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## An Analysis of Graduate Theses in Digital Literacy in Türkiye

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### Abstract

This study aims to explain and examine how we can use and develop digital literacy concepts and skills in Türkiye by investigating graduate theses. This study is carried out on digital literacy graduate theses and dissertations in the Turkish Council of Higher Education National Thesis Center between January 1, 2019, and June 1, 2024, in Türkiye. Graduate theses are analyzed using the content analysis method. A detailed and developed search was conducted for the digital literacy keyword at the Turkish Council of Higher Education National Thesis Center. This study is limited to the topic of digital literacy and graduate digital literacy theses and dissertations. The study's findings indicate that the problem of digital literacy is becoming more and more important. Graduate theses in communication science make up about 12 % of all theses. The most prominent approach is the survey method in examined graduate theses followed by mixed method. A total of 128 graduate theses – 108 master's degree theses, 19 PhD dissertations, and 1 doctor of arts – are analyzed in this study. It is observed that education science, computer and instructional technologies, and Turkish and social studies education departments are classified as the most written areas of research on digital literacy.

**Keywords:** digital literacy, content analysis, Türkiye, graduate theses, new communication technologies.

### 1. Introduction

Societies in the technologically advanced world of today differ in how they use and have access to communication tools. As a result, it is believed that each society exists at a distinct age. Regrettably, the differences between developed, emerging, and underdeveloped nations in terms of technology, social, and economic aspects are widening daily. Disparities may be exemplified in a variety of areas, including internet accessibility, GDP, educational rights, national economic development, and income level. The majority of social inequalities, according to Zheng and Walsham (Zheng and Walsham, 2021), are caused by digital communication technologies. Focusing on digital accessibility, literacy, skill, digital legislation, and the use of digital technologies, the digital divide has persisted. Digital technologies have begun to become killer applications for interpersonal communication and interaction between individuals. However, the spread of digital technology has made disparities in digital skills, access, and usage rates among sociodemographic categories worldwide more pronounced. In this instance, the exponential advancement of digital technologies has caused social inequities to worsen over the past few decades.

Time, place, relationships, connections, and human-machine interactions have all changed as a result of the Internet and digital communication technology. Everyday human-machine interactions are what made the famous statement by communication scientist Marshall McLuhan that "technology is an extension of humans" possible (Martinez-Bravo et al., 2022). For this reason,

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we can assert that in the words of Marshall McLuhan, technology, human-machine interaction, and the rapid development of the internet and communication technologies have impacted and transformed societies globally in every aspect of life — social, political, technological, and otherwise. To survive, contribute to society, and be a decent citizen, one must possess a comprehensive set of skills and knowledge known as 21st-century skills, which include literacy, comprehension, critical thinking, social skills, and digital literacy. Especially with the spread of information and communication technologies, digital literacy skills are needed for people to live a sustainable future, contribute to global citizenry and development, and effectively use digital tools (Bravo et al., 2021: 78). We can point out that digital literacy is an inseparable part of daily life that forms part of this digital world, both present and future.

Digitalization and the ever-growing significance of new communication technologies are changing everything from work to play, from health to education. These changes have led to the development of new knowledge in the areas of digital literacy, digital skills, and internet usage. In the current digital world, being digitally literate means knowing how to use, evaluate, and comprehend digital resources effectively. Digital literacy is a developing topic in Türkiye and all around the world with the spread and use of digital technologies and digital communication tools. Therefore, this study aims to explain and examine how we can use and develop digital literacy concepts and skills in Türkiye by investigating graduate theses. Additionally, the goal of this study is to advance the fields of digital literacy, artificial intelligence literacy, data literacy, new media literacy, information and communication technologies, digital literacy, digital comprehension, and digital reading subjects.

In the current digital era, digital literacy is one of the most important abilities for every person. However, in the literature, the use and dissemination of information and communication technology, as well as digital literacy, are broad concepts. As a result, many interpretations and applications of the notion of digital literacy are first discussed. Paul Gilster originally introduced the term "digital literacy" in 1997. It refers to the capacity to use and comprehend data and digital materials in digital settings (Phuapan et al., 2016: 25). The capacity to use information and communication technologies, particularly web-based services and the internet, is referred to as digital literacy (Gilster, 1997: 3). The skills necessary to effectively use means, texts, tools, and communication technologies are known as digital literacy. These skills also include critical thinking, analysis, creativity, and ethical thinking in digital technology environments. Collaboration, teamwork, and active participation are also included (Suwana, 2021: 2). Additionally, digital literacy refers to a set of abilities required to access, comprehend, and stay abreast of new ideas, agendas, and information in the contemporary information age, as well as to actively participate in the digital world and digital societies (Baron, 2019: 1). New media literacy refers to the social and cultural competencies that are fostered through networking and are based on fundamental literacy, research abilities, and media critical-analysis competencies (Suwana, 2021: 2). Eden et al. (Eden et al., 2024: 688) posit that digital literacy means the ability to effectively examine and evaluate, create digital contents, texts, and videos, and understand new information.

Digital literacy is one of the paramount concerns among countries with increasing digital inequality in terms of digital access, digital education, digital laws, digital services, and so on. It was determined that five digital literacy or information computer technology skills are needed: access, manage, integrate, evaluate, and create (Phuapan et al., 2016: 25).

Digital literacy is a combination of knowledge of digital means, critical thinking, and social relationships (Mishra, Sharma, 2018). Digital literacy involves a variety of skills, such as cognitive, social, sociological, motoric, emotional, and so on. Therefore, this skill needs to more efficiently use, understand, evaluate, and examine digital communication technologies and digital tools. By the way, digital literacy in modern digital societies is a survival skill that exists in all digital settings (Eshet-Alkalai, Amichai-Hamburger, 2004: 421). Meanwhile, digital literacy compiles practical skills, social skills, awareness, and competencies for users to use, access, understand, examine, evaluate, communicate with others, and create digital content (Iordache et al., 2017: 10). In this context, Eshet-Alkalai and Amichai-Hamburger (Eshet-Alkalai, Amichai-Hamburger, 2004) classified digital literacy into five dimensions: photo-visual literacy skill, branching skill, reproduction literacy skill, information literacy skill, and socio-emotional skill.

1. Photo-visual literacy skills need cognitive skills to create creative and innovative photo-visual communication with the environment.

2. Branching skills provide multidimensional thinking skills to understand complex phenomena or issues.

3. Reproduction literacy skills enable you to edit text, video, and digital content. This skill is defined as the ability to create new meanings and new perspectives by reproducing.

4. Information literacy abilities include the analysis and evaluation of data and the astute gathering of information.

5. Social-emotional competency encompasses the social and emotional aspects of using digital devices. This literacy skill is the most advanced and intricate of all of them.

According to Spires et al. (Spires et al., 2018), digital literacy is classified into three different sections: locating and consuming digital content, forming digital content, and communicating digital content. All dimensions need critical evaluation to use, understand, evaluate, and examine digital content. Therefore, we indicate that digital literacy is an ability that every digital citizen needs to effectively use, manage, design, and communicate with others in digital settings. With information and communication technology, all of us need to have digital literacy skills. This situation paves the way for new media literacy concepts such as data and artificial intelligence literacy. According to Kavut (Kavut, 2024: 232), data literacy is the capacity to communicate, analyze, read, and comprehend information to assist organizations in making better decisions, performing better, creating data visualizations, and managing more effectively. For this reason, we can argue that people in digital societies require new skills like media literacy, data literacy, and literacy to function on digital platforms, maintain digital profiles, produce creative and useful digital content, and take advantage of services like digital banking, e-government, and e-health.

In this context, Bravo et al. (Bravo et al., 2021: 92) point out that digital literacy may be explained by the six basic ideas:

1. In the 21<sup>st</sup> century, digital literacy means reading, understanding, comprehending, evaluating digital content, and communicating with others in digital environments.

2. Digital skills are a fundamental skill that is becoming necessary in the 21<sup>st</sup> century.

3. Digital literacy is a holistic concept that includes a variety of approaches, areas, abilities, and perspectives.

4. Digital literacy is a set of abilities, values, competencies, and information.

5. Digital literacy requires and provides safe, reliable, efficient, and effective usage of information and communication technologies, state-of-the-art technologies, digital tools, and applications.

6. Digital literacy supports access to the digital world and digital settings in society by providing an equal digital future and decreasing digital inequality.

## 2. Materials and methods

This study aims to explain and examine how we can use and develop digital literacy concepts and skills in Türkiye by investigating graduate theses. In the context of this aim, the following research questions are investigated:

Research Question 1: What is the distribution of graduate theses according to years?

Research Question 2: What is the distribution of theses according to the type of thesis?

Research Question 3: What are applied methods in graduate theses?

Research Question 4: Which sampling types are preferred for graduate theses?

Research Question 5: What is the distribution of graduate theses according to universities?

Research Question 6: What is the distribution of graduate theses according to public or foundation university rates?

Research Question 7: What is the distribution of graduate theses according to the area of research?

Research Question 8: What is the distribution of graduate theses according to the type of respondents?

This study is carried out on digital literacy graduate theses and dissertations in the Turkish Council of Higher Education National Thesis Center between January 1, 2019, and June 1, 2024, in Türkiye. In this study, the patterns of graduate theses, types of theses, used methods, areas of research, types of respondents, university preferences, and sampling are presented. It is applied as a content analysis method by analyzing graduate theses. A detailed and developed search at the Turkish Council of Higher Education National Thesis Center is conducted for the digital literacy keyword (Turkish..., 2024). This study has two stages: a digital literacy literature review and an

examination of digital literacy-based graduate theses in the Turkish Council of Higher Education National Thesis Center. This study is limited to the topic of digital literacy and examines graduate digital literacy theses and dissertations.

### 3. Discussion

The consequences, significance, and outcomes of digital literacy, as well as its use and the relationship between the digital divide and digital literacy, are assessed in this section based on a review of the research and its applicability to various cultures, institutions, individuals, and age groups. In order to stay relevant in the digital age and reduce the digital divide in society, digital literacy is crucial. Harvey et al. (Harvey et al., 2023) researched the costs and challenges of the digital divide in the United Kingdom in terms of electronic government, digital literacy, and the digitization of public services. The findings of this study show that despite the development of digital communication technologies, some people in the UK do not keep up with the current times, and some people lack digital skills, especially the elderly population. Polizzi (Polizzi, 2020) indicates that media literacy and media education in England require educationalists and policymakers to examine and evaluate online content. Digital literacy is defined as the skill of evaluating digital content involving a variety of usages of digital tools in all digital environments in this study. Tinmaz et al. (Tinmaz et al., 2022) emphasize that some skills, such as critical thinking, problem-solving skills, and digital skills, affect the level and success of digital literacy. Digital literacy skills enable correct decision-making and implementation.

Digital literacy provides opportunities in both social and business life. Firstly, digital literacy allows employees to access, examine, retrieve, and analyze information transmitted in business and among businesses through digital communication technologies (Deschenes, 2024). Deschenes (Deschenes, 2024) collected data on public service workers. Digital literacy and digital technologies, especially in the in the post-pandemic era, enable the advent of several new work systems. According to this study's findings, digital literacy has given rise to the positive effect of the use of collaborative technologies in hybrid work environments, including both office and home-office work. Relatedly, digital literacy and digital communication have affected most sectors, primarily education. Farias-Gaytan et al. (Farias-Gaytan et al., 2023) examined digital transformation and digital literacy in higher education institutions. It has been found that higher education institutions and teachers use new education trends and digital communication technologies for didactic reasons. The pandemic triggered the need for digital literacy skills in education for both students and teachers. The effect of digital literacy on pre-school children is also important. Meng et al. (Meng et al., 2023) examine the effect of digital literacy and human-computer interaction on preschool children. It is evident that digital literacy has a positive effect in terms of reading skills, mental well-being, and resilience among preschool children.

Digital literacy skills and digital transformation have become a fundamental need for not only large-scale institutions but also small and medium-sized institutions in the digital era. Zahoor et al. (Zahoor et al., 2023) examine the importance of digital transformation and the effect of digital literacy on small and medium-sized enterprises (SMEs). This study's findings show that managers digital literacy impacts digital transformation through the use of digital communication technologies. Digital literacy is also associated with consumption habits. Digital technologies changed the consumption patterns of consumers from shop to online consumption and behavior.

Guess and Munger (Guess, Munger, 2023) analyzed digital literacy and online political behavior by conducting surveys on five different sample groups (Mechanical Turk, Facebook ads, high-skilled targeted sample, low-skilled targeted sample, and lucid) in the USA. This study emphasizes the importance and effects of heterogeneity in digital literacy skills. It is noted that sample groups are different from each other in terms of political knowledge, nudges and defaults, microtargeting, and campaign persuasion. Low et al. (Low et al., 2023) evaluated the concept of algorithmic imagination, the effects of algorithms on digital culture, and algorithmic awareness by #BookTok. BookTok is the home of book-related content on the TikTok social media platform. Algorithmic imaginings are shaped by interviewing BookTokers and indicate the elements of critical digital literacy. This study mentioned that many social media users have reached a point of relative comfort in co-existing alongside algorithmic agents thanks to the existence of algorithms.

The advent and spread of new communication technologies changed literacy, learning patterns, and digital literacy. Chang et al. (Chang et al., 2023) demonstrate the relationship between extended reality (XR) and digital literacy (DL). Eight digital literacy dimensions for



extended reality and metaverse technology were discovered as a consequence of this study. These dimensions include access and understanding, evaluation, ethics and well-being, interaction, collaboration, creation, problem-solving, and civil engagement and responsibility. After COVID-19, new technologies impacted higher education institutions libraries. Martzoukou (Martzoukou, 2021) examines online learning and digital literacy in academic libraries in the UK. Digital access to libraries is an important opportunity for equality in education. It is noted that academic libraries are well-positioned to increase awareness of digital literacy and current information among academic staff and students.

#### 4. Results

The distribution of graduate theses by years, type, university, department, areas of research, preferred sampling strategy, percentages of foundation and public universities, and topics of theses are explained in this section.

**Table 1.** Distribution of graduate theses according to years

| <i>Thesis Year</i> | <i>N</i> | <i>%</i> |
|--------------------|----------|----------|
| 2019               | 23       | 18 %     |
| 2020               | 22       | 17 %     |
| 2021               | 34       | 27 %     |
| 2022               | 28       | 22 %     |
| 2023               | 14       | 11 %     |
| 2024               | 7        | 5 %      |
| Total              | 128      | 100 %    |

Table 1 shows that a total of 128 graduate theses on digital literacy were examined, according to the Turkish Council of Higher Education National Thesis Center. The most graduate thesis-written year is 2021. The 2024 year includes January 2024 through June 2024.

**Table 2.** Distribution of type of theses

| <i>Type of Thesis</i> | <i>N</i> | <i>%</i> |
|-----------------------|----------|----------|
| Master's Degree       | 108      | 84 %     |
| PhD                   | 19       | 15 %     |
| Doctor of Arts        | 1        | 1 %      |
| Total                 | 128      | 100 %    |

According to Table 2, the master's degree thesis rate constitutes 84 percent of the total. The PhD dissertation rate creates 15 percent of the total. As for doctor of arts, only one percent of total graduate theses.

**Table 3.** Distribution of theses according to methods

| <i>Method</i>                 | <i>N</i> | <i>%</i> |
|-------------------------------|----------|----------|
| Survey                        | 92       | 65 %     |
| Mixed                         | 19       | 13 %     |
| Quasi-experimental design     | 2        | 1 %      |
| Literature review             | 3        | 2 %      |
| Interview                     | 7        | 5 %      |
| Observation                   | 2        | 1 %      |
| Structural equation modelling | 5        | 4 %      |
| Document analysis             | 4        | 3 %      |
| Focus group discussion        | 1        | 1 %      |
| Content analysis              | 2        | 1 %      |
| Multiple situation analysis   | 1        | 1 %      |
| Action research               | 1        | 1 %      |

| <i>Method</i>      | <i>N</i> | <i>%</i> |
|--------------------|----------|----------|
| Situation analysis | 2        | 1 %      |
| Discourse analysis | 1        | 1 %      |
| Total              | 142      | 100      |

Table 3 shows that the most commonly used method for graduate theses is the survey method. 65 percent of all these are conducted using the survey method. Mixed methods, involving both qualitative and quantitative methods, account for 13 percent of total graduate theses. Examined theses present a variety of methods and techniques, such as document analysis, content analysis, discourse analysis, and structural equation modelling, that are used in theses and dissertations. The least applied methods were focus group discussion, discourse analysis, multiple situation analysis, and action research, with 1 percent. A literature review, an interview, observation, document analysis, quasi-experimental design, content analysis, structural equalizing modelling, and scenario analysis were among the other techniques used in these theses. It has been discovered that certain graduate theses employ multiple methodologies. Thus, the total applied method and the total thesis rate are different, as the table illustrates.

**Table 4.** Distribution of theses according to universities

| University                                | Master's N | %   | PhD/ Doctor of Arts N | %    |
|---|------------|-----|-----------------------|------|
| Afyon Kocatepe University                 |            |     | 1                     | 5 %  |
| Ağrı İbrahim Çeçen University             | 1          | 1 % |                       |      |
| Akdeniz University                        | 1          | 1 % |                       |      |
| Amasya University                         | 4          | 4 % |                       |      |
| Anadolu University                        | 2          | 2 % | 2                     | 10 % |
| Ankara University                         | 3          | 3 % |                       |      |
| Ankara Hacı Bayram Veli University        | 1          | 1 % |                       |      |
| Ankara Müzik ve Güzel Sanatlar University | 1          | 1 % |                       |      |
| Atatürk University                        | 2          | 2 % | 2                     | 10 % |
| Aydın Adnan Menderes University           | 1          | 1 % |                       |      |
| Bahçeşehir University                     | 4          | 4 % | 1                     | 5 %  |
| Balıkesir University                      | 1          | 1 % |                       |      |
| Bandırma Onyedi Eylül University          | 1          | 1 % |                       |      |
| Bartın University                         | 2          | 2 % |                       |      |
| Bolu Abant İzzet Baysal University        | 1          | 1 % |                       |      |
| Burdur Mehmet Akif University             | 2          | 2 % |                       |      |
| Bursa Uludağ University                   | 2          | 2 % |                       |      |
| Çanakkale Onsekiz Mart University         | 5          | 5 % |                       |      |
| Çukurova University                       | 1          | 1 % |                       |      |
| Dicle University                          | 1          | 1 % |                       |      |
| Dokuz Eylül University                    | 1          | 1 % |                       |      |
| Düzce University                          | 2          | 2 % |                       |      |
| Ege University                            |            |     | 1                     | 5 %  |
| Erciyes University                        |            |     | 2                     | 10 % |
| Erzincan Binali Yıldırım University       | 3          | 3 % | 1                     | 5 %  |
| Eskişehir Osmangazi University            | 3          | 3 % |                       |      |
| Fırat University                          | 3          | 3 % | 1                     | 5 %  |
| Gazi University                           | 7          | 6 % | 1                     | 5 %  |
| Gaziantep University                      | 1          | 1 % |                       |      |
| Gebze Teknik University                   | 1          | 1 % |                       |      |
| Hacettepe University                      | 2          | 2 % |                       |      |
| İnönü University                          | 1          | 1 % |                       |      |
| İstanbul Arel University                  | 1          | 1 % |                       |      |
| İstanbul Aydın University                 | 3          | 3 % |                       |      |

| University                             | Master's N | %     | PhD/ Doctor of Arts N | %     |
|--|------------|-------|-----------------------|-------|
| İstanbul Okan University               | 3          | 3 %   |                       |       |
| İstanbul University                    | 1          | 1 %   | 2                     | 10 %  |
| İzmir Katip Çelebi University          | 1          | 1 %   |                       |       |
| Kadir Has University                   | 1          | 1 %   |                       |       |
| Kapadokya University                   | 1          | 1 %   |                       |       |
| Karadeniz Teknik University            | 1          | 1 %   |                       |       |
| Kastamonu University                   | 1          | 1 %   |                       |       |
| Kırıkkale University                   | 2          | 2 %   |                       |       |
| Kırşehir Ahi Evran University          | 1          | 1 %   |                       |       |
| Kocaeli University                     | 4          | 4 %   |                       |       |
| Maltepe University                     |            |       | 1                     | 5 %   |
| Marmara University                     | 2          | 2 %   | 1                     | 5 %   |
| Mersin University                      | 1          | 1 %   | 2                     | 10 %  |
| Muğla Sıtkı Koçman University          | 2          | 2 %   |                       |       |
| Munzur University                      | 1          | 1 %   |                       |       |
| Necmettin Erbakan University           | 2          | 2 %   |                       |       |
| Niğde Ömer Halis Demir University      | 2          | 2 %   |                       |       |
| Ondokuz Mayıs University               | 2          | 2 %   |                       |       |
| Pamukkale University                   | 2          | 2 %   |                       |       |
| Sakarya University                     | 3          | 3 %   | 1                     | 5 %   |
| Sakarya Uygulamalı Bilimler University | 1          | 1 %   |                       |       |
| Selçuk University                      |            |       | 1                     | 5 %   |
| Süleyman Demirel University            | 2          | 2 %   |                       |       |
| Ufuk University                        | 1          | 1 %   |                       |       |
| Uşak University                        | 1          | 1 %   |                       |       |
| Üsküdar University                     | 3          | 3 %   |                       |       |
| Yıldız Teknik University               | 1          | 1 %   |                       |       |
| Zonguldak Bülent Ecevit University     | 2          | 2 %   |                       |       |
| Total                                  | 108        | 100 % | 20                    | 100 % |

The distribution of PhD dissertations and master's theses among Turkish universities is shown in Table 4. Gazi University was placed first among universities with seven master's theses and one PhD dissertation on the subject of digital literacy, according to the chart. Afyon Kocatepe University, Ağrı İbrahim Çeçen University, Akdeniz University, Ankara Hacı Bayram Veli University, Ankara Müzik ve Güzel Sanatlar University, Aydın Adnan Menderes University, Balıkesir University, Bandırma Onyedli Eylül University, Ege University, Gaziantep University, Gebze Teknik University, İnönü University, İzmir Katip Çelebi University, Kadir Has University, Kapadokya University, Karadeniz Teknik University, Kastamonu University, Kırşehir Ahi Evran University, Maltepe University, Munzur University, Sakarya University.

**Table 5.** Distribution of theses according to university type

| Type of University    | N   | %     |
|-----------------------|-----|-------|
| Public University     | 110 | 86 %  |
| Foundation University | 18  | 14 %  |
| Total                 | 128 | 100 % |

Table 5 shows the distribution of theses according to university type. The results clarify that graduate theses on topics related to digital literacy are written at public universities in 86 percent of cases. The percentage of graduate theses on topics related to digital literacy that come from foundation universities is 14 %. The following foundation universities – Üsküdar, Okan, Kadir Has, Kapadokya, Istanbul Arel, Istanbul Aydın, and Bahçeşehir – have been cited in publications regarding digital literacy. Among public universities, Gazi, Amasya, Anadolu, Atatürk Kocaeli,

Sakarya, and Çanakkale Onsekiz Mart universities have emerged as leaders in the field of digital literacy research.

**Table 6.** Distribution of theses according to area of research

| <i>Area of Research</i>                           | <i>N</i> | <i>%</i> |
|---|----------|----------|
| Medical Education                                 | 1        | 1 %      |
| Business  | 9        | 7 %      |
| Computer and Instructional Technologies Education | 16       | 13 %     |
| Physical Training and Sports                      | 4        | 3 %      |
| Education Science                                 | 15       | 12 %     |
| Education Technologies                            | 1        | 1 %      |
| Social Studies Education                          | 3        | 2 %      |
| Radio Cinema and Television                       | 2        | 2 %      |
| Health Management                                 | 3        | 2 %      |
| Math and Physical Science                         | 9        | 7 %      |
| Public Relations and Publicity                    | 4        | 3 %      |
| Political Science and Public Administration       | 2        | 2 %      |
| Nursing   | 2        | 2 %      |
| Sculpture   | 1        | 1 %      |
| Communication Science                             | 2        | 2 %      |
| Turkish and Social Science Education              | 15       | 12 %     |
| Western Languages and Literature                  | 2        | 2 %      |
| Public Health Nursing                             | 1        | 1 %      |
| Basic Training                                    | 6        | 5 %      |
| Music Education                                   | 1        | 1 %      |
| Tourism Management                                | 1        | 1 %      |
| Science Education                                 | 1        | 1 %      |
| Advertising                                       | 1        | 1 %      |
| Education Programs and Teaching                   | 2        | 2 %      |
| English Language Education                        | 5        | 4 %      |
| Child Development                                 | 2        | 2 %      |
| New Media and Communication                       | 2        | 2 %      |
| New Media and Journalism                          | 1        | 1 %      |
| Strategy Science                                  | 1        | 1 %      |
| Journalism  | 5        | 4 %      |
| Management Information System                     | 1        | 1 %      |
| Sociology   | 2        | 2 %      |
| International Trade and Logistics                 | 1        | 1 %      |
| Primary Education                                 | 1        | 1 %      |
| Total   | 128      | % 100    |

The distribution of theses according to the area of research is presented in [Table 6](#). As stated in [Table 6](#), there are 34 different areas of research in total. According to this result, we can say that the topic of digital literacy has sparked interest in a variety of areas of research, from health to communication to education to business. [Table 6](#) indicates that the Department of Computer and Instructional Technologies Education has produced the greatest number of theses on the subject of digital literacy. Otherwise, 13 % of theses focused on computer and instructional technology education, with education science coming in second with 12 % and Turkish and social science education with 12 %. Education Technologies, Sculpture, Public Health Nursing, Music Education, Science Education, Tourism Management, Advertising, New Media and Journalism, Strategy Science, Management Information Systems, International Trade and Logistics, and Primary Education had the fewest number of thesis writers (1 percent).



**Table 7.** Distribution of theses according to sampling methods for the selection of respondents

| <i>Type of Sampling</i>    | <i>N</i> | <i>%</i> |
|----------------------------|----------|----------|
| Convenient sampling        | 19       | 7 %      |
| Purposive sampling         | 18       | 14 %     |
| Simple random sampling     | 27       | 20 %     |
| Convenience sampling       | 38       | 29 %     |
| Systematic random sampling | 5        | 4 %      |
| Stratified sampling        | 12       | 9 %      |
| Quota sampling             | 4        | 3 %      |
| Cluster sampling           | 2        | 2 %      |
| Not mentioned              | 7        | 5 %      |
| Total                      | 132      | 100 %    |

According to the statistics in [Table 7](#), convenience sampling ranked highest among the sampling methods used for the selection of respondents, with 29 percent (38 theses). Cluster sampling, at two percent, is the least popular sample strategy in graduate theses on digital literacy issues. [Table 7](#) lists the sampling techniques used in written graduate theses on digital literacy, including probability and non-probability sampling (convenient, purposive, simple random, systematic random, stratified, quota, and cluster). It was discovered that the not-mentioned sampling type makes up 5 % of all graduate theses. Techniques like literature reviews, document analyses, and content analyses are used in theses with a not-mentioned sampling type.

**Table 8.** Distribution of theses according to the types of respondents

| <i>Type of Respondents</i>                         | <i>N</i> | <i>%</i> |
|--|----------|----------|
| Secondary and High school students                 | 27       | 21 %     |
| Teachers   | 27       | 21 %     |
| Accounting Member of Profession                    | 1        | 1 %      |
| Financial Advisor                                  | 1        | 1 %      |
| University students                                | 35       | 27 %     |
| Adults over 18 ages                                | 1        | 1 %      |
| Communication specialists                          | 1        | 1 %      |
| Academicians                                       | 7        | 5 %      |
| Patient/Patient's relatives                        | 2        | 2 %      |
| Civil registry employees                           | 1        | 1 %      |
| Z generation                                       | 3        | 2 %      |
| Health managers/employees                          | 1        | 1 %      |
| Individuals living in İstanbul                     | 2        | 2 %      |
| Parents  | 4        | 3 %      |
| Individuals living in Mersin                       | 1        | 1 %      |
| University administrative personnel                | 1        | 1 %      |
| Civil aviation workers                             | 1        | 1 %      |
| Associate students                                 | 1        | 1 %      |
| Social media users                                 | 1        | 1 %      |
| Those who live in the Western Mediterranean region | 1        | 1 %      |
| Techno pole workers                                | 1        | 1 %      |
| Highly trained people                              | 1        | 1 %      |
| White collar workers                               | 1        | 1 %      |
| Institute of Forensic Medicine                     | 1        | 1 %      |
| Literature review                                  | 2        | 2 %      |
| Document analysis                                  | 4        | 3 %      |
| Content analysis                                   | 1        | 1 %      |
| Total  | 130      | 100 %    |

The distribution of these according to the types of respondents is presented in [Table 8](#). According to [Table 8](#), the majority of respondents were instructors, secondary and high school students, and university students. Combinations of two or more respondents came in second and third. Highly skilled individuals, white-collar workers, administrators at universities, workers in civil aviation, and so forth were the least attentive answers.

## 5. Conclusion

The study's findings indicate that the problem of digital literacy is becoming more and more important. The most prominent approach is the survey method in graduate theses. It can be observed that the mixed technique, which combines quantitative and qualitative methods, came in second. A total of 128 graduate theses – 108 master's degree theses, 19 PhD dissertations, and 1 doctor of arts – are analyzed in this study. The digital literacy levels of the participants, digital citizenship, digital literacy and lifelong learning, new media literacy, and issues related to the use of information and communication technology were found to be prevalent titles among the graduate theses that were evaluated. It was discovered that in Türkiye, public universities account for 86 % of graduate theses on subjects connected to digital literacy, whereas foundation universities account for 14 %.

Examined theses present a variety of methods and techniques, such as document analysis, content analysis, discourse analysis, and structural equation modelling, that are used in theses and dissertations. The least applied methods were focus group discussion, discourse analysis, multiple situation analysis, and action research. The need for and importance of mixed method in graduate theses has increased year by year, according to the examined graduate theses in the digital literacy area. It has been found that more than one method is used in some graduate theses. According to the findings, both probability and non-probability sampling types are used in theses. The convenience sampling method was the dominant method in graduate theses. Put differently, both probability and non-probability sampling, such as convenient, purposive, simple random, convenience, systematic random, stratified, quota, and cluster sampling, are used in written graduate theses on digital literacy.

It is examined in national and international literature. According to current studies, digital literacy's importance and need for citizen's increase day by day. Moreover, digital literacy skills are associated with the digital divide or the level of development of countries. According to [Chetty et al. \(Chetty et al., 2018\)](#), there are two phases of the digital divide: low- and middle-income nations' expensive, inadequate infrastructure and low levels of digital literacy. Digital access to communication technology is limited in low- and middle-income nations due to high costs, inadequate infrastructure, and a lack of diverse opportunities.

[Orakova et al. \(Orakova et al., 2024: 4\)](#) indicate that digital literacy is a crucial component of learning and education, with digitalized education and digitalization in classrooms and teaching methods. They go on to say that teachers and educators have been impacted by this shift. In this context, we can say that digital literacy and digital literacy studies will become more common in the future. It is known that one of the aims of digital literacy is to enable people to participate in society on equal terms and to decrease the digital gap between different socio-economic groups. Undoubtedly, the examined graduate theses and findings revealed the importance of digital literacy in society, the education system, and all other infrastructure.

[Mishra and Sharma \(Mishra and Sharma, 2018\)](#) explain that in today's digital world, citizens need to succeed and provide sustainability to digital skills like critical thinking, digital literacy, media literacy, technology literacy, information literacy, collaboration, communication, creativity, flexibility, leadership, productivity, initiative, social skills, e-safety, character, and citizenship. As a result, it is seen that digital literacy helps individuals succeed in life, understand others, produce digital content, and communicate with others.

In total, it is seen that it examines 34 distinct scientific fields. This research indicates that digital literacy has generated interest in Turkish foundations and public universities in a wide range of academic domains, including business, education, health, and communication. The bulk of respondents were discovered to be university students, secondary and high school students, and instructors. Stated differently, most of the graduate theses that were analyzed had secondary and high school pupils, teachers, and university students as their intended audience. Highly skilled individuals, white-collar workers, administrators at universities, workers in civil aviation, and so forth were the least attentive answers. Another important finding in this study is that the

communication field constitutes 12 percent (15 theses) of total digital literacy graduate theses. These rates are classified into Journalism 5, New Media and Journalism 1, Public Relations and Publicity 4, Radio Television and Cinema 2, Advertising 1, and New Media and Communication 2. Graduate theses in communication science make up about 12 % of all theses.

When measuring digital literacy, e-literacy, media literacy, or literacy abilities in graduate theses through survey methodologies, the majority of researchers employed the original scale. Each of these features includes enlightening titles, abstracts, and literature evaluations on digital literacy. Except for tables, most theses employed graphic aids to describe and illustrate the subject under investigation and the field of study. Attached were research instruments, questionnaires, forms for semi-structured interviews, forms for collecting personal data, forms for developing scales, and scale forms that were utilized in the majority of theses.

It is observed that education science, computer and instructional technologies, and Turkish and social studies education departments among the investigated graduate theses ranked as prominent. The fact that the main thesis subjects of the theses under examination in this study may be broadly classified into three categories—digital literacy levels, information and communication technology usage and lifelong learning, and information literacy—is also noteworthy. This study contributes to the body of knowledge on digital reading themes, artificial intelligence literacy, data literacy, new media literacy, information and communication technologies, and digital literacy.

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