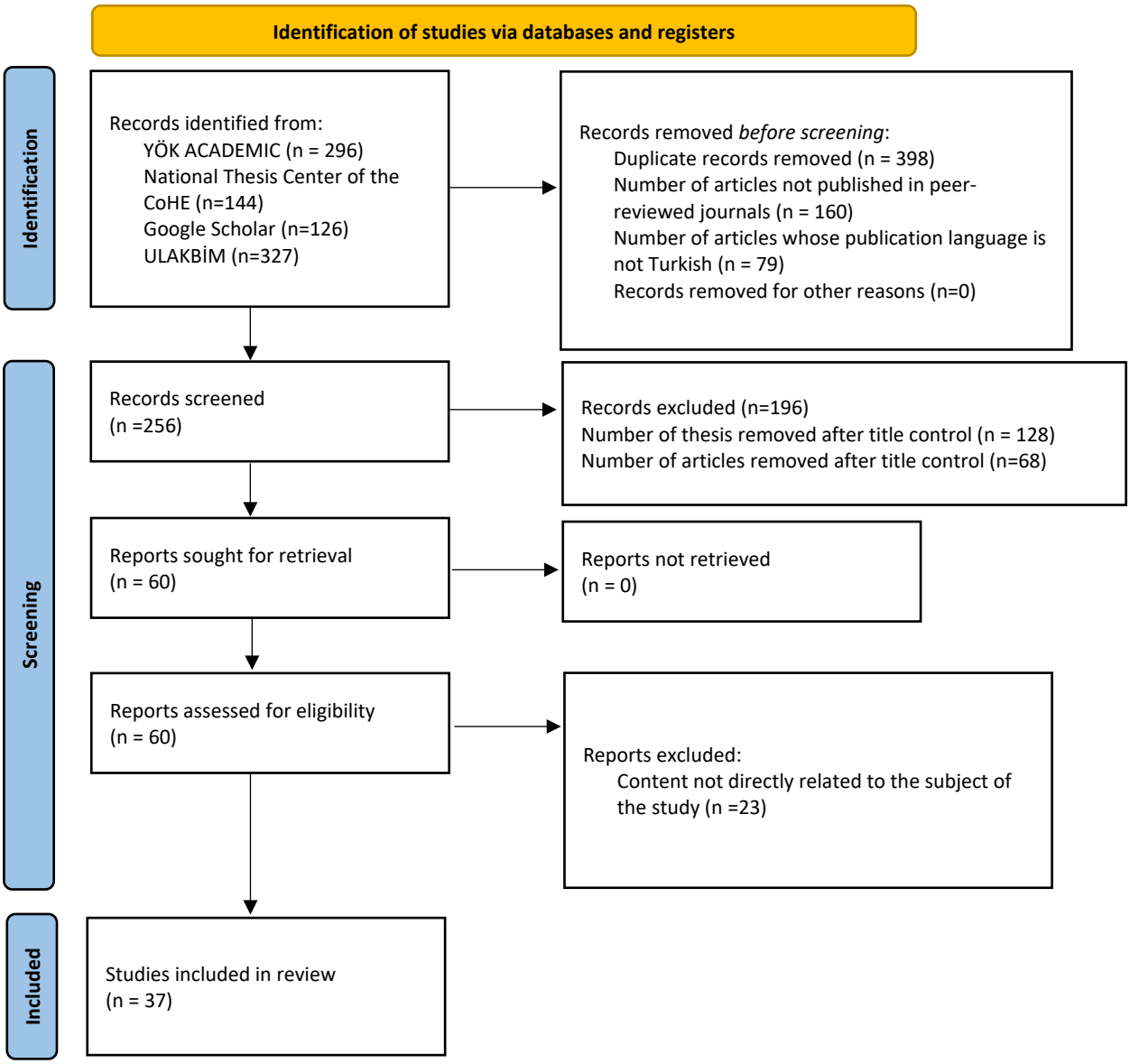
The population of this research consists of digital literacy studies in YÖK Academic (Council of Higher Education). This is a system that provides electronic access, from a single point, to the personal academic information and scientific/academic activity outputs of academics working in Turkish higher education. National Thesis Center of the CoHE, Turkish Academic Network and Information Center and Google Scholar databases. The PRISMA method was used to obtain the research data, and the definition, screening, selection, and inclusion stages were followed. According to the PRISMA method, searches were first conducted across the defined databases used in the research (Page et al., 2021). Then, in the separation and inclusion processes, the purposeful sampling method was used in line with the inclusion criteria determined by the researchers. A literature study was conducted in line with the inclusion criteria, and separate processes were used to screen theses and articles. The keyword "digital literacy" was used to support the screening process. The studies that met the criteria were included. Although 893 studies were initially reached with the digital literacy keyword database search, 21 theses and 16 articles were reached when the criteria were eliminated. The studies to be examined within the scope of the study were selected according to specific criteria. These criteria are listed as follows:

1. The studies were conducted between 2014 and 2024,
2. Since the study focuses on digital literacy, this focus is already explicitly stated in the title.
3. The focus on primary and secondary school levels was intentional, as these levels constitute the core of compulsory education in Türkiye, where digital literacy is systematically addressed through national curricula. This restriction enabled a more focused and comparable analysis of studies conducted within a shared educational and policy context,
4. The publication language of all theses included in the study was Turkish, as they were obtained from the National Thesis Center of the CoHE. Likewise, the articles examined in the study were published in Turkish.
5. The articles were studies published in refereed journals and were not produced from theses.

The deadline for included studies was given as 03.10.2024. The flow chart summarising the data collection process, carried out according to the PRISMA method and in line with the inclusion and exclusion criteria determined by the researchers, is presented in Figure 1. The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) method is a widely used reporting framework designed to ensure transparency, systematic identification, screening, eligibility assessment, and inclusion of studies in systematic reviews (Page et al., 2021).

Figure 1

Flowchart Summarising the Data Collection Process



Data Analysis

This study aims to explore digital literacy research conducted in primary and secondary schools in Türkiye from 2014 to 2024, based on specific criteria to identify overall trends in the field. The researchers employed a research information form and utilized descriptive content analysis techniques to analyze the data. Descriptive content analysis is a systematic approach that examines existing studies on the topic, identifies their trends, and evaluates their findings descriptively (Çalık & Sözbilir, 2014; Lin et al., 2013). This information form encompasses the study's identity, publication type, applied strategy, method or technique, grade level, research method, pattern, number of participants, effect (result), data analysis method, and the type or structure of the data collection tools utilized. The data entered into the research information form are interpreted in the findings section, with consideration of the categories specified in the form.

Validity and Reliability

During the data analysis process, both researchers independently analyzed 20 percent of the theses, and the resulting categories were compared. Intercoder agreement was calculated using the formula proposed by Miles and Huberman (1994), which is based on the ratio of agreements to the total number of agreements and disagreements: Agreement/(Agreement + Disagreement) × 100. Based on this calculation, the agreement between the researchers was 92%, indicating a high level of reliability in the coding process.

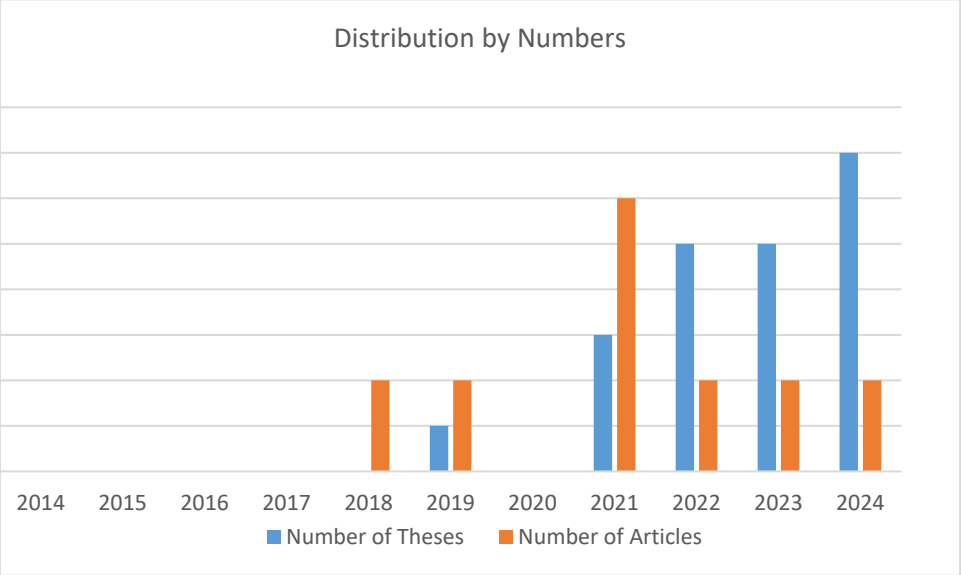
Since the agreement between the researchers was found to be sufficient, the remaining part of the data analysis was completed by one researcher, and the other researcher checked whether the obtained data was correctly tabulated.

Findings

In this section, research findings are presented under separate headings, including publication year, research type, school level, topics, research methods and designs used, strategies, techniques and measurement methods, sample sizes, analyses, and impact and results. The findings are presented in tables and interpreted according to the headings provided. The distribution of studies that meet the research criteria by year is illustrated in Figure 2.

Figure 2

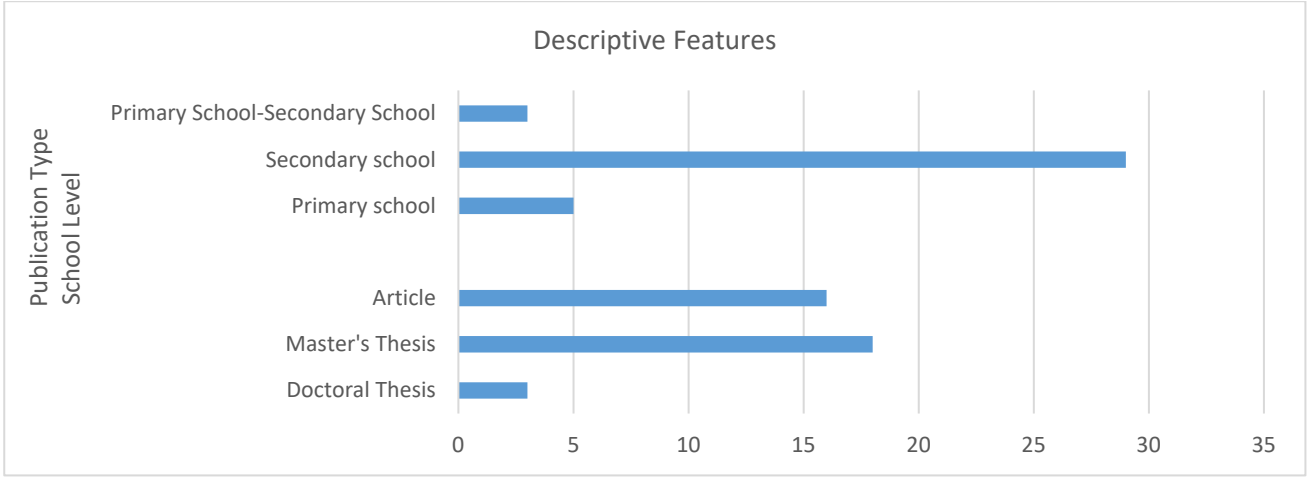
Distribution of Studies by Publication Year (X-Axis: Year, Y-Axis: Frequency)



Upon examining Figure 2, it is evident that no digital literacy studies were conducted at the primary and secondary school levels during 2014-2018. However, the number of studies, particularly thesis research, began to increase notably from 2021 onward. The absence of any studies in 2020 is an intriguing finding within this research. The global impact of the COVID-19 pandemic may plausibly explain this gap. Figure 3 presents the descriptive characteristics of the studies that met the research criteria, categorized by publication type and grade level.

Figure 3

Descriptive Characteristics of the Studies



When Figure 3 is examined, it is seen that the studies included and separated by the research's inclusion and exclusion criteria are mostly theses and secondary school-level studies. It is evident that digital literacy studies at the primary school level cover only 8 of 37 studies. In addition to the descriptive characteristics of the studies examined in this research, the subject of the study, research model, method, applied method, technical strategy/measurement tool, sample, data analysis method, and impact/outcome are presented separately for articles and theses in the separate tables below and interpreted under the relevant headings.

Table 1

Descriptive Information About the Studies of Articles

Study	Publication Type	Design/Research Method	Class/ School Level	Applied Method Technique Strategy/Measurement Tool	Sample/N	Data Analysis Method
Banaz (2024)	Article	Qualitative	Secondary school	Document Analysis	2024 Türkiye Century Maarif Model	Content analysis
Berkay & Hazar (2024)	Article	Quantitative / Survey Model	Primary school 2nd, 3rd, 4th Grade	Scale Development	619	
Bayzan et al. (2023)	Article	Quantitative / Survey Model	Primary school - Secondary school	Global Kids Online framework	10.475	
Duran & Ertan Özen (2018)	Article	Qualitative	Primary school - Secondary school	Document Analysis	2018 Turkish Course Curriculum - Turkish course books prepared for primary and secondary schools	Content analysis
Erdoğan (2021)	Article	Quantitative /Relational screening design	5th grade	Personal Information Form Digital Literacy Scale Cyberbullying Scale	255	
Özaydın & Kumral (2021)	Article	Qualitative-Holistic Single Case Study	3rd, 4th, 5th grade	Interview Form	6	
Şahin et al. (2022)	Article	Quantitative	2nd, 3rd Grade	Scale Development	327	
Aydemir et al. (2019)	Article	Quantitative	4th Grade	Scale Development	31	
Üstündağ (2021)	Article	Quantitative / Survey Model	5th, 6th, 7th, 8th grade	Digital Literacy Scale / Personal Information Form	237	Independent Samples T Test, ANOVA, Tukey Post Hoc
Taşçı Ağaoğlu & Durmaz (2021)	Article	Quantitative / Survey Model	5th, 6th, 7th, 8th grade	Digital Literacy Scale	128	Independent Samples T Test

Şahin & Sarıçam (2022)	Article	Quantitative	5th, 6th, 7th, 8th grade	Digital Literacy Scale, School Engagement Scale, Attitude Towards Reading Scale Personal Information Form	303	Pearson Product-Moment Correlation Analysis, Simple Linear Regression Analysis, Independent Samples T Test, ANOVA, LSD Post Hoc
Maden et al. (2018)	Article	Qualitative	5th grade	Document Analysis	5th Grade Turkish course books	Content analysis
Gür et al. (2021)	Article	Quantitative /Exploratory research	5th, 6th, 7th, 8th grade	Attitude Scale Towards Digital Technology	212	Exploratory Factor Analysis, normality test, reliability test, Independent Samples T Test, ANOVA
Görmez & Şen (2021)	Article	Qualitative /Descriptive	7th, 8th grade	Structured Interview Form	12	Content analysis
Direkçi et al. (2019)	Article	Qualitative /Descriptive	5th, 6th, 7th, 8th grade	Document Analysis	5th, 6th, 7th and 8th grade Turkish course books	Content analysis
Demirel & Çaydere (2023)	Article	Literature review / Traditional	5th, 6th, 7th, 8th grade	Literature review / Traditional	Visual Arts Lesson for 5th, 6th, 7th, 8th Grade	-

Table 2

Descriptive Information About the Studies of Articles

Study	Study Subject	Impact/Result
Banaz (2024)	Examining the 2024 Türkiye Century Maarif Model Secondary School Turkish Course Curriculum in Terms of Digital Literacy	It has been determined that the program was prepared with the concepts of digital reading and writing, technology, and the needs of the age in mind.
Berkay & Hazar (2024)	Digital Literacy in Primary School: Scale Development and Application	It was concluded that primary school students see themselves as sufficiently digitally literate.
Bayzan et al. (2023)	A Study on the Internet Usage Habits and Digital Literacy Skills of Children in Türkiye	The majority of children are not at the desired level in creative skills, such as producing positive content on the internet; they consume rather than produce. The majority of children lack the skills to protect their privacy online.
Duran & Ertan Özen (2018)	Digital Literacy in Turkish Lessons	It has been stated that digital literacy is included, and this skill is acquired through traditional methods.
Erdoğan (2021)	Digital Literacy and Cyberbullying: A Correlational Survey of Secondary School Students	When the research results were evaluated in terms of the dependent variable of cyberbullying, it was found that the average cyberbullying scores of the students changed significantly according to the variables of father and mother education status, and there was no difference in terms of the variables of gender, personal computer ownership and daily internet usage time.
Özaydın & Kumral (2021)	Digital Literacy Through the Eyes of Digital Natives	Participants consider themselves competent in using digital tools. They mostly use digital resources for education, playing games, having fun, watching videos, and communicating.
Şahin et al. (2022)	Development of a Digital Literacy Scale for Primary School Students: A Validity and Reliability Study	It is concluded that 6 of the data points from the digital literacy scale for primary school students have a perfect fit, and 3 have a good fit.

Study	Study Subject	Impact/Result
Aydemir et al. (2019)	Development of a digital literacy skills rubric	A valid and reliable measurement tool
Üstündağ (2021)	Examining the digital literacy levels of secondary school students during the COVID 19 pandemic	Children's digital literacy is at a medium level, with girls demonstrating a higher level.
Taşçı Ağaoğlu & Durmaz (2021)	An examination of middle school students' social media usage and digital literacy in terms of different variables	The level of digital literacy was higher in private schools compared to public schools.
Şahin & Sarıçam (2022)	Examining the relationships between attitudes towards reading, digital literacy and school engagement	There is a low-level positive correlation between reading attitude and digital literacy, reading attitude and school engagement, and digital literacy and school engagement. Attitude towards reading and digital literacy scores explain 10% of school engagement.
Maden et al. (2018)	Evaluation of 5th-grade secondary school Turkish course books in the context of digital literacy	It can be said that 5th-grade Turkish textbooks include instructions, text content, and various activities on reading and writing skills in digital environments; therefore, digital literacy, or reading and writing skills in media, is given importance in the textbook.
Gür et al. (2021)	A field study on the digital transformation awareness of secondary school students in the digital age	As students embrace digital transformation, their interest in technology increases. As students advance through the grades, their awareness of digital transformation grows.
Görmez & Şen (2021)	Middle school students' views on digital literacy skills	It has been determined that the majority of students use computers and mobile phones to access information; prefer secure sites to access information; verify the reliability of the information obtained by comparing it with different sites; pay attention to whether the sites they visit have security approval; and the most common activity they do using digital technology is to create Power Point (ppt). In general, it has been observed that middle school students who have taken social studies courses possess knowledge of the competencies that constitute digital literacy.
Direkçi et al. (2019)	Analyzing Turkish Course Curriculum (2018) and secondary school Turkish course books in the context of digital literacy skills	While the activities in the 5th, 6th, and 7th grades were deemed sufficient in terms of quantity, the 8th-grade Turkish textbook was found to be deficient in this regard.
Demirel & Çaydere (2023)	Digital literacy and the flipped learning model in art education	Revealing the possible contributions of the Flipped Learning model to the Visual Arts course and presenting course-specific, developable content.

Tables 1 and 2 above present the descriptive characteristics of the articles included in the study. Tables 3 and 4 present the descriptive characteristics of the theses. The descriptive characteristics of the theses included in the study are presented under the following headings: subject of study, research model, method, applied method, technical strategy/measurement tool, sample, data analysis method, and impact/results.

Table 3

Descriptive Information About the Thesis

Study	Publication Type	Design/Research Method	Class/School Level	Applied Method Technique Strategy/Measurement Tool	Sample /N	Data Analysis Method
Zurnacı Parlak (2019)	Thesis	Qualitative /Case study	5th, 6th, 7th, 8th grade	Goal-Based Scenario, Digital Literacy Scale, Critical Digital Literacy Observation Form, Semi-Structured Interview Form	24	Pearson Correlation Analysis, Dependent Sample T Test
Vural (2022)	Thesis	Quantitative /Causal-Comparative Research	5th, 6th, 7th, 8th grade	Digital Literacy Scale, Online Privacy Awareness Scale, Cyber Security Awareness Scale	1480	Linear and Multiple Regression Analysis, ANOVA, Correlation Analysis
İpek Süslü (2022)	Thesis	Quantitative	6th, 7th, 8th grade	Scale Development	659	Exploratory Factor Analysis

Study	Publication Type	Design/Research Method	Class/School Level	Applied Method Technique Strategy/Measurement Tool	Sample /N	Data Analysis Method
Nerse (2021)	Thesis	Quantitative /Quasi-experimental design	6th Grade	Force and Movement Academic Achievement Test, Metacognitive Awareness Scale for Children, Digital Literacy Scale Self-Learning Scale with Technology for Children	58	Two-Way Analysis of Variance for Repeated Measures, t-Test for Unrelated Samples, t-Test for Related Samples, Mann-Whitney U Test and Wilcoxon Signed Rank Test
Metin (2022)	Thesis	Quantitative /Descriptive /Relational screening design	5th, 6th, 7th, 8th grade	Personal Information Form, 'Digital Literacy Scale Learning Styles Scale for Primary School Students	640	Mann-Whitney U Test, Kruskal-Wallis
Laçin (2021)	Thesis	Quantitative /Quasi-experimental design	7th grade	Strength and Energy Academic Achievement Test, Self-Learning Scale with Technology for Children, Motivation Scale for Learning Science For Secondary School Students, Digital Literacy Scale	42	Two-Way Analysis of Variance
Kök (2024)	Thesis	Mixed Method/ Explanatory Sequential Design	6th Grade	Harezmi Education Model Lesson processing Mathematics Literacy Perception Scale, Universal Science Literacy Test Digital Literacy Scale Semi-Structured Interview Form	50	Dependent Group T Test, Independent Group T Test
Çelik (2021)	Thesis	Quantitative	5th, 6th, 7th grade	Personal Information Form Pala (2019), Digital Literacy Scale	632	Mann-Whitney U test and Kruskal-Wallis H Test
Kasap (2022)	Thesis	Quantitative /Quasi-experimental design	3rd Grade	Science Attitude Scale, Digital Literacy Scale for 10-12 Age Group Students, Critical Thinking Disposition Scale for Primary School Students	35	Shapiro-Wilk Test, Mann-Whitney U
Kartal (2024)	Thesis	Quantitative /Causal-Comparative Research	7th grade	Digital Literacy Scale Digital Technology Attitude Scale	931	t-Test for Independent Samples, ANOVA, Pearson Correlation Analysis, Predictive Regression Analysis
Kaptan (2022)	Thesis	Quantitative /experimental method	6th Grade	21st Century Skills Scale for Secondary School Students, Achievement Test Digital Literacy Scale for Students Ages 10-12	78	ANOVA
Gürbüz (2023)	Thesis	Quantitative /Quasi-experimental design	5th grade	Diffusion of Light Science Achievement Test (DLSAT), Critical Thinking Power of Secondary School 6th, 7th and 8th Grade Students in Science Lessons 10-12 Year Old Digital Literacy Scale	54	Dependent Group T Test, Independent Group T Test, ANCOVA
Gümüş (2023)	Thesis	Quantitative /Quasi-experimental design	7th grade	Personal Information Form Reading Comprehension Skills Test Digital Literacy Scale Semi-Structured Interview Form	61	Dependent Group T Test, Pearson correlation analysis; Pearson

Study	Publication Type	Design/Research Method	Class/School Level	Applied Method Technique Strategy/Measurement Tool	Sample /N	Data Analysis Method
						chi-square test, Fisher-Freeman-Halton exact test, Fisher's exact test
Gülmez (2024)	Thesis	Qualitative /Action Research	7th grade	Video/Audio Recording Document Analysis	26	Content analysis
Gönen (2024)	Thesis	Quantitative /Descriptive	5th, 6th, 7th, 8th grade	Digital Literacy Scale, Middle school students' perceptions of moral values in digital environments scale Cyberbullying Scale	553	independent sample t-test, One-Way ANOVA, correlation test and regression analysis
Ekemen (2024)	Thesis	Embedded mix Method design	6th Grade	Scale of Social Network Usage Purposes, "Digital Literacy Scale, Critical Thinking Scales, Social Media Tools Usage Status Survey Semi-Structured Interview Form	18	Mann-Whitney Whitney-U Test Wilcoxon Signed Rank Test Histogram Graphs, Content analysis.
Durmuş (2024)	Thesis	Quantitative /Quasi-experimental design	4th Grade	Digital Literacy Scale Scale for Evaluating Creative Writing Products student and teacher interview forms, researcher diaries	33	Independent samples t-Test
Koç (2023)	Thesis	Quantitative /Quasi-experimental design	7th grade	Achievement test Digital Literacy Scale	52	Dependent Group T Test, Independent Group T Test
Bucak (2023)	Thesis	Quantitative /Quasi-experimental design	7th grade	Digital Literacy Scale Achievement test Semi-Structured Interview Form	32	Independent samples t-test and paired (related) groups t-test
Aydoğdu (2022)	Thesis	Quantitative / Survey Model	5th, 6th, 7th grade	Digital Literacy Scale	268	Normality tests, t-test for independent groups, one-way Anova, Tukey, LSD tests
Aşcı (2024)	Thesis	Quantitative /Quasi-experimental design	7th grade	Personal Information Form Grammar Achievement Test, "Reading Comprehension Achievement Test", "Listening Comprehension Achievement Test", "Speaking Skills Rubric", "Writing Skills Rubric", Semi-Structured Interview Form Digital Literacy Scale	67	"Unrelated sample t-test", "related sample t-test", "Mann-Whitney U test" and "Wilcoxon signed-rank test, Content analysis

The descriptive characteristics of the theses included in the study are presented below. The research topics and impact/outcome information obtained from the included studies are presented in Table 4 below.

Table 4

Descriptive Information About the Thesis

Study	Study Subject	Impact/Result
Zurnacı Parlak (2019)	Providing digital literacy skills with goal-based scenarios	It has been concluded that students who are disadvantaged in terms of access to information and communication technologies can increase their digital literacy with the right pedagogical guidance without the need for a large number of computers.
Vural (2022)	Examining the characteristics of middle school students, such as cybersecurity awareness, online privacy awareness, digital literacy, and online gaming habits and the relationships between these variables.	A significant and positive relationship was found between cybersecurity awareness and digital literacy. It was concluded that there was also a significant and positive relationship between cybersecurity awareness and online privacy awareness. According to the research results, middle school students' cybersecurity awareness in online games was strong.
İpek Süslü (2022)	Developing a scale with tested validity and reliability to measure digital literacy self-efficacy levels of secondary school students.	It was concluded that the digital literacy self-efficacy scale was valid and reliable.
Nerse (2021)	Examining the effects of a problem-based learning approach enriched with Web 2.0 tools in the online education process on students' academic success, metacognitive awareness, self-learning with technology and digital literacy.	It was concluded that the enriched online PBL approach has a higher impact on academic achievement, metacognitive awareness, digital literacy and self-directed learning with technology.
Metin (2022)	Determining the relationship between digital literacy levels and learning styles of secondary school students	In the study, a weak positive relationship was found between the digital literacy levels of secondary school students and visual and tactile learning styles, and a moderate positive relationship was found between auditory and kinesthetic learning styles.
Laçin (2021)	Investigating the effects of e-learning processes supported by ClassDojo in science courses on the academic success, motivation towards science, digital literacy and self-learning with technology of 7th-grade students.	While e-learning activities supported by Classdojo in the experimental group showed a significant difference in students' academic achievement, no significant differences were found in motivation for learning science, digital literacy, or self-learning skills with technology.
Kök (2024)	Examining the effects of the Harezmi Education Model implemented in our country on three of the key competencies required for lifelong learning.	It has been determined that the Khwarezmi Education Model contributes to science, mathematics and digital literacy competencies.
Çelik (2021)	To examine the digital literacy skills of secondary school students in terms of various variables.	As a result of the analysis of the obtained data, it was determined that the Digital Literacy Scale scores of the students differed significantly according to gender, grade level, mother's education status, father's education status, internet connection at home, computer or tablet at home, family income status, and frequency of connection to the internet. No significant differences were found in the data obtained from the Digital Literacy Scale across the number of siblings, mother's occupation, father's occupation, and internet usage purposes.
Kasap (2022)	The effects of using digital stories in science education on students' attitudes towards science lessons, digital literacy levels and critical thinking skills.	According to the research results, the use of digital stories in science class positively affects attitudes towards science, digital literacy, and a tendency towards critical thinking.
Kartal (2024)	To determine the relationship between students' digital literacy and their attitudes towards digital technologies.	The analysis concluded that digital literacy significantly predicted attitudes towards digital technology.
Kaptan (2022)	The effects of using digital stories in information technologies and software courses on digital literacy, 21st-century skills, academic success and retention.	It was determined that collaborative digital storytelling activities had a strong impact on students' academic achievement but did not significantly affect retention, 21st-century skills, or digital literacy.

Study	Study Subject	Impact/Result
Gürbüz (2023)	The effects of digital story applications prepared with the 5E model on achievement, critical thinking and digital literacy skills	It was determined that the applications made in the experimental and control groups were effective.
Gümüş (2023)	The effect of digital storytelling on reading comprehension and digital literacy skills of middle school students	While a significant increase in reading comprehension was observed in the experimental group, no significant increase was observed in the control group, which processed the texts according to the regular Turkish lesson plan. A significant difference was observed in the digital literacy skills of the students in the experimental group, but none in the control group.
Gülmez (2024)	An action research to develop digital citizenship and digital literacy skills of 7th-grade secondary school students	As a result of the research activities, students' digital literacy and digital citizenship skills improved.
Gönen (2024)	Middle school students' digital literacy, perception of moral values in digital environments and cyberbullying levels	It has been determined that the variables of perception of moral values in digital environment and cyberbullying together have a low-level significant relationship with digital literacy; that the variables of digital literacy and cyberbullying together have a moderate-level significant relationship with perception of moral values in digital environment; and that the variables of digital literacy and perception of moral values in digital environment together have a moderate-level significant relationship with cyberbullying.
Ekemen (2024)	Examining the effects of social media-supported science education enriched with Web 2.0 tools on 6th-grade students' social media usage, digital literacy levels and critical thinking skills.	It was observed to have a positive effect on students' digital literacy and critical thinking skills. However, no significant difference was found.
Durmuş (2024)	The effects of collaborative digital literacy activities on students' creative writing and digital literacy skills.	It was determined that there was a significant difference in the pre-post tests of the experimental group students, and that the post-test scores of the experimental and control group students differed significantly in favor of the experimental group. In the qualitative dimension, it was determined that interest, motivation, and curiosity in the Turkish course increased through collaborative digital literacy activities, and that creative writing and digital literacy skills developed.
Koç (2023)	The effect of using the SAMR model in the force and energy unit on the academic success and digital literacy levels of 7th-grade students.	It was observed that there was a statistically significant difference in students' digital literacy skills, consistent with the plan prepared using Web 2.0 applications in the Science course teaching process.
Bucak (2023)	The effect of using Web 2.0 tools in social studies courses on students' academic success and digital literacy skills.	It can be said that the use of Web 2.0 applications in secondary school social studies courses positively affects both course success and students' digital literacy.
Aydoğdu (2022)	Examining the digital literacy levels of secondary school students	It has been determined that the digital literacy levels of secondary school students are above the median score in all dimensions, that the digital literacy levels decrease as the number of siblings increases, and that the digital literacy levels of those whose mothers are professionals, those who connect to the internet more frequently, and those living in the central district increase.
Aşcı (2024)	The effect of an authentic learning method on secondary school students' Turkish course success and digital literacy skills.	As a result of the quantitative analyses, it was concluded that the authentic learning method was effective in developing the digital literacy, reading comprehension, listening comprehension, speaking, writing, and grammar skills of the experimental group students and in ensuring permanent learning.

Findings Regarding the Subject of the Studies

When the studies were examined, 18 studies were identified that examined the effects of digital literacy on attitudes towards reading, learning styles, cyberbullying, internet and social media use, and digital storytelling. Then, it was determined that 5 studies aimed to develop digital literacy skills, and 4 studies aimed to develop digital literacy scales. It was determined that the other examined studies were curriculum reviews, Turkish textbook reviews, opinions on digital literacy, and level determinations.

Findings Regarding the Design/Research Method of the Studies

The research model in the studies' articles was determined as screening (qualitative/quantitative), case study, or document analysis. In the theses, the research model was designed as quantitative (quasi-

experimental, descriptive screening), mixed, and qualitative (action research, descriptive, document analysis). It was determined that 26 studies were quasi-experimental or screening studies in a quantitative design, and 8 were qualitative. It was determined that one of these was action research, two were case studies, and the others were descriptive studies. Two studies used a mixed-methods design, and one was a literature review.

Findings Related to the Method/Technique/Strategy/Measurement Tool Applied in the Studies

In the articles, document review, interview form, scale use or development were used as measurement tools. In the theses, scale use or development, interview forms and document analysis were used as measurement tools. It was observed that content analysis and SPSS-based analyses were used as analytical methods in the articles. In the theses, content analysis and SPSS-based analyses were used. When all studies were examined, it was determined that the “Digital Literacy Scale” was used in 22 studies, scale development was used in 4 studies, document review was done in 3 studies, interview form was used in 7 studies, personal information form was used in 6 studies and different scales were used in other studies. These scales; “Cyberbullying Scale”, “School Engagement Scale”, “Online Privacy Awareness Scale”, “Metacognitive Awareness Scale”, “Critical Digital Literacy Scale”, “Attitude Towards Reading Scale”, “School Engagement Scale”, “Self-directed Learning Scale”, “Self-directed Learning with Technology for Children Scale”, “Creative Writing Products Evaluation Scale”, “Mathematical Literacy Scale” and “Learning Styles Scale” were found. In addition, it was determined that the academic achievement test was used in 4 studies, and the “Reading Comprehension Skills Test” was used in 1 study.

Findings Regarding the Sample of the Studies

It was determined that 26 studies used a quasi-experimental design within the scope of the research. It was determined that each study included at least 32 participants. The study included 10,475 students and used a quantitative screening design, making it the largest study to date. It was determined that at least 6 people were studied in the qualitative, holistic case study and at least 18 participants were studied in the study designed as a mixed-nested design.

Findings Regarding the Data Analysis Method

Upon reviewing the data analysis methods employed in the studies examined for this research, it was noted that both content analysis and SPSS-based analyses were utilized across the articles and theses. The findings revealed the use of both descriptive and inferential analysis methods in these studies. Specifically, in the studies employing descriptive analysis, content analysis was applied in six cases. The inferential analysis methods most commonly used included the "Independent sample t-test," "ANOVA," "Mann-Whitney U test," "Wilcoxon signed-rank test," "correlation test," and "regression analysis”.

Findings Regarding Impact/Result

Based on the descriptive analysis of the studies included in this research, it was determined that the program was developed with a strong emphasis on digital literacy. Content analysis of the program and textbooks revealed that digital literacy was prominently featured. Interview data indicated that students felt competent in this area. When measuring digital literacy levels, participants generally exhibited medium to good proficiency, and significant progress was observed in studies focused on developing digital literacy skills. Additionally, valid and reliable measurement tools were created in scale development studies. In semi-experimental studies analyzed using inferential statistical methods, it was found that digital literacy skills significantly improved in predicted contexts, including cybersecurity awareness, learning styles, digital storytelling, attitudes toward digital technology, and critical thinking skills. However, in three studies aimed at developing and measuring digital literacy (Bayzan et al., 2023; Kaptan, 2022; Laçin, 2021), no significant differences were observed, and many children lacked sufficient digital literacy skills.

Discussion

This study systematically reviewed digital literacy research conducted in Türkiye at the primary and secondary school levels, encompassing 21 theses and 16 journal articles. Beyond mapping the distribution of studies, the findings reveal important structural, methodological, and conceptual tendencies that characterize the national research landscape and highlight critical gaps relative to international scholarship.

One of the most salient findings is that digital literacy research in Türkiye predominantly focuses on measuring, predicting, or describing levels of digital literacy. At the same time, comparatively few studies aim to design, implement, or evaluate interventions intended to foster digital literacy skills. Although this descriptive emphasis is consistent with earlier national reviews (Bahşi & Ateş, 2024; Özkaya & Erat, 2022; Yeşiltaş et al., 2022), it contrasts with international trends where digital literacy is increasingly examined as a pedagogical and developmental construct, embedded within instructional design, curriculum innovation, and classroom practices (Ng, 2012; OECD, 2021; Spante et al., 2018). From this perspective, the limited number of skill-oriented and practice-based studies in Türkiye suggests that digital literacy is still largely conceptualized as an outcome to be assessed rather than a competence to be systematically cultivated.

The temporal distribution of the reviewed studies indicates a growing scholarly interest in digital literacy over the past few years. This increase parallels global developments driven by rapid digitalization, the expansion of online learning environments, and heightened concerns regarding students' digital competencies (European Commission, 2020; UNESCO, 2018). However, despite this quantitative growth, the studies' thematic focus remains relatively narrow. Articles tend to concentrate on curriculum analyses, scale development, and level determination, whereas theses more frequently address awareness, skill levels, and academic outcomes. While this differentiation reflects the methodological scope of graduate research, it also suggests that theoretical diversification and cross-contextual analysis remain limited.

Methodologically, the dominance of quantitative designs, particularly survey-based screening models, aligns with the findings of Özkaya and Erat (2022) and Yeşiltaş et al. (2023). Although quantitative approaches are valuable for identifying general trends, the relative scarcity of qualitative and mixed-method studies constrains deeper insight into how students experience digital literacy, how teachers interpret curricular expectations, and how digital competencies are enacted in real classroom settings. International studies increasingly emphasize mixed and qualitative approaches to capture the contextual, social, and critical dimensions of digital literacy (Buckingham, 2015; Hatlevik & Christophersen, 2013). In this regard, the present study contributes to the literature by explicitly identifying methodological patterns and highlighting the need for greater methodological plurality.

An important contribution of this research lies in its analysis of grade-level distribution and sample selection. The findings demonstrate a strong concentration on secondary school students, with relatively limited attention to primary school learners. This imbalance is notable given international consensus that digital literacy development should begin at early ages and progress cumulatively across schooling levels (Fraillon et al., 2019; UNESCO, 2018). Moreover, the absence of teachers and parents as primary sample groups represents a significant gap. While Yeşiltaş et al. (2023) reported a predominance of teacher candidates in digital literacy research, the current study shows that research at the compulsory education level remains limited, thereby reinforcing the need for more inclusive stakeholder perspectives.

Regarding measurement tools and data analysis, the frequent use of scales, interviews, and document analysis reflects common practices in the field. However, unlike previous national reviews (Bahşi & Ateş, 2024; Özkaya & Erat, 2022), this study explicitly documents the use of content analysis and SPSS-based statistical techniques, thereby offering a more systematic account of analytical procedures. This distinction strengthens the methodological transparency of the review and provides a clearer roadmap for future researchers.

Conclusion

Finally, the findings regarding research outcomes indicate that digital literacy is increasingly reflected in curricula and textbooks, that students generally perceive themselves as moderately to highly digitally literate, and that intervention-based studies report positive developmental effects. However, the reliance on self-reported perceptions raises concerns regarding the alignment between perceived and actual digital competencies, a discrepancy widely noted in international research (Fraillon et al., 2019; OECD, 2021). Therefore, future studies should incorporate performance-based assessments and longitudinal designs to better capture developmental trajectories.

In conclusion, although the scope of this review is limited to 37 studies conducted in Türkiye and does not include international publications, this constraint has enabled a focused, context-specific, and in-depth

analysis of primary and secondary level research. Rather than weakening the discussion, this bounded scope allows for clearer identification of national research priorities and deficiencies. Future research would benefit from (a) expanding sample diversity to include teachers and parents, (b) adopting experimental and mixed-method designs, and (c) conducting comparative studies that situate Türkiye within broader international digital literacy frameworks. In this respect, the present study not only synthesizes existing findings but also provides a conceptual and methodological guide for advancing digital literacy research in compulsory education.

Author's Note

A brief version of this article has been presented at the 17th International Symposium on Computer and Instructional Technologies (ICITS).

CRediT authorship contribution statement

Z. E. Ketenoğlu Kayabaşı: Literature search (equal); methodology (lead); formal analysis (lead); visualization using data to create charts, graphs or figures; writing – review and editing (equal).

E. Karasu Avcı: Conceptualization (lead); literature search (equal); writing – review and editing (equal); specifically writing the initial draft (including substantive translation).

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethics Approval and Consent to Participate

The present study was conducted using a descriptive approach within a descriptive survey design. The study examined only publicly available theses and articles. No data was collected directly from human or animal participants. Consequently, ethics committee approval is not a prerequisite. All data utilized in the study were obtained from open-access sources, and ethical principles were adhered to throughout the research process.

Declaration of AI Usage Statement

The authors affirm that no AI tools were employed in the preparation of this article.

References

*References marked with an asterisk indicate studies included in the systematic review.

*Aşçı, A. U. (2024). *Otantik öğrenme yönteminin ortaokul öğrencilerinin Türkçe dersi başarılarına ve dijital okuryazarlık becerilerine etkisi* [The impact of authentic learning methods on middle school students' success in Turkish language lessons and digital literacy] [Unpublished doctoral thesis]. Necmettin Erbakan University.

*Aydemir, Z., Sakız, G., & Doğan, M. C. (2019). İlkokul düzeyinde dijital okuryazarlık becerileri rubriğinin geliştirilmesi [Development of digital literacy skills rubric at the primary school level]. *Millî Eğiti*m, *48*(1), 617-638. https://izlik.org/JA88TF97GG

*Aydoğdu, Ö. U. (2022). *Ortaokul öğrencilerinin dijital okuryazarlık düzeylerinin incelenmesi* [Examining of middle school students' digital literacy levels] [Unpublished master's thesis]. Kastamonu University.

Bahşi, N., & Ateş, A. (2024). Dijital okuryazarlık üzerine yapılan araştırmalara ilişkin kaynakça denemesi [Bibliography essay on research on digital literacy]. *RumeliDE Journal of Language and Literature Studies, 41,* 85-106. https://doi.org/10.5281/zenodo.13337572

*Banaz, E. (2024). 2024 Türkiye Yüzyılı Maarif Modeli Ortaokul Türkçe Dersi Öğretim Programı'nın dijital okuryazarlık açısından incelenmesi [2024 Türkiye Century Education Model Examination of Secondary School Turkish

Curriculum in terms of digital literacy]. *Social Sciences: Theory & Practice, 8*(1), 279-290. https://doi.org/10.48066/kusob.1483671

*Bayzan, Ş., Yıldırım, Ö., Karakuş Yılmaz, T., Kurşun, E., Turgut, Y. E., & Aslan, A. (2023). Türkiye'deki çocukların internet kullanım alışkanlıkları ve dijital okuryazarlık becerileri üzerine bir araştırma [A study on internet usage habits and digital literacy skills of children in Türkiye]. *The Journal of International Turkish Language & Literature Research, 13*, 1331-1364. https://doi.org/10.51531/korkutataturkiyat.1376739

*Berkay, F., & Hazar, E. (2024). İlkokul döneminde dijital okuryazarlık: Ölçek geliştirme ve uygulama [Digital literacy in primary school: Scale development and implementation]. *Journal of Education and Humanities: Theory and Practice, 15*(29), 29-48. https://doi.org/10.58689/eibd.1385058

*Bucak, A. (2024). *Web 2.0 araçlarının sosyal bilgiler dersinde kullanımının öğrencilerin akademik başarı ve dijital okuryazarlık becerilerine etkisi* [The impact of using Web 2.0 tools in social studies lessons on students' academic achievement and digital literacy skills] [Unpublished master's thesis]. Nevşehir Hacı Bektaş Veli University.

Buckingham, D. (2015). Defining digital literacy: What do young people need to know about digital media? *Nordic Journal of Digital Literacy, 10,* 21-34. https://doi.org/10.18261/ISSN1891-943X-2015-Jubileumsnummer-03

Carretero Gomez, S., Vuorikari, R., & Punie, Y. (2017). *DigComp 2.1: The digital competence framework for citizens with eight proficiency levels and examples of use*. Publications Office. https://data.europa.eu/doi/10.2760/38842

Çalık, M., & Sözbilir, M. (2014). İçerik analizinin parametreleri [Parameters of content analysis]. *Education and Science, 39*(174), 33-38. https://dx.doi.org/10.15390/EB.2014.3412

*Çelik, H. (2021). *Ortaokul öğrencilerinin dijital okuryazarlık düzeylerinin belirlenmesi* [Determining the digital literacy levels of secondary school students] [Unpublished master's thesis]. Gazi University.

*Demirel, A., & Çaydere, O. (2023). Sanat eğitiminde dijital okuryazarlık ve tersyüz öğrenim modeli [Digital literacy and flipped learning model in art education]. *International Journal of Art and Aesthetics, 6*(11), 124-141. https://dx.doi.org/10.29228/usved.70147

*Direkçi, B., Akbulut, S., & Şimşek, B. (2019). Türkçe dersi öğretim programı (2018) ve ortaokul Türkçe ders kitaplarının dijital okuryazarlık becerileri bağlamında incelenmesi [The analysis of Turkish Course Curriculum (2018) and secondary school Turkish textbooks in terms of digital literacy skills]. *Avrasya Uluslararası Araştırmalar Dergisi, 7*(16), 797-813. https://doi.org/10.33692/avrasyad.543868

Duran, E., & Özen, N. E. (2018). Türkçe derslerinde dijital okuryazarlık [Digital literacy in Turkish lessons]. *Turkish Journal of Education, 3*(2), 31-46. https://izlik.org/JA97PR93PP

*Durmuş, T. (2024). *İşbirlikli dijital okuryazarlık etkinliklerinin öğrencilerin yaratıcı yazma ve dijital okuryazarlık becerilerine etkisi* [The effect of collaborative digital literacy activities on students' creative writing and digital literacy skills] [Unpublished doctoral thesis]. Ordu University.

*Ekemen, M. (2022). *Web 2.0 araçları ile zenginleştirilmiş sosyal medya destekli fen öğretiminin 6. sınıf öğrencilerinin sosyal medya kullanım durumlarına, dijital okuryazarlık düzeylerine ve eleştirel düşünme becerilerine etkisinin incelenmesi* [Examining the effects of social media-supported science instruction enriched with Web 2.0 tools on 6th-grade students' social media usage, digital literacy levels, and critical thinking skills] [Unpublished master's thesis]. Marmara University.

*Erdoğan, E. (2021). Dijital okuryazarlık ve siber zorbalık: Ortaokul öğrencilerine yönelik bir ilişkisel tarama araştırması [Digital literacy and cyberbullying: A correlational survey of secondary school students]. *International Journal of Field Education, 7*(2), 61-76. https://doi.org/10.32570/ijofe.1013788

Etike, Ş. (2021). Gençlik ve dijital okuryazarlık: İletişim fakültesi öğrencileri üzerine bir araştırma [Youth and digital literacy: A study on communication faculty students]. *Emek Araştırma Dergisi, 12(20),* 67-76. https://search.trdizin.gov.tr/tr/yayin/detay/510810/genclik-ve-dijital-okuryazarlik-iletisim-fakultesi-ogrencileri-uzerine-bir-arastirma

European Commission. (2020*). Digital education action plan: Policy background (2021-2027)*. European Education Area. https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan_en

Fraillon, J., Ainley, J., Schulz, W., Friedman, T., & Duckworth, D. (2019). *Preparing for life in a digital world: IEA International Computer and Information Literacy Study 2018.* Springer.

*Gönen, M. (2024). *Ortaokul öğrencilerinin dijital okuryazarlıkları, dijital ortamda ahlaki değerlerine dönük algıları ve siber zorbalık düzeyleri* [Middle school students' digital literacy, perceptions of moral values in the digital environment, and levels of cyberbullying] [Unpublished master's thesis]. Amasya University.

*Görmez, E., & Şen, A. (2021). Ortaokul öğrencilerinin dijital okuryazarlık becerisi hakkındaki görüşleri [The views of the secondary school students on digital literacy skills]. International *Journal of Language Academy, 9*(4), 90-101. https://dx.doi.org/10.29228/ijla.52492

*Gülmez, R. (2024). *Ortaokul 7. sınıf öğrencilerinin dijital vatandaşlık ve dijital okuryazarlık becerilerinin geliştirilmesine yönelik bir eylem araştırması* [An action research on the development of digital citizenship and digital literacy skills of 7th grade middle school students] [Unpublished master's thesis]. Sakarya University.

*Gümüş, Z. (2023). *Dijital öykülemenin ortaokul öğrencilerinin okuduğunu anlama ve dijital okuryazarlık becerilerine etkisi* [The effect of digital storytelling on secondary students' reading understanding and digital literacy skills] [Unpublished master's thesis]. Yıldız Teknik University.

*Gür, E., Çelebi, B., & Gür, H. (2021). Dijital çağda ortaokul öğrencilerinin dijital dönüşüm farkındalığı üzerine bir alan araştırması [A field research on digital transformation awareness of secondary school students in the digital age]. *International Journal of Disciplines Economics* & *Administrative Sciences Studies, 7*(36), 1185-1215. https://dx.doi.org/10.26728/ideas.574

*Gürbüz, N. (2023). *5E modeli ile hazırlanan dijital hikaye uygulamalarının başarı, eleştirel düşünme ve dijital okuryazarlık becerilerine etkisi* [The effect of digital story applications prepared with the 5E model on achievement, critical thinking and digital literacy skills] [Unpublished master's thesis]. Ondokuz Mayıs University.

Hatlevik, O. E., & Christophersen, K. A. (2013). Digital competence at the beginning of upper secondary school. *Computers & Education, 63,* 240-247. https://doi.org/10.1016/j.compedu.2012.11.015

Hobbs, R. (2010). *Digital and media literacy: A plan of action.* The Aspen Institute. https://files.eric.ed.gov/fulltext/ED523244.pdf

*İpek Süslü, S. (2022). *Dijital okuryazarlık öz-yeterlik ölçeği: Geçerlik ve güvenirlik çalışması.* [Digital literacy self-efficacy scale: A validity and reliability study] [Unpublished master's thesis]. Necmettin Erbakan University.

*Kaptan, E. (2022). *Bilişim teknolojileri ve yazılım dersinde dijital öykü kullanımının dijital okuryazarlık, 21. YY becerileri, akademik başarı ve kalıcılık üzerine etkisi* [The effect of using digital storytelling in information technologies and software courses on digital literacy, 21st century skills, academic success and retention] [Unpublished master's thesis]. Amasya University.

Karabacak, Z. İ., & Sezgin, A. A. (2019). Türkiye'de dijital dönüşüm ve dijital okuryazarlık [Digital transformation and digital literacy in Türkiye]. *Türk İdare Dergisi, 1*(488), 319-343.

Karasar, N. (2012). *Bilimsel araştırma yöntemleri* [Scientific research methods]. Nobel Yayınevi.

*Kartal, B., (2024). *Öğrencilerin dijital okuryazarlıkları ile dijital teknolojilere yönelik tutumları arasındaki ilişkinin incelenmesi* [Examining the relationship between students' digital literacy and attitudes towards digital technologies] [Unpublished master's thesis]. Balıkesir University.

Kasap, B. (2022). Fen öğretiminde dijital öykü kullanımının öğrencilerin fen dersine yönelik tutumlarına, dijital okuryazarlık seviyelerine ve eleştirel düşünme becerilerine etkisi* [The effect of using digital stories in science teaching on students' attitudes towards science lesson, digital literacy, critical thinking skills] [Unpublished master's thesis]. Mersin University.

Koç, E. G. (2023). Kuvvet ve enerji ünitesinde samr modeli kullanımının 7. sınıf öğrencilerinin akademik başarılarına ve dijital okuryazarlık düzeylerine etkisi* [The effect of using the samr model in the force and energy unit on 7th grade students' academic achievements and digital literacy levels*]* [Unpublished master's thesis]. Sakarya University.

*Kök, F. (2024). *Harezmi Eğitim Modeli'nin hayat boyu öğrenme anahtar yetkinliklerinden; matematik, fen ve dijital okuryazarlık yetkinliklerine etkisi: Karma bir çalışma* [The effect of the Harezmi Education Model on the lifelong learning key competencies; mathematics, science and digital literacy competencies: A mixed study] [Unpublished master's thesis]. Marmara University.

Kuru, E. (2019). Sosyal bilgiler öğretmen adaylarının dijital okuryazarlık kavramına ilişkin görüşleri [The views of social studies teacher candidates on the concept of digital literacy]. *Turkish Studies, 14*(3), 1629-1648. https://dx.doi.org/10.29228/TurkishStudies.22563

*Laçin, Ö. (2021). *Fen bilimleri dersinde Classdojo ile destekli e-öğrenme süreçlerinin 7. sınıf öğrencilerinin akademik başarılarına, fene yönelik motivasyonlarına, dijital okuryazarlıklarına ve teknolojiyle kendi kendine öğrenmelerine etkisinin incelenmesi* [An investigation of the effect of the e-learning processes supported by Classdojo in the science course on 7th grade students' academic achievement, levels of self-directed learning with technology, motivation for science learning and digital attitudes towards science*]* [Unpublished master's thesis]. Kocaeli University.

Lin, T. C., Lin, T. J., & Tsai, C. C. (2013). Research trends in science education from 2008 to 2012: A systematic content analysis of publications in selected journals. *International Journal of Science Education, 36*(8), 1346-1372. https://doi.org/10.1080/09500693.2013.864428

Livingstone, S. (2014). Developing social media literacy: How children learn to interpret risky opportunities on social network sites. *Communications, 39*(3), 283-303. https://doi.org/10.1515/commun-2014-0113

*Maden, S., Banaz, E., & Maden, A. (2018). Türkçe öğretmeni adaylarının dijital ortamlardaki yazma alışkanlıkları. [The writing habits of prospective Turkish language teachers in digital environments]. *Journal of Research in Education and Teaching, 7*(1), 103-112. https://jret.elapublishing.net/files/109/MAN/7-1/7-1-12.pdf

*Metin, T. N. (2022). *Ortaokul öğrencilerinin dijital okuryazarlık düzeyleri ile öğrenme stilleri arasındaki ilişkinin belirlenmesi* [Determination of the relationship between digital literacy levels and learning styles of secondary school students] [Unpublished master's thesis]. Aydın Adnan Menderes University.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd Ed.). Sage Publications.

*Nerse, B. N. (2021). *Online eğitim sürecinde Web 2.0 araçlarıyla zenginleştirilmiş probleme dayalı öğrenme yaklaşımının öğrencilerin akademik başarılarına, üstbilişsel farkındalıklarına, teknolojiyle kendi kendine öğrenmelerine ve dijital okuryazarlıklarına etkisinin incelenmesi* [Study of the effect of the problem-based learning approach enriched with Web 2.0 tools on the academic achievement, metacognitive awareness, self-directed learning with technology and digital literacy of students during online education process] [Unpublished master's thesis]. Kocaeli University**.**

Ng, W. (2012). Can we teach digital natives digital literacy? *Computers & Education, 59*(3), 1065-1078. https://doi.org/10.1016/j.compedu.2012.04.016

OECD. (2021). *21st-century readers: Developing literacy skills in a digital world.* OECD Publishing. https://doi.org/10.1787/a83d84cb-en

*Özaydın, A., & Kumral, O. (2021). Dijital yerlilerin gözünden dijital okuryazarlık [Digital literacy through digital natives' eyes]. *Eğitim ve Toplum Araştırmaları Dergisi, 8*(2), 362-377. https://doi.org/10.51725/etad.1008850

Özkaya, Y., & Erat, V. (2022). Türkiye'de dijital okuryazarlık çalışmaları: Literatüre dayalı nitel bir araştırma [Digital literacy studies in Türkiye: A literature-based qualitative research]. *Nevşehir Hacı Bektaş Veli University Journal of ISS, Dijitalleşme Özel Sayısı*, 240-256. https://doi.org/10.30783/nevsosbilen.1124953

Page, M.J., McKenzie, J.E., Bossuyt, P.M., Boutron, I., Hoffman, T.C., Mulrow, C.D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S.,… Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews*. BMJ*, 372,71. https://dx.doi.org/10.1136/bmj.n71

Spante, M., Hashemi, S. S., Lundin, M., & Algers, A. (2018). Digital competence and digital literacy in higher education research. *Computers & Education, 120*, 1-15. https://doi.org/10.1080/2331186X.2018.1519143

*Şahin, A., Asal Özkan, R., & Turan, B. N. (2022). İlkokul öğrencilerine yönelik dijital okuryazarlık ölçeğinin geliştirilmesi: Geçerlik ve güvenirlik çalışması [Development of the digital literacy scale for primary school students: A study of validity and reliability]. *Journal of Mother Tongue Education, 10*(3), 619-630. https://doi.org/10.16916/aded.1109283

*Şahin, E. K., & Sarıçam, H. (2022). Okumaya yönelik tutum, dijital okuryazarlık ve okul bağlılığı arasındaki ilişkilerin incelenmesi [The examination of the relationships between attitudes towards reading, digital literacy and school engagement]. *Uluslararası Türkçe Edebiyat Kültür Eğitim Dergisi, 11*(4), 1743-1765. https://izlik.org/JA38PZ63TN

*Taşçı Ağaoğlu, S., & Durmaz, A. (2021). Ortaokul öğrencilerinin sosyal medya kullanımı ve dijital okuryazarlıklarının farklı değişkenler açısından incelenmesi [Examination of secondary students' social media use and digital literacy in terms of different variables]. *Cappadocia Journal of Education, 2*(2), 26-31. https://izlik.org/JA42BJ25KA

Uçkun, S. (2024). Önlisans öğrencilerinin dijital okuryazarlığı üzerine nitel bir araştırma (Ali Rıza Veziroğlu MYO örneği) [A qualitative research on digital literacy of associate degree students (Ali Rıza Veziroğlu vocational school case)]. *International Academic Social Resources Journal, 9*(3), 267-272. https://dx.doi.org/10.5281/zenodo.12598669

UNESCO, (2018). *A global framework of reference on digital literacy skills for indicator 4.4.2*. https://unesdoc.unesco.org/ark:/48223/pf0000265403

*Üstündağ, A. (2021). COVID-19 pandemi sürecinde ortaokul öğrencilerinin dijital okuryazarlık düzeylerinin incelenmesi [Examining secondary school students' digital literacy levels during the COVID-19 pandemic process]. *Adıyaman University Journal of Social Sciences, 14*(39), 1-26. https://doi.org/10.14520/adyusbd.1009512

van Laar, E., van Deursen, A. J. A. M., van Dijk, J. A. G. M., & de Haan, J. (2017). The relation between 21st-century skills and digital skills: A systematic literature review. *Computers in Human Behavior, 72*, 577–588. https://doi.org/10.1016/j.chb.2017.03.010

*Vural, S. (2022). *Ortaokul öğrencilerinin dijital kimlik mahremiyeti becerileri ile teknoloji okuryazarlık düzeylerinin çevrimiçi oyunlardaki siber güvenlik farkındalıkları üzerindeki etkisi* [The impact of middle school students' digital identity privacy skills and technological literacy levels on their cybersecurity awareness in online games]. [Unpublished master's thesis]. Tokat Gaziosmanpaşa University.

Yeşiltaş, H. M., Çelikoğlu, M., & Taş, E. (2023). Descriptive content analysis of digital literacy studies in education in Türkiye. *The Journal of Limitless Education and Research, 8*(1), 37-55. https://doi.org/10.29250/sead.1198579

*Zurnacı Parlak, B. (2019). *Hedefe dayalı senaryolarla dijital okuryazarlık becerilerinin kazandırılması* [Gaining digital literacy skills with goal-based scenarios] [Unpublished master's thesis]. Ondokuz Mayıs University.