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Academic Accumulation on Digital Literacy: A Systematic Review of Doctoral Theses in Turkey

Dijital Okuryazarlık Üzerine Akademik Birikim: Türkiye'deki Doktora Tezlerinin Sistematik İncelemesi

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ABSTRACT

This article comprehensively addresses the concept of digital literacy and examines various approaches in the literature. The rapid acceleration of the digitalization process and the profound impact of technological innovations on societies have made it essential for individuals to develop their skills in accessing, evaluating, and using digital information. Digital literacy is not merely the ability to use technology; it is a multidimensional construct that also encompasses skills such as information literacy, media literacy, and critical media usage. The increasing importance of this concept has drawn attention in the academic field, leading to a noticeable rise in studies on digital literacy in recent years. The aim of this study is to examine doctoral theses conducted in the field of digital literacy in Turkey through the content analysis method and to present an overall view of these studies. In addition, based on data obtained from the National Thesis Center of the Council of Higher Education, digital literacy theses written between 2019 and 2024 were analyzed, focusing on their distribution over the years and thematic differences. The findings comprehensively present how the concept of digital literacy is addressed in the academic field and which aspects are highlighted. As a result, it has been observed that the concept of digital literacy has evolved into an important conceptual structure not only limited to individual competence but also significant in social and academic contexts. This study aims to contribute to the scientific accumulation on digital literacy and to guide future research.

Keywords: Digital Literacy, Technological Competence, Critical Thinking, Information Literacy, Media Literacy.

ÖZ

Bu makale, dijital okuryazarlık kavramını kapsamlı bir şekilde ele almakta ve literatürdeki çeşitli yaklaşımları incelemektedir. Dijitalleşme sürecinin hız kazanması ve teknolojik yeniliklerin toplumlar üzerindeki derin etkisi,

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bireylerin dijital bilgiye erişme, değerlendirme ve kullanma becerilerini geliştirmelerini zorunlu hale getirmiştir. Dijital okuryazarlık, sadece teknolojiyi kullanabilme yeteneği değil; bilgi okuryazarlığı, medya okuryazarlığı ve eleştirel medya kullanımı gibi becerileri de içeren çok boyutlu bir yapıdır. Bu kavramın giderek artan önemi, akademik alanda da dikkat çekmiş ve dijital okuryazarlık üzerine yapılan çalışmaların sayısı son yıllarda belirgin bir artış göstermiştir. Bu çalışmanın amacı, Türkiye’de dijital okuryazarlık alanında gerçekleştirilen doktora tezlerini içerik analizi yöntemiyle incelemek ve bu çalışmaların genel görünümünü ortaya koymaktır. Ayrıca çalışmada, Yükseköğretim Kurulu Ulusal Tez Merkezi’nden elde edilen veriler ışığında, 2019-2024 yılları arasında yazılmış dijital okuryazarlık tezleri analiz edilmiş, yıllara göre dağılım ve tematik farklılıklar ele alınmıştır. Bulgular, dijital okuryazarlık kavramının akademik alanda nasıl ele alındığını ve hangi yönlerinin ön plana çıktığını kapsamlı bir şekilde sunmaktadır. Sonuç olarak, dijital okuryazarlık kavramının sadece bireysel yeterlilikle sınırlı kalmayıp toplumsal ve akademik bağlamda da önemli bir kavramsal yapı haline geldiği görülmüştür. Bu çalışmanın, dijital okuryazarlık konusundaki bilimsel birikime katkı sunması ve gelecek araştırmalara rehberlik etmesi hedeflenmektedir.

Anahtar Kelimeler: Dijital Okuryazarlık, Teknolojik Yeterlilik, Eleştirel Düşünme, Bilgi Okuryazarlığı, Medya Okuryazarlığı.

1. Introduction

Societies are in a constant state of transformation and evolution due to the impact of technological advancements. Although there are various perspectives on technology, the majority of individuals today have made it an indispensable part of their daily lives. This process of adaptation involves not only the use of technology but also its effective integration into production processes. In this context, the concept of digital literacy holds significant importance (Arslan, 2019: 18). The close relationship established with technology has deepened further in the information age. In this era, technology continues to change and transform in a continuous and irreversible manner. Particularly with the rapid acceleration of the use of digital technologies in everyday life, there have been fundamental changes in the ways we learn, spend time, communicate, and work. This rapid transformation has also led to a significant shift in the skills individuals are expected to possess (Silik and Aydın, 2018: 17).

One of the areas where this change is most strongly felt is, undoubtedly, mass communication tools. With technological advancements, individuals have begun to intensively use digital devices such as computers, tablets, and smartphones to access and disseminate information. This has made the processes of accessing, perceiving, and interpreting content presented through screens increasingly critical. Therefore, digital literacy has emerged as a fundamental individual competency in today's world (Duran and Özen, 2018: 36). At this point, it is evident that digital technologies are being used effectively not only in daily life but also in various fields, especially in education. However, to benefit efficiently from these technologies, individuals must possess certain skills. Among these, digital literacy stands out as a primary competence, enabling individuals to use digital environments consciously and effectively (Pala and Başbüyük, 2020: 897).

Digital literacy is not merely the ability to use technology; it also encompasses an individual's capacity to learn about information and communication technologies, support personal development through these technologies, and solve problems encountered in various areas of life. Furthermore, digital literacy aims to equip individuals with the competencies necessary for the safe, legal, and ethical use of technologies. "Digital literacy" involves conducting effective and conscious research via the internet, accessing information, and collecting data using various digital technologies. In today's world—where lifelong learning is gaining importance and mastery of digital tools is increasingly crucial—the significance of this concept has grown even further. As technology continues to secure a permanent place in our

lives, questions concerning how, to what extent, and for what purposes it should be used have become increasingly relevant (Doğan and Birişçi, 2022: 16).

The primary aim of this study is to examine doctoral dissertations conducted in the field of digital literacy in Turkey and to evaluate these dissertations using a detailed content analysis method. The data for the research were obtained through a search on the National Thesis Center of the Council of Higher Education (<https://tez.yok.gov.tr/UlusalTezMerkezi/>) using the keywords “dijital okuryazarlık” and “digital literacy.” The review revealed that the first doctoral dissertation in this field was completed in 2019. Since then, a total of 20 doctoral dissertations focusing on digital literacy have been identified.

When the distribution of these dissertations by year is examined, it is seen that 1 dissertation was written in 2019, 2 in 2020, 1 in 2021, 6 in 2022, 1 in 2023, and 9 in 2024. This distribution indicates fluctuations in academic interest toward the topic of digital literacy over the years. The notable increases in the number of dissertations in 2022 and 2024 suggest that academic awareness and research interest in this field have intensified during certain periods.

In this study, the identified doctoral dissertations were comprehensively examined using the content analysis method and evaluated in terms of their topics, research methodologies, sample groups, theoretical frameworks, and findings. In doing so, the study aims to explore how the concept of digital literacy has been addressed in academic research at the higher education level and which aspects of the concept have been emphasized. The significance of this study lies in its potential to offer new perspectives to the literature by demonstrating the extent to which the concept of digital literacy—having gained popularity in recent years—impacts individuals' lives. In this regard, the study aims to present an overview of the scholarly production at the doctoral level in the field of digital literacy in Turkey and to serve as a valuable resource that can guide future research.

Content analysis is a qualitative research technique that aims to obtain objective, measurable, and verifiable information by examining various materials—such as documents, texts, and records—within a defined framework (e.g., sampling, coding, category development, etc.) (Metin and Ünal, 2022: 272). Researchers conducting descriptive content analysis begin by identifying the topic to be analyzed. Subsequently, they perform a literature review to collect relevant studies. This review is conducted using national and international databases and thesis repositories by employing specific keywords. These keywords may be searched within full texts, abstracts, or titles. If the number of retrieved studies is too high, limitations such as sample size, language, or publication year can be applied to facilitate the analysis process (Ültay, Aykurt and Ültay, 2021: 189).

Content analysis is a widely used, flexible, and cost-effective research method in the social sciences. It encompasses stages such as defining the research problem, collecting data, coding, and analysis. Among its advantages are its low cost and the potential for rapid results, while its disadvantages include the risk of semantic ambiguity and susceptibility to misinterpretation. Content analysis can be categorized into different types, including descriptive, objective, comparative, and semantic analysis. This method enables researchers to derive meaningful conclusions regarding the subject matter (Alanka, 2024: 64).

2. The Historical Development of the Concept of Digital Literacy

The concept of digital literacy was first introduced by Paul Gilster in 1997. Gilster defines this concept as "the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers and particularly through the internet." According to him, it is essential to teach students "how to absorb, evaluate, and reassemble information." Moreover, he emphasizes that this skill should not only be imparted to students but also to society as a whole (Akman, 2024: 543). Rather than providing a specific list of skills, Gilster approaches digital literacy within a broader conceptual framework, viewing it as the capacity to cope with information in the digital age (Çelikoğlu et al., 2022; Bawden, 2008: 18).

The expression "literacy in the digital age" encompasses a wide range of different skills. Eshet-Alkalai (2004) stresses that digital literacy is not limited to software usage or the operational ability to use digital devices. In his view, to be effective in digital environments, individuals must possess a set of complex cognitive, motor, sociological, and emotional skills. He categorizes digital literacy into five distinct dimensions: photo-visual literacy, reproduction literacy, information literacy, branching literacy (domain-specific expertise), and socio-emotional literacy. From this perspective, it is evident that digital literacy comprises numerous subcategories. Among the most prominent dimensions are computer literacy, technology literacy, information literacy, communication literacy, media literacy, and visual literacy (Korkmaz and Mahiroğlu, 2009; Çelikoğlu et al., 2022).

Additionally, in another study, digital literacy is defined as a broad term that encompasses learning through both online and offline digital technologies, incorporating technical, cognitive, and socio-emotional dimensions (Ng, 2012).

3. Examination of Doctoral Dissertations Written on the Concept of Digital Literacy

3.1. Dissertations Written in 2019

Title: Improving English Teacher Candidates' Digital Literacy through Research

Author: Seda Altiner

University Information: Dokuz Eylül University, Institute of Educational Sciences

Advisor: Assoc. Prof. Dr. Kenan Dikilitaş

In this doctoral study, a 14-week digital literacy training program was implemented to enhance English teacher candidates' digital literacy skills. The research investigated the effects of this process on candidates' knowledge and use of digital tools, their self-efficacy in digital literacy, and their beliefs regarding technology. The study was conducted during the 2018-2019 academic year with 24 teacher candidates from the Faculty of Education at Dokuz Eylül University and was structured within the context of technology-supported language teaching. Participants were evaluated through various data collection tools in terms of their knowledge of digital tools, competence in using them, beliefs in the role of technology in teaching, and transformations throughout the process. Data were collected and analyzed using both qualitative and quantitative methods, including surveys, reflective journals, field notes, and interview transcripts. The findings revealed significant improvements in candidates' digital, perceptual, cognitive, and affective levels of digital literacy. Participants gained the ability to integrate technology into educational settings more consciously and effectively, showing development in areas such as critical thinking, decision-making, awareness, and the adoption of positive attitudes. This dissertation highlights the importance of digital literacy education in English teacher training programs and proposes a research-based, practical, and reflective instructional approach, distinguishing itself from traditional technology courses.

3.2. Dissertations Written in 2020

Title: Digital Literacy as a Set of Digital Competencies: A Scale Development Study

Author: Serkan Bayrakcı

University Information: Marmara University, Institute of Social Sciences

Advisor: Dr. Haldun Narmanlıoğlu

This doctoral dissertation addresses the concept of digital literacy within the framework of the social impacts of digital technologies. A comprehensive, valid, and reliable digital literacy scale was developed for university students and graduates. Serkan Bayrakcı's 2020 dissertation emphasizes that digital literacy is not limited to technical skills but is a multidimensional structure involving knowledge, skills, attitudes, and competencies. The study includes three main sections:

a) **Theoretical Framework:** The concepts of digital literacy and digital competence were examined and compared through a literature review, analyzing related models (e.g., Krumsvik, Ng, Martin, Hobbs, Calvani).

b) **Methodology:** A digital literacy scale (DLS) was developed through a pilot study with 451 participants followed by a main study with 1,287 participants. The scale development process included item pool creation, content validity procedures, exploratory and confirmatory factor analyses, item discrimination, reliability, and validity testing.

c) **Results and Analysis:** DLS scores were analyzed statistically based on variables such as gender, age, education level, profession, use of digital devices, and keeping up with digital developments. Standard scores were calculated and categorized into five levels of digital literacy (low, lower-middle, medium, upper-middle, high).

The dissertation underlines the significance of digital literacy not only on an individual level but also for social participation, digital citizenship, and cultural adaptation. The scale's broad sample base and up-to-date framework offer unique contributions to both the literature and practical applications.

Title: The Effect of Digital Storytelling Practices on Turkish Language Teacher Candidates' Academic Achievement, Digital Literacy, and Turkish Language Teaching Self-Efficacy Perceptions

Author: Halil Erdem Çocuk

University Information: Mersin University, Institute of Educational Sciences

Advisor: Prof. Dr. Tuğba Yanpar Yelken

This doctoral study investigates the effects of web-based digital storytelling practices, conducted through a collaborative learning approach, on Turkish language teacher candidates' academic achievement, levels of digital literacy, and self-efficacy perceptions in Turkish language teaching. Completed by Halil Erdem Çocuk in December 2020, the dissertation consists of 133 pages. The research explored in detail the pedagogical and technological impacts of using digital storytelling techniques in the education of Turkish language teacher candidates. A mixed methods approach was adopted, combining quantitative (quasi-experimental design with pre-test/post-test) and qualitative (focus group interviews) data collection techniques. The study group consisted of 74 second-year students enrolled in the "Instructional Principles and Methods" course at Mersin University's Faculty of Education during the fall semester of the 2016-2017 academic year. Data were collected using achievement tests, self-efficacy scales for Turkish language teaching, digital literacy self-efficacy scales, and qualitative interview forms. Analyses involved parametric tests such as t-tests, ANOVA, and regression analysis. The findings indicated a statistically significant

increase in the experimental group's academic achievement, digital literacy levels, and self-efficacy perceptions. Processes such as scenario development, collaborative work, and technology-supported language teaching were particularly effective in increasing students' engagement in the learning process. Qualitative data also revealed that teacher candidates expressed positive views regarding the digital storytelling process. This study offers an original contribution to the literature by being one of the few research efforts examining the impact of digital storytelling practices on student achievement and teacher candidates' digital competencies in Turkish language education. Furthermore, it provides critical implications for teacher education policies in the context of 21st-century skills.

3.3. Dissertations Written in 2021

Title: Digital Literacy: Increasing Pre-Service Teachers' Awareness of Fake News on Social Media

Author: Hanmyrat SARIYEV

University: Anadolu University, Institute of Educational Sciences

Advisor: Prof. Dr. Hatice Ferhan Odabaşı

This doctoral thesis aimed to enhance pre-service teachers' awareness of fake news spreading on social media in the digital age. An intervention study was conducted using asynchronous media literacy training to develop digital literacy skills. The intervention involved senior students from the Department of Computer Education and Instructional Technology at Anadolu University. In addition to theoretical knowledge, practical strategies such as "lateral reading" were taught. This approach sought to improve students' skills in evaluating, verifying, and questioning the reliability of online information sources. Findings showed that the training significantly improved participants' critical media literacy, especially in the "critical consumption" aspect of new media literacy. Students' fact-checking abilities also showed notable improvement. The thesis concluded that in the digital era, it is insufficient for individuals to merely use technology; they must also critically assess the reliability of content. Therefore, digital literacy should encompass not only technical skills but also cognitive and critical thinking abilities. It is recommended that educators and teacher trainers prioritize digital literacy development.

3.4. Dissertations Written in 2022

Title: Examination of Distance Education During the Covid-19 Pandemic in Terms of Digital Divide and Digital Literacy: The Case of Harran University

Author: Abdulhalik PINAR

University: Harran University, Institute of Social Sciences

Advisor: Prof. Dr. Sedat Benek

This doctoral thesis investigates the digital inequalities and digital literacy levels of students during the distance education process enforced by the Covid-19 pandemic at Harran University. The study, consisting of 155 pages, analyzed how the accelerated digitalization process affected distance education, focusing on students' digital literacy and the digital divide. Data were collected from 594 students via an online survey and digital literacy scale and analyzed using SPSS. Results indicated that while students generally had good digital literacy, many were negatively affected by the digital divide due to socioeconomic factors. One major problem identified was the unsuitability of students' home environments for remote learning. The study also found that digital literacy varied according to age, gender, income, and English proficiency, and was statistically related to students' satisfaction with remote education and the challenges they faced. This research contributes to understanding the overlap between digital divide and socioeconomic inequality in Turkey and offers recommendations for shaping educational policies in the context of digital transformation.

Title: Use of Internet-Based Services in the Context of Digital Literacy and Privacy in Rural Areas: The Case of Kayseri

Author: Burak ÜNLÜ

University: Erciyes University, Institute of Social Sciences

Advisor: Prof. Dr. Vahit İlhan

This doctoral dissertation investigates the relationship between digital literacy levels and online privacy orientations among individuals living in rural areas. Prepared by Burak Ünlü in 2022, the thesis comprises 267 pages. The research was conducted in rural neighborhoods of Kayseri and involved face-to-face surveys with 374 participants. The concepts of digital literacy, digital citizenship, and privacy were examined within the frameworks of network society and surveillance society theories. Participants' attitudes towards privacy preferences were analyzed alongside variables such as age, education level, and duration of internet use. The findings indicate that participants generally had low levels of digital literacy, whereas privacy orientations were found to be high. A significant positive correlation was observed between digital literacy, digital citizenship, and privacy orientation. The data demonstrate that digital literacy varies according to age, education, and usage habits. The results suggest that the digital divide in rural areas has evolved from primarily an access issue to a second-level divide based on skill inequalities. Additionally, the high awareness of privacy among individuals leads to a cautious approach in the use of internet-based services. This study contributes significantly to the literature by providing a large-scale field study on digital literacy and privacy perception

in rural contexts. The findings also serve as a guide for policymakers and educators regarding digital citizenship and privacy relations.

Title: Digital Literacy Habits and Challenges of Generation Z University Students in Postmodern Consumer Culture

Author: Doğan KORKMAZ

University: Maltepe University, Graduate School of Education

Advisor: Prof. Dr. Yalçın Kırdar

This doctoral dissertation explores the relationship between digital literacy levels and consumption habits of Generation Z university students within the framework of postmodern consumer culture. Prepared by Doğan Korkmaz in 2022, the thesis consists of 110 pages. The main problem addressed is identifying the strengths and weaknesses of Generation Z regarding digital literacy in a digitally saturated environment, while also analyzing how postmodern cultural influences shape their consumption behavior. The sample consists of 872 university students from state and private universities in Istanbul. Data were collected using a Personal Information Form, Digital Literacy Scale, and Postmodern Consumer Scale. The study is limited to the 2020-2021 academic year. Findings show that Generation Z students perceive themselves as highly digitally literate. A significant positive relationship was found between digital literacy and postmodern consumer behavior, especially in subdimensions such as social media use, privacy and security, and online sharing habits. Notably, despite possessing advanced digital skills, Generation Z students underperform in content evaluation, security, and ethical responsibility. The study recommends enhancing digital literacy education to enable students to manage digitalization processes more consciously. This thesis provides a valuable resource for researchers seeking to understand Generation Z's positioning in the digital world and offers important insights for media and public relations professionals working with digital generations.

Title: Examination of Teachers' Critical Digital Literacy Skills in Terms of Various Variables

Author: Fatih KÜSLÜ

University: Anadolu University, Institute of Educational Sciences

Department: Computer Education and Instructional Technology

Advisor: Prof. Dr. Hatice Ferhan Odabaşı

This doctoral dissertation investigates teachers' critical digital literacy skills and whether these skills differ according to various demographic and professional variables. Prepared by Fatih Küslü in 2022, the thesis is 267 pages long. With the increasing digitalization, the importance of individuals' ability to critically evaluate information is emphasized, leading

to the development of the “Critical Digital Literacy Scale (CDLS).” Focus group interviews were conducted with 34 teachers during the scale development process, resulting in a 25-item, five-factor structure. Data were collected from 1,075 teachers across Turkey. Analyses were performed using SPSS, including exploratory and confirmatory factor analyses, t-tests, and ANOVA to examine significance among variables. Results indicate that teachers generally possess high critical digital literacy skills. Significant differences were found in some dimensions according to gender, subject area, teaching level, professional experience, daily internet/social media use, and participation in digital skill development training. However, no significant difference was observed between education level and overall CDLS score. Findings suggest that teachers have high awareness in accessing and evaluating information digitally. Additionally, receiving training to improve digital literacy has a positive effect on these skills. This study makes a valuable contribution to the literature by analyzing critical skills teachers need in the digitalization of education and offers guidance for teacher training programs and in-service education policies.

Title: The Mediating Role of Participation in the Relationship Between Emerging Adults’ Identity Processes, Sense of Community, Hope, Empathy, Digital Literacy, and Well-Being

Author: Gülşah SEVİNÇ

University: Ankara University, Institute of Educational Sciences

Advisor: Assoc. Prof. Dr. Tülin Şener

This doctoral dissertation examines the effects of emerging adults’ identity development, hope, empathy, social empathy, sense of community, digital media use, and digital literacy levels on their psychological and social well-being, while evaluating the mediating role of participation. Prepared by Gülşah Sevinç in 2022, the thesis is comprised of xiii + 266 pages. The study was conducted with 801 university students from various universities across Turkey, using quantitative data collection methods. Data were collected via scales measuring Social and Psychological Well-being, Identity Development, Digital Literacy, Hope, Empathy, Social Empathy, Sense of Community, and Participation. Analyses were performed using SPSS and LISREL software. Multiple regression analyses and structural equation modeling revealed that social and political participation plays a significant mediating role between identity development, hope, sense of community, social empathy, digital media use, and well-being. Furthermore, academic achievement, social media usage frequency/duration, types of empathy, and sense of community were found to significantly predict well-being. The findings highlight that digital literacy is not only an individual skill but also a critical factor influencing psychological and social well-being. Considering university

students' identity development, hope levels, and integration with the community in connection with social participation also supports citizenship awareness and democratic engagement. This thesis offers important contributions to the literature by providing a comprehensive approach to factors affecting university students' well-being in Turkey and the mediating role of participation. It also serves as a guide for intervention programs applicable in university settings within educational psychology.

Title: A Field Study on Digital Literacy and Internet Advertising

Author: Muammer ÖZTÜRK

University: Selçuk University, Institute of Social Sciences

Advisor: Prof. Dr. İmran Aslan

This doctoral dissertation examines the relationship between university students' levels of digital literacy and their beliefs and attitudes toward internet advertising. The study investigates how digital literacy influences consumers' perception and evaluation of online advertisements. Prepared by Muammer Öztürk in 2022, the thesis consists of 181 pages. The theoretical framework comprehensively covers the digitization process, concepts and models of digital literacy, types of internet advertising, online consumer behavior, and the theory of planned behavior. The research employs a quantitative methodology with a sample of students from Selçuk University, utilizing scales measuring digital literacy and beliefs about internet advertising. Validity and reliability analyses of the scales were conducted, and comparisons were made across various demographic variables. Findings indicate that individuals with higher digital literacy levels hold more conscious, selective, and critical beliefs toward internet advertisements. Furthermore, the impact of digital literacy on sub-dimensions such as "hedonism," "materialism," "product knowledge," "economic contribution," and "value degradation" was analyzed. In an era marked by widespread digital media use, the study supports the thesis that individuals' perceptions and behaviors regarding advertising content are directly related to their digital literacy levels. This research contributes to a better understanding of consumer behavior in the digital age and offers recommendations for the development of digital marketing strategies. The thesis makes a comprehensive contribution to the literature by exploring the relationship between digital literacy and other domains, including media literacy and consumer awareness, beyond education and information acquisition.

3.5. Dissertations Written in 2023

Title: The Effect of a Digital Literacy Program on Digital Addiction Tendencies in Infants and Digital Burnout in Parents

Author: Ebru BOĞA BARAN

University: İnönü University, Institute of Health Sciences

Advisor: Assoc. Prof. Dr. Mehmet Sağlam

This doctoral dissertation examines the impact of a digital literacy program on digital addiction tendencies in infants and digital burnout in parents. Prepared by Ebru Boğa Baran in 2023, the thesis comprises 133 pages. The study employs a mixed-methods design, incorporating a quantitative component with a pretest-posttest control group experimental design including a follow-up test, and a qualitative component involving semi-structured interviews with parents. The research was conducted with 40 parents of infants aged 6 to 36 months, of whom 15 were assigned to the experimental group and 25 to the control group. The experimental group received a digital literacy training program consisting of 12 sessions, while the control group received no intervention. Data were collected using the Digital Addiction Tendency Scale for Infants (DATSI), the Digital Burnout Scale (DBS), and interview protocols. Analyses included two-way ANOVA and t-tests appropriate for mixed designs. Findings indicate that the digital literacy program significantly reduced digital burnout levels in parents and decreased digital addiction tendencies in infants. These effects were further supported by follow-up test results. The study highlights that digitalization has substantial effects not only on children but also on parents, emphasizing the critical importance of digital literacy skills within parenting roles. Moreover, considering the sensitivity of early childhood development, the research provides important evidence for the regulation of digital exposure at an early age.

In this regard, the study offers a unique and valuable contribution to the literature focused on child development and parental education in the digital era, with both theoretical and practical implications.

3.6. Dissertations Written in 2023

Title: The Effect of Web 2.0 Tools on Students' Academic Achievement and Digital Literacy Skills in Social Studies Classes

Author: Abdulbasir BUCAK

University: Nevşehir Hacı Bektaş Veli University, Institute of Social Sciences

Advisor: Prof. Dr. Ali Meydan

This doctoral dissertation investigates the impact of using Web 2.0 tools in middle school social studies classes on students' academic achievement and digital literacy skills. Prepared by Abdulbasir Bucak and completed in February 2024, the thesis consists of 174 pages. The study employs a quasi-experimental pretest-posttest control group design to analyze the relationship between the integration of Web 2.0 tools into social studies courses and students' academic success and digital competencies. Conducted in middle schools in Siverek

district of Şanlıurfa, the research included 32 students divided equally into experimental and control groups. The experimental group's lessons were supported by Web 2.0 applications (such as Canva, Story Jumper, Popplet, Quizizz, Powtoon, etc.), while the control group received instruction through traditional methods. Results revealed significant improvements in both academic achievement and digital literacy skills among students using Web 2.0 tools. Qualitative data further supported that these tools made lessons more enjoyable, facilitated learning, and promoted habits such as safe internet use. The study contributes to the limited research on digital literacy skills and technological tool integration in social studies education in Turkey and concludes that Web 2.0 tools are effective for enhancing both educational achievement and digital competence. This work offers valuable recommendations for both academic literature and educational practitioners.

Title: The Effect of the Authentic Learning Method on Middle School Students' Turkish Course Achievement and Digital Literacy Skills

Author: Ali Umut AŞÇI

University: Necmettin Erbakan University, Institute of Educational Sciences

Advisor: Prof. Dr. Murat Ateş

This doctoral dissertation examines the impact of the authentic learning method on 7th-grade middle school students' academic achievement in Turkish language courses and their digital literacy skills. Prepared by Ali Umut Aşçı in 2024, the thesis consists of 305 pages. The research employed a mixed-methods approach, with a quantitative quasi-experimental pretest-posttest control group design and a qualitative basic research design. Conducted during the 2021-2022 academic year at a public middle school in Aksaray, the study involved 67 students, with 33 in the experimental group receiving authentic learning instruction and 34 in the control group receiving traditional instruction. Data collection tools included achievement tests, scoring keys, semi-structured interviews, and a digital literacy scale. Quantitative data were analyzed using SPSS, while qualitative data underwent content and descriptive analysis. Findings indicate that the authentic learning method significantly increased students' academic achievement and digital literacy skills. Students also reported finding lessons more enjoyable, feeling more confident, and experiencing more permanent learning. A gender difference was observed in listening skills, while no significant gender differences were found in other language skills. This thesis provides a rare and comprehensive examination of the relationship between authentic learning and digital literacy in Turkish language education, offering significant theoretical and practical contributions.

Title: A Model on the Effect of University Students' Design Thinking and Digital Literacy Skills on Their Intellectual Experience Abilities

Author: Atilla ERGİN

University: Yeditepe University, Institute of Educational Sciences

Advisor: Prof. Dr. Yelkin Diker Coşkun

This doctoral study models the effects of university students' design thinking and digital literacy skills on their intellectual experience abilities. Conducted by Atilla Ergin in 2024, the comprehensive study collected data from 750 students across 12 universities using a relational screening model. Participants completed scales measuring digital literacy, intellectual experience, and a newly developed design thinking scale. Analyses were performed using SPSS and LISREL software, employing PLS-SEM modeling. Results showed that design thinking strongly and directly predicted intellectual experience, explaining 51% of its variance, and also had a significant effect on digital literacy. Digital literacy's effect on intellectual experience was moderate. The findings highlight design thinking skills as the strongest predictor of intellectual experience, with digital literacy contributing meaningfully but to a lesser extent. The study emphasizes the need to develop students' digital skills and creative thinking abilities concurrently. As one of the few investigations into the interplay between design thinking, digital literacy, and intellectual experience, this research provides valuable insights for restructuring university curricula and shaping educational policies.

Title: Investigating Four Attributed Skills of Generation Alpha in Early Childhood: Digital Literacy, Problem Solving and Critical Thinking, Creativity, Collaboration

Author: Betül Yıldızhan BORA

University: Bahçeşehir University, Graduate School of Education

Advisor: Prof. Dr. Tufan Adıgüzel

This doctoral dissertation explores the extent to which four skills attributed to Generation Alpha—digital literacy, problem solving and critical thinking, creativity, and collaboration—are observed in early childhood. Prepared by Betül Yıldızhan Bora in 2024, the thesis includes 169 pages. The study was conducted in state and private preschool institutions in Diyarbakır with 279 children aged 5-6, and 33 parents and 12 teachers familiar with these children. Using an explanatory sequential mixed-methods design, quantitative and qualitative data were collected via various scales, observations, and interviews. Findings showed high levels of problem solving and critical thinking, creativity, and collaboration skills, while digital literacy skills were moderate. Skill levels varied according to access to digital devices, socioeconomic status, and the technological infrastructure of the schools. Qualitative results indicated that children exhibited strong visual learning abilities, technological affinity, and readiness. The study concludes that Generation Alpha children possess high cognitive potential from an early age and that their interactions with digital tools significantly impact skill

acquisition. It recommends technological integrations in educational environments tailored to these children's needs. This work contributes importantly to the literature on Generation Alpha's early childhood skills and paves the way for new practices related to early technology use, digital literacy, and AI-supported learning environments.

Title: A Study on Testing the European Union Digital Literacy and Competence Framework in Bosnia and Herzegovina

Author: Emir Hambo

University: Istanbul Ticaret University, Institute of Communication Science and Internet

Advisor: Prof. Dr. Füsün Alver

This doctoral dissertation evaluates the digital literacy levels of Bosnian citizens based on the European Union's DigComp 2.2 framework and examines how these competencies vary according to age, gender, and educational level. Prepared by Emir Hambo in 2024, the thesis consists of 214 pages. The aim of the study is to assess the current state of digital literacy among individuals living in Bosnia and Herzegovina and to analyze their alignment with the EU's digital competence standards. Data were collected using a semi-structured questionnaire developed by the EU Joint Research Centre. The sample comprised 502 citizens of Bosnia and Herzegovina, diversified by gender, age, and education. Findings revealed that younger individuals use digital tools more effectively and consciously, whereas older groups show lower awareness and competence regarding digital risks. Youth outperformed in areas such as digital communication, content creation, safety, and problem-solving. The study also explores digital social networks, digital media theories, and various EU digital competence models (DigComp 1.0–2.2), and proposes a context-specific model for digital literacy enhancement in Bosnia and Herzegovina.

This study provides a rare example of measuring the regional applicability of European digital standards and offers original contributions to the literature on digital divide, media literacy, and digital citizenship in the context of Bosnia and Herzegovina.

Title: The Effect of the Flipped Learning Model on 6th Grade Students' Digital Literacy and Scientific Epistemological Beliefs

Author: Feride Gökdaş

University: Muğla Sıtkı Koçman University, Institute of Educational Sciences

Advisor: Prof. Dr. Aylin Çam

This doctoral dissertation, prepared by Feride Gökdaş in 2024, investigates the effects of the flipped learning model on 6th grade students' digital literacy and scientific

epistemological beliefs. The study was conducted during the 2022–2023 academic year in a public middle school in Muğla, involving 41 students. A convergent parallel mixed-methods design was employed. The experimental group of 20 students received instruction via a collaborative flipped learning model, while the control group of 21 students was taught using traditional collaborative learning methods. The data collection process lasted 10 weeks. Tools included the “Digital Literacy Scale,” “Scientific Epistemological Beliefs Scale,” semi-structured interviews, and reflective journals. Quantitative data were analyzed using two-way mixed ANOVA, while qualitative data were evaluated through content analysis. Results indicated that the collaborative flipped learning approach was more effective than traditional methods in enhancing digital literacy. However, no significant difference was found in terms of epistemological beliefs. Qualitative findings revealed that students found the flipped model enjoyable, appreciated the preparatory value of out-of-class activities, and felt that in-class sessions facilitated understanding.

This study contributes to the literature by establishing a significant link between the flipped learning model and digital literacy skills, and provides original insights into how epistemological beliefs may evolve in digital learning contexts. Recommendations include incorporating flipped learning strategies into curricula.

Title: An Investigation into the Effect of Physical Education Teachers’ 21st Century Skill Levels on Their Digital Literacy and Attitudes Toward Distance Education Based on Various Variables

Author: Remzi Eşkil

University: Gazi University, Institute of Educational Sciences

Advisor: Prof. Dr. İmdat Yarım

This doctoral thesis, completed by Remzi Eşkil in 2024 and consisting of 121 pages, examines the impact of physical education and sports teachers' 21st century skills on their digital literacy levels and attitudes toward distance education. The study was carried out during the 2022–2023 academic year with 386 teachers working in public and private schools in Ankara. Data were collected via online surveys using the Personal Information Form, 21st Century Teaching Skills Scale, Digital Literacy Scale, and Teachers’ Attitude Toward Distance Education Scale. SPSS 25.0 was used for analysis. Results showed a moderate positive correlation between 21st century skills and digital literacy, a weak positive correlation with attitudes toward distance education, and a very weak positive relationship between digital literacy and distance education attitudes. Demographic findings include:

- Gender and professional experience significantly affect digital literacy.

- School type and marital status significantly influence 21st century skills.
- Only professional experience significantly impacts attitudes toward distance education.

This study contributes to redefining teacher competencies in the digital age, providing guidance especially for physical education teachers adapting to technological change. It also offers key findings to inform educational policy on digital literacy and 21st century skills.

Title: The Effect of Collaborative Digital Literacy Activities on Students' Creative Writing and Digital Literacy Skills

Author: Tuğçe Durmuş

University: Ordu University, Institute of Social Sciences

Advisor: Assoc. Prof. Dr. Seher Çetinkaya

This doctoral dissertation, prepared by Tuğçe Durmuş in 2024 and consisting of 145 pages, investigates the impact of collaborative digital literacy activities on 4th-grade students' creative writing and digital literacy skills. The study was conducted with 33 primary school students over a 14-week implementation period. A mixed-methods design was employed, with a quasi-experimental pretest-posttest control group design on the quantitative side, and a case study approach on the qualitative side. Data were collected through the "Digital Literacy Scale," the "Creative Writing Product Evaluation Scale," as well as student and teacher interview forms, and analyzed using SPSS. Activities conducted with digital tools and content creation throughout the intervention enriched students' writing abilities. The findings demonstrated that collaborative digital literacy activities significantly improved students' creative writing and digital literacy skills. Additionally, increases were observed in interest, motivation, cognitive performance, and self-confidence. Social skills such as interaction, responsibility-taking, and sharing also improved. This study contributes to the literature by emphasizing the importance of integrating traditional and digital literacy, and it serves as a guide for teachers and educators regarding the applicability of collaborative digital writing activities across different grade levels and subjects.

Title: The Effect of Web-Based Education Provided to Young Elderly Individuals on Their E-Health Literacy, Digital Literacy, and Healthy Lifestyle Behavior Levels

Author: Zeynep Yıldırım

University: Atatürk University, Institute of Health Sciences

Advisor: Assoc. Prof. Dr. Sonay Bilgin

This doctoral dissertation, prepared by Zeynep Yıldırım in 2024 and totaling 139 pages, investigates the impact of web-based education on the e-health literacy, digital literacy, and healthy lifestyle behaviors of young elderly individuals. The study was conducted between

January 2023 and May 2024 in two family health centers in Iğdır, with a total of 80 participants—40 in the experimental group and 40 in the control group. A randomized controlled experimental design was employed. Data were collected using the “E-Health Literacy Scale,” the “Scale for Obtaining and Verifying Health Information in Digital Environments,” and the “Healthy Lifestyle Behavior Scale,” and analyzed using various statistical tests (T-test, Mann-Whitney U, Wilcoxon). The web-based education was delivered to the experimental group weekly for 12 weeks. The findings revealed significant improvements in the experimental group across all measurement tools. Specifically, there was a 28.9% increase in e-health literacy scores, a 47.2% improvement in digital health information acquisition, and an 83.7% increase in healthy lifestyle behaviors. The study results demonstrate that web-based education is effective in enhancing the digital and e-health literacy of elderly individuals and in promoting healthier lifestyle behaviors. It also highlights the viability of using digital platforms as alternatives to face-to-face education. This research offers valuable contributions to the nursing literature by underscoring the importance of promoting digital health literacy among older adults and comprehensively evaluating the impact of web-based education.

4. Conclusion and Discussion

This study comprehensively examined doctoral dissertations on digital literacy conducted in Türkiye through content analysis, revealing a broad overview of academic production in this field. The acceleration of digitalization and the growing influence of technological innovations on societies have made it imperative for individuals to develop skills in accessing, evaluating, and utilizing digital information. Digital literacy is not limited to the ability to use technology; it is a multifaceted concept encompassing information literacy, media literacy, and critical media engagement. Therefore, digital literacy should be addressed not only as an individual competency but also as a societal necessity.

In this study, doctoral dissertations on digital literacy conducted in Türkiye were systematically reviewed, and findings were evaluated through content analysis. The analysis indicates that digital literacy is a critical skill at both individual and societal levels. A significant portion of the dissertations focused on educational contexts, with a particular emphasis on interventions and practices aimed at improving the digital competencies of pre-service teachers. The mandatory shift to distance education during the pandemic has further highlighted the pivotal role of digital literacy in education. Accordingly, it became clear that digital literacy goes beyond technical proficiency and includes competencies such as critical information evaluation, proper assessment of media content, and questioning reliability.

The findings of the study show that practical and research-based approaches are more effective in developing digital literacy skills among teacher candidates and students. The reviewed dissertations demonstrated that interventions aimed at enhancing teachers' digital skills support educational success and are effective in bridging the digital divide. Notably, during the pandemic, inadequate digital skills led to reduced success rates in distance education practices, which was addressed as a significant issue in academic research.

This study provides a valuable contribution to the academic body of knowledge on digital literacy. The systematic analysis of doctoral dissertations conducted in Türkiye has revealed academic trends and identified research gaps in the field. The increase in digital literacy-focused dissertations, especially in 2022 and 2024, suggests a growing interest in examining the effects of digitalization on education systems. In terms of contribution to the literature, the findings highlight the need for a more in-depth exploration of digital literacy within the contexts of educational sciences, social sciences, and information technologies. Accordingly, digital literacy studies should not be confined to technical skills but should also address broader dimensions such as social transformation, media literacy, critical thinking, and ethical awareness.

The integration of digital literacy skills more intensively into teacher education curricula emerges as a critical requirement for future educational policies. Furthermore, the development of school-based educational programs is recommended to raise awareness of digital safety and ethical consciousness among younger generations. Future research should address the effects of digital literacy across different age groups, practices aimed at enhancing digital safety skills, and strategies to prevent the digital divide. In particular, awareness-raising initiatives are needed to ensure that younger generations use digital environments safely and critically. In this regard, expanding the examination of digital literacy across wider demographic groups and diverse contexts will contribute not only to the academic literature but also to the formulation of effective educational policies.

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