

DIGITAL CITIZENSHIP AND ONLINE SAFETY PRACTICES IN MIDDLE SCHOOL EDUCATION: TEACHERS' PERSPECTIVES FROM KARACHI SCHOOLS

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Abstract

The growing integration of digital technologies into educational environments has increased concerns regarding online safety, ethical technology use, and responsible digital participation among school learners. This qualitative study explored middle school teachers' perspectives regarding digital citizenship and online safety practices in Karachi schools. The study investigated ethical online behavior, cyber safety awareness, responsible technology use, and challenges associated with maintaining safe digital learning environments. A qualitative descriptive research design was employed, and data were collected from ten middle school teachers through semi-structured interviews using purposive sampling. Thematic analysis based on Braun and Clarke's framework was used to analyze the data. The findings revealed that teachers considered respectful communication, cybersecurity awareness, digital responsibility, and ethical online behavior essential components of digital citizenship education. Participants also identified cyberbullying, phishing attacks, misinformation, plagiarism, privacy violations, and harmful online content as major digital risks. Furthermore, insufficient parental monitoring, inconsistent institutional policies, and limited teacher training were identified as significant challenges. The study concludes that digital citizenship education is essential for promoting safe, ethical, and responsible participation in technology-supported learning environments.

Keywords: *Digital Citizenship, Online Safety, Ethical Technology Use, Cyberbullying, Cybersecurity Awareness, Responsible Online Behavior, Digital Ethics, Middle School Education*

Introduction

Globally, educational systems have been positively affected by digital technologies through different means of communicating, sharing information, collaborating, and delivering instruction (Bickham et al., 2021). Schools are fully adopting digital technologies, web-based tools, educational apps, and technologically enhanced learning systems (Zaidi & Sultana, 2023; Imran, 2022). Digital technologies have improved communication between educators and learners and have enhanced educational access. At the same time, the fast growth of the digital teaching and learning ecosystem has raised concerns about the safety of users, the security and protection of digital resources, the ethical use of technology, and the proactive use of digital technology (Capuno et al., 2022; Rahim, 2021).

Middle school students are some of the most enthusiastic users of digital technologies because of their various interactions with online teaching and learning systems, social media, communication, and digital learning tools. Furthermore, students participate in remote learning across different learning environments and beyond the classroom. For this reason, schools have the responsibility to prepare students for the digital world by equipping them with the appropriate skills and knowledge for digital societies and citizenship (Martin et al., 2020; Tangül & Soykan, 2021).

Thus, digital citizenship has become an integral part of the modern school setting (educational technology integrated into learning). Digital citizenship is the ability to engage in the ethical use of technology and the internet in a safe and respectful manner, while demonstrating an understanding of online communication, digital rights, and responsibilities, and the safe use of

social media and academic integrity (Vajen et al., 2023). It goes beyond the understanding of technology and the digital world to cover social and ethical dimensions of citizenship (Martin et al., 2019; Von Gillern et al., 2024).

Dependence on online learning has augmented the need for education on online safety (Imran, Akhtar, & Khan, 2026; Haider, et al., 2025). What concerns these students the most are the risks of digital bullying, phishing, online scams, false information, and plagiarism, theft of online identity, privacy issues, and detrimental digital content. The most concerning of these are the young learners (Estéllés & Doyle, 2025). Children and students of a young age have the least knowledge of the dangers of the internet and how to be safe and protect themselves while on it. This is why the role of the school is increasingly becoming more important in assuring the safety of a learner and their safe digital engagement. (Ameer & Hukamdad, 2025).

Scholars of the education field have suggested the systematic inclusion of digital citizenship education within the school curriculum and teaching practices. Teachers have to equip students to be ethical in the use of technology, to communicate respectfully and to be aware of and engage in responsible behavior in digital spaces. It is also the schools' responsibility to keep learners digitally safe and to offer an online space that is encouraging of positive interactions, thus, keeping online dangers at a minimum (Prasetyo, et al, 2023; Alenezi & Alfaleh, 2024; Vajen, et al, 2023).

In spite of the recognition of the importance of digital citizenship, there continues to be issues regarding the education on online safety, the engagement of parents, the readiness of teachers, and enough technology monitoring within the school environment (Bayzan, 2024; Almethen & Alomair, 2024). Teachers face challenges in keeping digital practices ethical when faced with new and rapidly evolving technologies. The same is true of parents, who are often unaware of the dangers that their children face when interacting with the internet (Sleem & Nicolas, 2025).

In Pakistan, the digitization of the educational system has been noted, specifically the incorporation of electronic teaching aids (Khosro, et al., 2024; Sultana & Imran, 2024; Ahmad, Bibi & Imran, 2023). Even though digitization in the educational system is gaining popularity, little emphasis has been placed on teaching digital citizenship (Fredrick et al., 2022). Moreover, little research has been conducted on teachers' perspectives on digital citizenship and online safety in middle schools. Insight into teachers' views is vital since teachers instruct and direct learners on the safe and responsible use of technology and ethical participation in the online community (Ameer & Hukamdad, 2025).

This research study investigates the digital citizenship and online safety perspectives of middle school teachers in Karachi (Alenezi & Alfaleh, 2024). It explores ethical online behavior, awareness of cyber safety and the associated digital risks, the challenges of online learning, and the barriers toward more effective digital citizenship education for middle school learners (Imran, Khan, & Rani, 2025; Imran, Sultana, & Jat, 2023). This research study aims to enhance the available educational technology and digital citizenship literature in the context of Pakistan. The results will enable schools to refine their digital citizenship programs and online safety education to support safe and responsible participation in online learning (Capuno et al., 2022; Mirra et al., 2022).

Research Objectives

1. To examine middle school teachers' understanding of digital citizenship and online safety.
2. To investigate teachers' perceptions regarding ethical online behavior among students.
3. To identify major online safety risks faced by middle school learners.
4. To explore challenges associated with maintaining ethical digital practices within schools.

5. To examine strategies for improving digital citizenship education and online safety awareness.

Research Questions

1. How do middle school teachers perceive digital citizenship and online safety?
2. What ethical online behaviors do teachers expect students to demonstrate?
3. What online safety risks do middle school students commonly face?
4. What challenges do teachers experience in maintaining ethical digital practices?
5. What strategies can improve digital citizenship education in schools?

Literature Review

Digital Citizenship in Modern Educational Contexts

Digital citizenship is important because it helps students understand safe and appropriate uses of digital technology in school. Ribble states that digital citizenship is the appropriate and safe way to use technology and be an active participant in digital communities. Digital citizenship encompasses digital participation, digital responsibility, digital communication, digital safety, and digital literacy.

Many educators are also considering that digital citizenship covers more than just technology. Digital citizenship also encompasses morality and awareness on how to behave in social interactions online. Jones et al. (2024) state that with digital citizenship, students will learn how to safely and morally engage in online communities. Due to this, it is important that students learn the norms of protecting their privacy and how to communicate respectfully and responsibly (Martin et al., 2019; Vajen et al., 2023; Von Gillern et al., 2024).

The importance of digital citizenship has grown due to the reality that digital technology is a large part of a student's education and their social and personal lives. Due to this, schools have the responsibility to prepare students for appropriately navigating and participating online (Capuno et al., 2022; Rahim, 2021).

Ethical Technology Use and Digital Responsibility

Digital citizenship education needs to emphasize ethical online behavior. One component of ethical technology use is respectful and responsible online communication. Combined with academic honesty and responsible online participation, this ensures appropriate online behavior. Ethical understanding, according to educational researchers, impacts digital communication and online behavior.

According to West (2018), engaging with online communication in both social and academic settings suggests the need for institutions to encourage ethical online behavior and technology understanding. Students should understand the need for responsible online communication, academic integrity, and respecting intellectual property as well as the need to protect online privacy and social media participation (Prasetiyo et al., 2023; Tangül & Soykan, 2021).

Lachheb et al. (2023) were also of the opinion that the development of countries relies on ethical digital participation, which in turn develops safer and more positive online learning environments. Through the integration of both ethics and technology in the learning environment, educational institutions can promote a safer environment for learners (Örtégren, 2022; Alenezi & Alfaleh, 2024).

Online Safety and Cybersecurity Awareness

Online safety education aims to shield students from the dangers that online activity can pose. There are many digital threats students can face, such as cyberbullying, various phishing threats, digital scams, identity theft, misinformation, and digital pornography.

Livingstone and Smith (2014) believed young learners are still susceptible in online spaces, as they lack adequate knowledge of online safety and security. Because of this, schools are required to incorporate structured online safety education into their curricula to equip students

with the knowledge and skills of safe online practices, protection of privacy, common safety practices, and online safety (Estéllés & Doyle, 2025; Ameer & Hukamdad, 2025).

Security in online spaces is even more relevant today, as students are now more than ever utilizing online learning and teaching. It is the position of educational researchers that online safety education should be part of the school as the online threats may be growing in the school and learning spaces (Capuno et al., 2022; Alenezi & Alfaleh, 2024).

Cyberbullying and Harmful Online Behavior

One of the major issues that stem from the online world is cyberbullying. Common examples of cyberbullying are unwanted online harassment, threatening messages, communication that is intended to cause harm, and electronic exclusion (Danish, Akhtar & Imran, 2025; Mankash, et al., 2025; Hafeez, Yaseen & Imran, 2019). Cyberbullying has a detrimental effect on many aspects of a student's life. Jang and Ko (2023) found that the emotional and psychological health of students is a loss due to cyberbullying. Cyberbullying is associated with anxiety, stress, and ultimately a disinterest to learn (Imran, Akhtar, & Khan, 2026; Zaidi, et al., 2024). Educators express more concern for the fact that cyberbullying remains prevalent and is often not reported. Students are often reluctant to speak up about the online harassment that they have experienced. Hence, the need for better monitoring and support systems in a school setting is apparent (Fredrick et al., 2022; Estéllés & Doyle, 2025).

Role of Teachers in Digital Citizenship Education

Teachers help students build good habits for using the internet, so they have a large part in the development of digital citizenship. Teachers build a safe digital learning environment that allows ethical online participation.

Lonergan et al. (2023) argue that, instead of a separate topic, digital citizenship should be embedded in routine classroom practices. Teachers can model positive online behavior through the use of discussions, team work, and technology-enhanced learning activities (Vajen et al., 2023; Song, 2025). Likewise, teaching professionals stress the importance of providing ongoing training in cybersecurity, online safety, and digital ethics for teachers (Fredrick et al., 2022; Bayzan, 2024). Therefore, it is pertinent for schools to provide tailored training programs for teachers to help them deal with the new digital threats (Sleem & Nicolas, 2025).

Role of Parents in Digital Safety Awareness

Parental influence is essential for online behavior and digital safety research awareness. Studies show responsible tech use stems from parents' guidance and supervision. UNESCO (2023) indicated that parents are not completely aware of the potential risks children may experience online. Parents certainly face the challenge of monitoring the online activities of their children due to the rapid pace of advancements in social media. Hence, the need for schools to work closely with parents to organize awareness programs and digital citizenship workshops has increased. Collaborative efforts among schools, families, and educational stakeholders create the most effective digital citizenship education (Ameer & Hukamdad, 2025; Capuno et al., 2022).

Challenges of Digital Citizenship Education

While understanding of digital citizenship continues to expand, schools continue to experience many challenges to its implementation (Mirra et al., 2022). Teachers may find it difficult to supervise students' online behaviors, uphold ethical digital practices, and cope with the demands of ever-evolving digital technologies.

Educational researchers point out the lack of clear guidelines in institutional policies, inconsistent monitoring of digital technologies, and a lack of training for staff as obstacles to practicing digital citizenship (Almethen & Alomair, 2024). What schools need, therefore, is a well-defined and appropriately structured framework for the provision of a safe, ethical, and

responsible way for participants in digital spaces (Sleem & Nicolas, 2025; Ananto & Ningsih, 2023).

Methodology

Research Design

The study employed a qualitative descriptive research design to examine the viewpoints of middle school teachers on digital citizenship and online safety practices in middle schools in Karachi. The qualitative approach was deemed suitable due to the study's aim to explore teachers' experiences, perceptions and opinions in relation to ethical use of technology, digital citizenship and awareness of online safety in today's learning environments in-depth.

Population of the Study

The respondents' population was teachers of middle schools who were employed in the reputed schools in Karachi. The target population of these teachers were chosen because they have practical experience with educational technology and experience related to digital citizenship/online safety issues, and they interact with students in technology-supported learning environments regularly.

Sample and Sampling Technique

The sample was selected using purposive sampling that involved the selection of participants who had firsthand experience with the digital learning environments and technology-supported instructional practices. This sampling technique was deemed suitable as it allowed for the researcher to gather rich and relevant data from those with first-hand experiences in the world of digital citizenship and online safety in educational contexts. In total, 10 middle school teachers took part in the study.

Data Collection Tool

The main data collection technique employed was the semi-structured interview. An interview guide was created to delve into teachers' views on digital citizenship awareness, ethical online behaviors, cyber safety concerns, safe digital learning environments, online risks and challenges, and strategies for enhancing digital citizenship education. The interviews were conducted for about 30-40 minutes, giving interviewees the opportunity to share their stories and experiences in detail.

Data Collection Procedure

The data were collected by conducting in-person meetings, phone interviews, and WhatsApp communications at the convenience of the participants. Participants were briefed about the aim of the study and the voluntary participation prior to the interviews. The confidentiality and anonymity of the respondents were adhered to in conducting the research, which was done in an ethical manner.

Data Analysis

The data was analyzed using thematic analysis based on the framework of Braun and Clarke (2006). To develop an understanding of the data, interview transcripts were read multiple times, and significant codes were developed. The codes were correlated to significant themes encompassing the teachers' perceptions of digital citizenship and online safety. This organized strategy of analysis helped draw out and explain the common themes emerging from the interview data.

Results and Findings

Thematic analysis of the interview data revealed six major themes regarding digital citizenship and online safety practices among middle school teachers in Karachi schools. The themes captured teachers' perceptions of ethical online behaviour, awareness of online safety, cyber risks, online learning opportunities and approaches to enable better responsible technology use among students.

Theme 1: Understanding of Digital Citizenship

The first theme focused on the comprehension of digital citizenship by teachers employed in the context of education. Most participants define digital citizenship as responsible, respectful, and ethical behavior in the digital world. Teachers pointed out appropriate online behavior and communication, awareness of cyber security and responsible behavior concerning the use of technology.

Participants maintained that students must learn to communicate and protect their personal information and act safely in the digital world. Teachers pointed out that, in addition to digital skills, ethical judgment, and personal responsibility should be taught. Several participants stressed that digital citizenship should be taught from the beginning of the formal education process, as students are using digital technologies earlier and earlier.

One participant explained:

“Digital citizenship means teaching students how to use technology responsibly and respectfully in educational and social environments.”

Another participant stated:

“Students need to understand that online behavior is just as important as behavior inside classrooms.”

The findings indicate that teachers think that equipping students for active participation in modern digital societies makes digital citizenship instruction an important aspect of teaching.

Theme 2: Ethical Online Behavior and Responsible Technology Use

The second theme was concerned with the ethical use of the internet and technology by middle school children. Honesty, integrity, virtual respect, and active responsibility were pointed out as the basic ethical norms by teachers regarding the digital space.

As per the responses, students should make use of the internet for classroom activities in a responsible manner, avoid the use of plagiarism, respect virtual space, and be civil in class with their peers. Teachers also indicated students often copy the social media online behaviors and the methods of communicating and interacting online.

The majority of the teachers said students tend to not think about the repercussions of the negative behaviors they exhibit online as they regard online communication as a virtual space with no rules. It was, therefore, important for the teachers to stress on the importance of ethical consciousness and the responsibility to conduct class activities that instill the right behavior when communicating online.

One participant noted:

“Students sometimes think online communication is not serious, so they need guidance regarding respectful digital behavior.”

Another participant explained:

“Teaching ethical online behavior is necessary because students are constantly influenced by social media and online trends.”

The findings show that teachers perceive the teaching of ethical online behavior as essential to digital citizenship and safe online participation.

Theme 3: Online Safety Risks and Cybersecurity Concerns

The third theme explored the online safety concerns expressed by teachers for middle school students. Some of the digital risks that participants named consisted of cyberbullying, phishing, online scam, privacy breaches, exposure to misleading information, exposure to inappropriate content, and exposure to harmful content and fake social media accounts.

Teachers seemed to be worried about students disclosing personal information online and not considering the risks to their information and privacy. Participants seemed to be of the opinion that younger students online information and strangers and seem to be dangerously trusting.

Some participants mentioned that online social media abuse or misuse is an even more problematic issue for students, because they spend excessive amounts of time interacting with online social media outside the supervision of their teachers. For this reason, teachers seemed to be more concerned about the need for students to be educated on the importance of cyber safety and online safety.

One teacher stated:

“Students often click unknown links or share personal information online because they do not understand cybersecurity risks.”

Another participant explained:

“Children trust online content very easily, which increases the risk of misinformation and online scams.”

Findings indicate that teachers underscore the necessity of digital safety education within modern technology-facilitated systems since students are exposed to numerous digital threats.

Theme 4: Cyberbullying and Emotional Impact on Students

Cyberbullying was discussed most commonly among participants. Teachers defined cyberbullying as online harassment, messaging, exclusion, and rumor spreading, and misuse of social media.

Participants stated that cyberbullying demoralized students, decreased classroom and social involvement, and diminished academic performance. Teachers stated the victims of online bullying become withdrawn and are more anxious and distressed.

Many teachers stated that due to social pressure, online bullying is most often reported as anonymous, resulting in an almost 100% number of cases that go unreported. Participants emphasized the need for an adequate school counseling system and a safe school environment.

One participant explained:

“Cyberbullying affects students emotionally, and many students do not report these issues because they feel ashamed or afraid.”

Another participant noted:

“Students who experience online harassment often lose confidence and stop participating actively in classroom activities.”

The results indicate that cyberbullying is a significant concern in online learning spaces which needs urgent responsiveness from educational stakeholders and institutional support.

Theme 5: Challenges in Maintaining Ethical Digital Practices

The fifth theme examined obstacles of securing ethical digital conduct and online safety within schools. Insufficient parental oversight, inadequate teacher training, rapidly developing technologies, erratic institutional policies, and an absence of cohesive digital citizenship curricula were among the barriers articulated by teachers

Participants noted that negligent parental oversight stemmed from an absence of knowledge of online dangers, thereby affecting the ability to supervise student behavior. Participants expressed that schools pursue the integration of technologies at the expense of ethical instruction and cybersecurity safety.

Most participants reported that they were unable to monitor students' online behavior beyond the walls of the classroom owing to the constant engagement of students with digital devices and social networking technologies.

One participant stated:

“Parents are sometimes unaware of the risks students face online, which makes monitoring difficult.”

Another participant explained:

“Technology changes very quickly, and schools often struggle to update policies and awareness programs accordingly.”

The results show that the health of ethics concerning the digital world depends on the teamwork of schools, teachers, students' parents, and educational administrators.

Theme 6: Strategies for Improving Digital Citizenship Education

A primary focus of the study was to investigate the ways that digital citizenship education and online safety in schools could be improved. A fundamental suggestion made by the teachers was to develop a digital citizenship framework and embed it into the formal school curriculum and instructional delivery.

Teachers highlighted the significance of incorporating adequate workshops and training on cybersecurity and online safety for teaching staff and parents. Students expressed the need for regular classroom discussions and instruction regarding ethical online behavior and responsible use of social media.

Many of the teachers argued that digital citizenship instruction should be embedded in multiple instructional contexts rather than a standalone instructional activity. Teachers identified that emerging digital challenges and changing technologies present new and ongoing threats to students and parents which require continuous instruction and guidance.

One participant explained:

“Digital citizenship should be taught regularly because students interact with technology every day.”

Another participant noted:

“Schools should organize awareness sessions for both parents and students to improve online safety understanding.”

The findings suggest that sufficient digital citizenship education rests on the formal structures of awareness, commitment, involvement, and practice.

Discussion

This study assesses the value of digital citizenship and online safety education in the middle school classroom. This is compounded by findings of responsible technology; teachers stressed understanding and using technology in a responsible and respectful manner, as well as communicating respectfully and understanding the safety components of online education (Capuno et al., 2022; Vajen et al., 2023).

There is support from earlier studies, as the findings show that digital citizenship is not just about using technology; it means understanding ethics and being a responsible member of the online society (Martin et al., 2019; Von Gillern et al., 2024). Participants of the study stressed the importance of online citizenship education, which protects the rights and privacy of the individual, and advocates for the avoidance of dangerous online behavior (Rahim, 2021; Tangül & Soykan, 2021).

There are multiple online dangers that students are exposed to; these include ... (Estélles & Doyle, 2025; Ameer & Hukamdad, 2025). Cyberbullying, phishing, and other threats to online privacy and safety are issues. While the safety levels and awareness of online littler learners is prioritized, it is stressed and supported that safety awareness must be taught to all digital citizens.

Teachers expressed concern about the negative effect of cyberbullying on the emotional and academic participation of the school students. Participants expressed that online harassment caused stress and fear, and this negatively affected students' emotional state concerning participation in classroom activities and academic work. These findings support other studies that stress the negative effect of cyberbullying on students' emotional state and academic participation (Fredrick et al., 2022).

The study identified that teachers have a range of concerns regarding the obstacles to promoting digital citizenship. Participants stated ethical online practice barriers are insufficient parental

vigilance, lack of teacher training, technology that changes too rapidly, and inconsistent school practice (Sleem & Nicolas, 2025; Almethen & Alomair, 2024; Bayzan, 2024).

Teachers also asserted that schools must incorporate digital citizenship education in their teaching practices and school curricula. As the participants postulated, digital citizenship education must not be optional, as students are engaged, both school-wise and socially, in digital spaces. (Prasetiyo et al., 2023; Alenezi & Alfaleh, 2024)

Moreover, the research results indicated collaborative institutional strategies are critical to enhancing digital learning that is safe. Teachers showed that responsible online behavior and awareness of the risks and threats of the digital world are joint responsibilities of parents and educational administrators (Capuno et al., 2022; Ameer & Hukamdad, 2025)

Also, the research advanced the argument for sustained professional advancement in digital ethics and awareness of the risks and threats of the digital world. This means that institutions of learning have to establish systems of continuous training that are supportive to parents and teachers in dealing with digital and technological challenges (Örtegren, 2022; Song, 2025; Sleem & Nicolas, 2025).

Conclusion

This research focused on middle school teachers regarding digital citizenship and online safety in Karachi schools. By using the mentioned framework, the results showed teachers perceive ethical behavior while online, responsible use of technology, awareness of cybersecurity, decent online communication, and digital responsibility as the components of digital citizenship education.

The study further revealed the online threats of cyber bullying, phishing and other attack vectors, misinformation, privacy breaches, scams, and exposure to unsafe and damaging online content. Teachers also brought insufficient parental knowledge, gaps in the monitoring system, and inadequate training of staff as additional contributing factors hindering the achievement of safe digital education.

The results of the study indicate that digital citizenship education should be integral to online education. It is imperative that schools purposefully embed digital citizenship into everyday teaching and school community practices to foster safe and responsible engagement in online spaces.

Recommendations

1. Middle schools must include lessons on digital citizenship in their textbooks.
2. Cybersecurity awareness programs should be offered by every school.
3. Educators are expected to demonstrate acceptable, ethical behavior in a digital context.
4. The digital engagement and online behavior of students should be managed by parents.
5. Digital citizenship workshops need to be offered to teachers, parents, and students by schools.
6. Comprehensive online safety policies and monitoring frameworks need to be set by school systems.
7. Teachers should receive ongoing training on digital ethics and cyber safety.
8. Schools must establish services for students who suffer from cyberbullying.

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