Review Article

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Methods Used in Digital Citizenship: A Systematic Literature Review

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ARTICLE INFO	ABSTRACT
	Digital citizenship attempts to assist the younger generation in making prudent and acceptable decisions in various digital contexts. Society's disregard for digital citizenship has negative consequences, including cyberbullying and other crimes. Therefore, this study investigates the approaches and methodologies utilized in digital citizenship by conducting a thorough literature review. The research analyzed three academic databases comprising papers from some of the most esteemed periodicals. Each search engine was provided with the keywords "digital citizenship", "digital literacy", "digital native," and "digital citizenship-related approaches." The search was limited to articles having "digital citizenship" and "citizenships" in the title, abstract, and body. To ensure that individual results were extracted from each database, duplicate articles were manually removed in a cascade fashion from one database to the next. Digital citizenship encompasses a far more extensive set of skills than computer or media literacy. This is due to citizens' enthusiasm for digital technologies in industrialized nations such as the United States, the United Kingdom, and China. Problem-solving, security, information processing and innovation, and content communication are related to digital citizenship. Despite its value, this appraisal has a few drawbacks. According to the findings, implementing digital citizenship solutions proved challenging. Future research should employ mixed method approaches to understand better digital citizenship acceptance and uptake based on the findings of this study. **Keywords:** digital citizenship, systematic literature review, method, digital citizen, digital responsibility

INTRODUCTION

The concept of digital citizenship aims to help the younger generation make sensible and appropriate choices in a wide variety of digital settings and situations (Buchholz et al., 2020; Harris & Johns, 2020; Lauricella et al., 2020; Nurhidayati & Ratnasari, 2020; Saputra & Siddiq, 2020; Tapingkae et al., 2020; Vlaanderen et al., 2020).

Theorists Arif (2016) and Choi (2016) have researched defining digital citizenship. They focused on different questions such as what benefits and effects digital citizenship has on society. Most importantly, what roles must a particular individual assume while participating in digital citizenship? However, solutions to these crucial questions remain unanswered by the public knowledge body. Therefore, it is also not transparent what elements of digital citizenship should be regulated and standardized (Saputra & Siddiq, 2020; Stone, 2020; Xu et al., 2019).

Educating digital citizens is the most effective strategy to safeguard them from the dangers linked with online engagement (Gleason & von Gillern, 2018; Manzuoli et al.,

2019). Hollandsworth et al. (2011) and Imer and Kaya (2020) noted the necessity of digital citizenship education "students' increased access to, and use of the Internet raises this concern. It is up to whom to guide the next generation into a technology society" (Johnson, 2017).

The Internet and technology have become practically vital in people's lives since the beginning of the 2020s (Brodovskaya et al., 2020; Buchholz et al., 2020; Saputra & Siddiq, 2020). Mobile, information and communication, and cloud technologies have developed due to technological advancements. Since the dawn of the 21st century, technology and the Internet have become nearly vital to people's life. AI systems may engage in random, harmful behavior while attempting to complete a task (Lapsley & Segato, 2019; Ramachandran et al., 2020). People can share information online, express opinions and emotions, utilize public services effectively, and gain knowledge of world events. When the Internet invaded our lives, this way of thinking about digital life influenced human behavior (Gleason & von Gillern, 2018; Jabeen & Ahmad, 2021; Lynn et al., 2022). Experts researched digital citizenship as a result. Researchers examined the influence of digital science on schools and instructors to

determine what should be done (Saputra & Siddiq, 2020; Vlaanderen et al., 2020).

As citizens continue to learn remotely, this study aimed to inform citizens about the importance of the digital environment in the 21st century. As a result, it teaches how to utilize digital technology and social media safely, critically, successfully, and ethically for better societies. The ignorance of digital citizenship in society results in undesirable repercussions such as cyberbullying and other crimes. This research aims to study the methods used in research into digital citizenship through a systematic review of the literature.

LITERATURE REVIEW

Digital Citizenship

In the digital age, citizenship is characterized by the capacity to comprehend and utilize media and information (Imer & Kaya, 2020). However, media and information literacy are the capacity to recognize the need for information and to obtain, evaluate, and synthesize it. The ability to grasp and utilize information delivered via computers or "the Internet" in various formats and sources (Aristeidou & Herodotou, 2020; Chadegani et al., 2013; Kim & Choi, 2018).

Media and information literacy was primarily concerned with 'digital access' or the digital divide (Harris & Johns, 2020; Nurhidayati & Ratnasari, 2020; Ramachandran et al., 2020). An important part of this subtheme was the question of who possesses/uses digital technologies such as laptops, smartphones, and tablet PCs, how/where they can access the Internet, and who can access it (Dhamanitayakul, 2019). In order to be a productive member of society in the digital age and to attain full digital citizenship, people must have an accessible and dependable Internet connection (Harris & Johns, 2020; Lauricella et al., 2020; Michaelsen, 2020; Nurhidayati & Ratnasari, 2020; Ramachandran et al., 2020; Stone, 2020).

The media and information literacy also required digital citizenship, which included "technical competence at lower media and information literacy levels (Manzuoli et al., 2019)." This was a helpful perspective on developing literacy and skills, using laptops, smartphones, and Tablet PCs as examples of new digital technology (Heath, 2020; Lapsley & Segato, 2019; Tapingkae et al., 2020).

Numerous literature shows a wide spectrum of psychic abilities as media and information literacy degrees of higher order (Nurhidayati & Ratnasari, 2020). For several scholars, the ability to critically read and write online and to express oneself online went beyond mastery of technological skills (Alqahtani et al., 2017; Tapingkae et al., 2020). Due to improvements in digital technology such as multimedia, read/write web, and other digital tools, new media such as audio, visual (including video), and text are now a part of 21st century literacy (Lindsey, 2015; Simonofski et al., 2019).

To be a good citizen in the digital age, one must participate actively (Alazemi et al., 2019). However, citizens, especially politicians, viewed the Internet as a new public space for discussing and debating policy or as a means to increase engagement (Sundberg, 2019).

On the other hand, some research concurs that online activities need not be political, and that today's youth participate in society more out of personal interests (Alazemi et al., 2019). It has been suggested that the distinction between "private and public, commercial" and "civic" activities must be removed by integrating games, popular culture, and self-expression into civic life (Harris & Johns, 2020; Lauricella et al., 2020; Michaelsen, 2020; Stone, 2020).

However, the distinction between participation and culturally responsive citizenship was not always distinct, as both were related to active involvement, a more progressive and radical definition of digital citizenship (Oyedemi, 2018). It was derived from the concept of transformational citizens' acts to promote social justice and challenge the status quo, separating them from active citizens who only act within existing laws, norms, practices, and traditions (Gungoren, 2013; Isman & Canan Kenner & Lange, 2019).

Engagement is proposed as a realistic option for involvement in present online systems, such as signing online petitions or liking a Facebook page. Culturally responsive citizenship can only achieve a deeper level of digital citizenship by pursuing more creative, inventive, non-linear, and non-hierarchical involvement (Alazemi et al., 2019; Sundberg, 2019; Vartolomei & Avasilcai, 2019).

The laws and regulations in this area regarding digital citizenship have not altered over time. From 2003 to 2011, there was an emphasis on the role of the individual user, but from 2012 to 2014, there was a change toward community and relational approaches (Choi et al., 2018; Makosa, 2013; Vartolomei & Avasilcai, 2019). The concept of digital citizenship has grown to encompass knowledge of one's local and global obligations when utilizing social networking sites like Facebook and Twitter (Chen et al., 2021; Dumitru et al., 2018; Fediy et al., 2021; Kammer et al., 2021). Individual empowerment through digital technology should be matched with a sense of personal, communal, and global responsibility. Media and information literacy has received considerable attention in the past decade (Barrett, 2020; Manzuoli et al., 2019; Takavarasha Jr et al., 2018).

Fewer than three studies establish a connection between civic engagement and critical resistance. From 2007 to 2011, the debate on culturally responsive citizenship was limited to the margins (Alazemi et al., 2019; Choi et al., 2018; Hussainy & Jamalullah, 2021; Makosa, 2013; Sundberg, 2019; Vartolomei & Avasilcai, 2019).

METHODOLOGY

This research employed a systematic review approach (Zhao et al., 2021) to explore and possibly expand our understanding of the research methods and tools used in digital citizenship research to answer the core research question of methods used in digital citizenship. Since its conception, PRISMA has been widely adopted across a vast array of research fields, especially in evaluation and intervention studies (Fediy et al., 2021; Hidayah et al., 2021;

Manzuoli et al., 2019; Zhao et al., 2021). A systematic review possesses a distinct set of characteristics (Villalobos et al., 2021). A study was conducted without statistical analysis through pre-formulated questions "to discover, select, and critically appraise relevant literature" and collecting data from studies included in the review. In addition, this review focused on the methods used for digital citizenship. In other technical environments, no research on the appropriate use of digital technology has been done (Bramwell, 2020).

Data Collection

Scholars are acquainted with the databases Web of Science (WoS), Scopus, and Google Scholars. Digital citizenship was frequently used interchangeably with other terms, such as digital literacy and digital competence, to describe the capacity to use digital technology. In this study, the following terms were utilized to select search terms: digital citizenship, digital literacy, digital native, digital competence, the trend in digital citizenship, the importance of digital citizenship, and methods used in digital citizenship. This inquiry discovered abundant scientific resources (Zhao et al., 2021). Consequently, selecting the appropriate keywords was crucial. In each database, a search option existed. In this study, "advanced search" was used to narrow down results based on predetermined inclusion criteria.

Inclusion Criteria

To answer the study question, "What are the methods used in digital citizenship?" This study narrowed the database inclusion criteria to ensure that all relevant articles were included. The following limitations were imposed on this investigation:

1. Originally published articles from January 2015 to December 2020 was included. After 2015, digital citizenship research began in earnest, which affected the selection of this period. However, studies from 2021 were used as subordinates.
2. Journal articles focusing on digital citizenship.
3. Academic journal articles written in the English language.

The limits of the criteria were imposed for a variety of reasons. Even though digital citizenship is a relatively new concept in some regions across the globe, publications describing it, as well as digital skills and preparation for ICT use, are available in several sources.

Schematic of the Screening System

In order to maintain responsibility, credibility, and transparency in identifying what has been done, discovered, and reported, specific processes must be followed. The flowchart includes a checklist to assist researchers in ensuring that each stage adheres to the requirements. In addition, it reduces selection and conclusion biases. As previously noted, the screening and inclusion of discovered documents is part of the information management pipeline.

Figure 1 depicts 512 journal articles and conference papers on various topics, including education, social policy, and computer science. From these, 319 publications were screened, of which 83 were published in multiple databases.
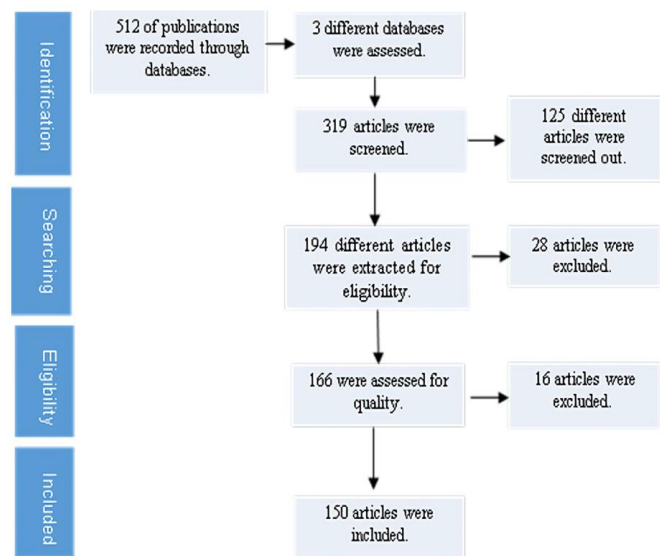

Figure 1. Screening process following the inclusion criteria

Researchers assessed the titles and abstracts of 28 papers before finding that they did not match the criteria for inclusion in this study.

As a result, only 166 articles were eligible for full-text screening. When examining the results of this study's content analysis, it was discovered that 150 papers were selected because they were either the most recent publications from each author or were peer-reviewed. Therefore, one and fifty publications should be analyzed in all.

Process of Data Analysis

The type and scope of investigations that can be conducted using data from systematic reviews are determined by the data. Statistical analysis is impossible because this review included quantitative and qualitative studies and theoretical and empirical studies. Therefore, it is recommended to conduct a narrative synthesis and an analysis that focuses on correlations between distinct qualities and the identification of gaps (Zhao et al., 2021).

According to the inclusion criteria, this study followed a series of procedures. Initially, all items that satisfied the criterion were selected. Before inclusion, the abstracts of the articles in this section were evaluated for relevance to the study's objectives. As part of our research, each article was reviewed thoroughly (Zhao et al., 2021). Codes were utilized to classify publications that fit the criteria based on their database, document type, publishing language, study field, methodology, and publication year. After checking that the articles fit the criteria, a thematic code was developed.

A content analysis based on the most noteworthy findings was undertaken to conclude the evaluation. This stage was intended to provide an overview of the most prevalent discourses on digital citizenship and the methods used in digital citizenship. The results of this study were expanded to answer research questions that clarified the methods used in digital citizenship.

RESULTS

The studies published in different countries on digital citizenship aspects between 2015 and 2020 were investigated in this study. Most studies were conducted in (the United States, Turkey, the United Kingdom, Spain, Indonesia, China, Canada, and Saudi Arabia) and fewer studies were conducted in other countries. More results in the United States due to new developments and improvements in digitization in the United States led to the investigation of digital citizens to improve the development.

The researchers catalogue the various factors reported across the reviewed studies as digital citizenship. The country with the highest number of publications on digital citizenship is the United States with almost 37 published articles about the subject in question, which takes more than 30% of the entire published article. Followed by the country Turkey with 13 articles published, then the United Kingdom with 10, there are some countries with the same number of publications like Indonesia and Spain with nine, Canada and China with six, Malaysia and Jordan with four, Portugal, Taiwan, Mexico, Pakistan, and Thailand with three. At the same time, the countries with the lowest number of publications were Sweden, Cyprus, Australia, South Africa, Brazil, and Denmark with two.

DISCUSSION

This study focuses on the methods used in digital citizenship. Based on the PRISMA systematic review methodology, the following findings were discovered: "digital citizenship" incorporates numerous concepts, such as "digital literacy," "digital ethics," "digital access," and "digital engagement." According to the findings, educational institutions play a significant part in the issue of digital citizenship because they frequently deal with citizens who use technology the more.

This systematic review focused on 150 papers from the WoS, Google Scholar, and Scopus databases. According to the preliminary findings, the popularity of academic papers that emphasize digitalization and digital citizenship is growing. However, the methods used by digital citizens are essential in this century. As a result, this study focused on the methods used in digital citizenship. In addition, the majority of these articles employed quantitative research methods. Using a systematic literature study, the unprocessed data of these publications were qualitatively analyzed to identify significant themes and categories.

According to the study of Hussainy and Jamalullah (2021), such a finding suggest that developed states like the United States are at the forefront of promoting digital citizenship in their educational systems, while developing and emerging economies are lagging, hence providing possibilities to escalate digital citizenship in their educational systems.

A review of the most relevant keywords revealed that information literacy, ICT, communication, cooperation, and digital content production were the most frequent terms associated with digital skills. However, photographs, objects, audio or audio/visual items, and digital citizenship are the methods used in digital citizenship (Bramwell, 2020; Manzuoli et al., 2019; Richardson et al., 2021; Villalobos et al., 2021; Zhao et al., 2021). Existing research categorizes these methods into five categories, as stated above. Although Spante et al. (2018) identified that if digital citizenship is not used appropriately, it exposes society to danger. This study indicates that digital citizenship is associated with problem-solving, security, information processing and creativity, and content communication. Consequently, the comprehensive literature review results are mostly congruent with the EU framework (Guitert et al., 2021; Hutson et al., 2018; McGillivray et al., 2016).

The rise of Internet usage exacerbated various social problems, including fake news, cyberbullying, video game addiction, and pornography. Several studies indicate that most digital users are addicted to their mobile devices (Gaglio et al., 2017; Häkli et al., 2020; Jensen, 2011; Roberts & Hernandez, 2019; van Deursen & Mossberger, 2018). However, the misuse of digital technology is not isolated to a specific age group. The study discovered that citizens from developed countries such as the United States and the United Kingdom utilized digital technology more than those from developing countries (Couldry et al., 2014; Hutson et al., 2018; McGillivray et al., 2016; Weinberg & Flinders, 2018).

This study discovered that a lack of digital literacy creates an avenue for misusing digital technology. The use of information and communication technologies in activities has fostered meaningful outcomes (Buchholz et al., 2020; Gleason & von Gillern, 2018; Kenner & Lange, 2019; Roberts & Hernandez, 2019). Consequently, this study revealed that using digital citizenship leads to the advancement of the citizens.

Recently, citizens were well-versed in digital literacy skills, such as the appropriate use of social media platforms such as Twitter, Google Hangouts on Air, Canvas, Tweetdeck, and YouTube. The findings of this study indicate that citizens acquired various digital literacy skills that they lacked earlier (Heikka, 2015; Lidén, 2016). However, using social media in communication among citizens has led to much development in the 21st century since the citizens were educated on how to communicate using social media (Häkli et al., 2020; Kenner & Lange, 2019; van Deursen & Mossberger, 2018; Weinberg & Flinders, 2018). This study discovered that digital methods such as the Internet, social media, and technological tools would help the citizens in the future. Citizens who actively participate in social media provide opportunities to acquire professional networking and communication skills and enhance their employability, which is essential to developing digital literacy (Buchholz et al., 2020; Jabeen & Ahmad, 2021; Reynolds & Chiu, 2016).

CONCLUSION AND RECOMMENDATION

This systematic review research evaluates the significant themes and drivers of the methods used in digital citizenship from 2015 to 2021 as a guide for building a more modern digital framework. In this systematic review, the current status of scholarly discussion on the methods used in digital citizenship

has been mapped out. However, the study may aid future research on digital citizenship and the attributes that aid 21st century citizens, especially learners, improve their digital behaviors. Thus, the current study's findings reflect different technologies and methods used by digital citizens. Given that it emphasizes the importance of digital citizenship, this research has also pointed out a disadvantage of digitalization. There are a few downsides to this evaluation despite its value. This summary and analysis do not address the distinction between academic discourse and social debate on digital citizenship. Due to its exclusive focus on English language literature, it may have an undesirable Western bias. Based on this study, it is recommended that future studies use mixed method designs and should not only base the search on English publications to understand the acceptance and adoption methods of digital citizenship.

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