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# Digital Citizenship and Online Learning in Pakistan: Highlighting the Need for Promoting Responsible Online Behavior in a Growing Digital Education Landscape

**Samra Ameer** [1] **Malik Hukamdad** [2]

[1] PhD Scholar, Institute of Education & Research, Muslim Youth (MY) University, Islamabad, Pakistan.
✉ samraameer01@gmail.com

[2] Director, Institute of Education & Research, Muslim Youth (MY) University, Islamabad, Pakistan.
✉ drhukamdad@gmail.com

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**Abstract:** This study explores the levels of awareness, perceptions, and applied challenges related to digital citizenship among the main stakeholders in education especially students, teachers, and parents. In this study mixed-methods exploratory sequential design was used, researchers first conducted in-depth interviews with 20 teachers and 20 parents to know the actual problem, followed by a quantitative survey distributed to 200 students. Results of the study indicated a notable deficiency in digital citizenship knowledge, with more than half of parents and educators unfamiliar with or untrained in areas such as online ethics, data privacy, and misinformation. Students reported that their understanding of digital behavior often stems from social media, rather than formal instruction. While many teachers showed interest in teaching digital citizenship, they cited systemic issues such as lack of time, insufficient curriculum integration, and limited digital resources as barriers. Similarly, parents recognized their role in supporting their children online but expressed uncertainty and low confidence in doing so effectively. The research is guided by a conceptual model based on the nine pillars of digital citizenship, which include components like digital literacy, access, communication, safety, and ethical online conduct. Triangulation of the data underscores the urgent need for curriculum integration, targeted teacher training, and parent-focused awareness programs. The study concludes with strategic, evidence-based recommendations for educational institutions, aiming to foster digitally competent, critical, and ethical learners. This research contributes to the discourse on digital citizenship education and offers a practical roadmap for its implementation within diverse learning environments.

**Keywords:** Digital Citizenship, Online Learning in Pakistan, Responsible Online Behavior, Digital Education, Cyberbullying, Privacy Violations, Digital Literacy, Ethical Online Practices, Youth Empowerment



**Corresponding Author:**
Samra Ameer
PhD Scholar, Institute of Education & Research, Muslim Youth (MY) University, islamabad, Pakistan.
✉ samraameer01@gmail.com

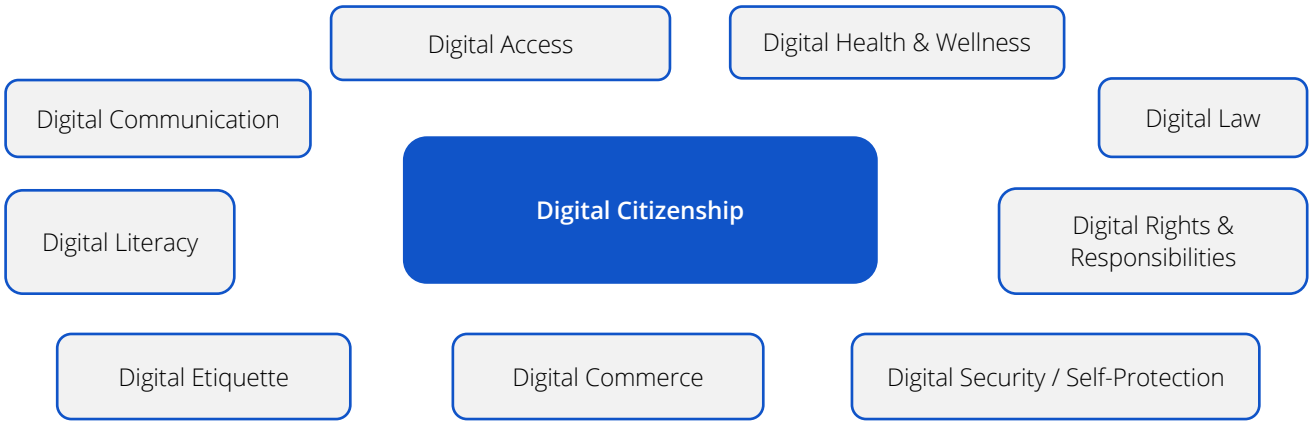
## Introduction

The digital revolution has transformed educational systems worldwide, creating new opportunities for learning beyond the confines of traditional classrooms. In Pakistan, the rapid expansion of digital education accelerated by increased internet access, smartphone penetration, and government initiatives has reshaped how students acquire knowledge and interact with information. Online learning platforms, virtual classrooms, and digital resources have become increasingly integrated into the educational experience, especially in the wake of the COVID-19 pandemic (Simon, 2025). While this digital shift has increased access and flexibility in education, it has also brought to light significant challenges related to online behavior, safety, and ethics. As students navigate this complex digital landscape, the need for digital citizenship education has become critical. Digital citizenship includes the accountable use of expertise, with key zones such as online protection, digital literacy, responsible online communication, and knowledge of individual rights and responsibilities in digital environments (Ribble, 2015).

The lack of proper guidance, students are unprotected to several online dangers fluctuating from cyberbullying and propaganda to digital addiction and breaks of privacy. These challenges not only restrict with students' academic outcomes but also meaningfully effect their mental health, societal growth, and civic awareness (Jones & Mitchell, 2016). In the context of Pakistan, the digital citizenship is still in its initial phases within the educational context. A large number of learners are not prepared with the basic knowledge essential to revolve digital spaces securely and morally. At the same time, many mentors face hindrances in implanting digital citizenship ideas into their teaching practices due to insufficient training, infrequent funds, and lack of official backing (Vajen et al., 2023). This research highlights a serious need to identify how digital citizenship can be successfully presented and reinforced in informative organizations particularly in both urban and rural backgrounds across the motherland. This study tracks to consider the level of awareness about digital citizenship among Pakistani students and to identify the barriers faced by teachers and parents in endorsing answerable digital conduct. Through a mixed-methods exploration sequential design, the study aims to provide a complete view of current challenges and offer practical strategies to encourage ethical digital engagement in Pakistan's education sector. Ribble (2015) sketches nine fundamental components of digital citizenship education, serving as a basic framework for controlling learners conduct. As Saqib (2025) states "engaging with digital platforms whether by sharing information, communicating, or interacting does not inherently make one a digital citizen. True digital citizenship involves ethical participation, critical thinking, respect for others, and a deep understanding of both digital rights and responsibilities".

**Figure 1**

*Nine Elements of Digital Citizenship*




## Literature Review

Digital citizenship comprises a variation of vital skills and considerations such as moral online conduct, digital literacy, cyber security, responsible communication, and awareness of individuals right and individuals' responsibilities in virtual spaces (Ribble, 2015). In advanced nations, these skills have become essential to educational curricula, aligning with the broader framework of the time. As stated by the International Society for Technology in Education (ISTE), cultivating digital citizenship fosters critical thinking, empathy, and civic responsibility among students (Frau-Meigs et al., 2017). Conversely, the assumption of digital citizenship principles in emerging countries, including Pakistan, remains limited. This delay is often credited to infrastructural lacks, a shortage of skilled mentors, and a general lack of awareness about the topic. Choi et al. (2017) found that learners who obtain education in digital citizenship are more likely to demonstration positive behavior online and are less exposed to concerns like cyberbullying and propaganda. Supporting this, Jones and Mitchell (2016) report that targeted digital citizenship programs can reduce online risk-taking and better prepare students to handle multifaceted digital circumstances. In Pakistan, the digital scene presents an exceptional set of encounters.

Research by Ali et al. (2023) highlights an increasing tendency in youth internet use across the country yet notes that knowledge of safe and ethical digital practices remains minimal. This information breach is even more prominent in rural areas of the country, where access to technology is limited and digital awareness initiatives are uncommon.

the cultural and societal expectations in Pakistan shape the way students, parents, and educators perceive and react to online behavior. Teachers play a central role in promoting digital citizenship, but many in Pakistan report lacking the required information and self-reliance to address topics such as online privacy, cyberbullying, and digital identity management (Sel & Demirci, 2025; Ali et al., 2023). The absence of strong skilled growth plans focused on digital training and ethics further compounds the issue. Parental participation is equally important; however, a lot of parents do not have enough digital knowledge to effectively advisor their kids online (Liu & Shadiev, 2025). Regardless of these challenges, certain initiatives have begun to develop. Determinations by the Ministry of Information Technology and Telecommunication (MoITT), along with non-governmental groups like the Digital Rights Foundation, aim to raise awareness around digital security and knowledge. However, these initiatives remain uneven and are not regularly rooted within Pakistan's domestic education policies. The current literature highlights both the developing position of digital citizenship education and the persistent gap in its application across Pakistan. This study pursues to add to concluding that gap by contribution experimental visions hooked on learners' current understanding of digital citizenship and by identifying the problems mentors face in promoting responsible digital conduct.

## Statement of the Problem

The incorporation of digital technology into Pakistan's education sector has fetched new learning breaks but also familiarized huge risks. While access to digital tools and online platforms has extended the educational scene, it has instantaneously exposed students to online fears such as cyberbullying, propaganda, privacy damages, and unsuitable behavior (Vargas et al., 2024). Despite the growing use of digital media by students, numerous deficiency an initial understanding of main digital citizenship doctrines such as online obligation, ethical conduct, discrimination, propaganda and respectful digital communication. This knowledge gap is alarming, especially as students often navigate the digital world without satisfactory guidance, leading to negative educational, psychological, and social consequences. Although educators recognize the importance of teaching responsible digital commitment, many are not appropriately equipped to do so, often mentioning limited training, funds, and influential support (Saqib, 2022). Parents, mostly those in less associated or rural areas, frequently lack the digital literacy required to support their children in online settings. The absence of a unified national approach to incorporating digital citizenship into university-level education has left a critical void in influencing responsible online behavior among youth. This study aims to address this gap by examining the current state of digital citizenship awareness in Pakistan and exploring the challenges faced by students, educators, and parents. Through this investigation, the research intends to develop practical recommendations to enhance the integration of digital citizenship into Pakistan's learning structure.

## Research Questions

This study is guided by the following research questions:

1. What is the existing level of awareness and understanding of digital citizenship among the learners in Pakistan?
2. What are the most common challenges students face in practicing responsible and ethical online behavior?
3. How do educators and parents perceive their roles in promoting digital citizenship among students?
4. What barriers prevent effective teaching and learning of digital citizenship in Pakistani educational institutions?
5. What strategies can be implemented to integrate digital citizenship education into the curriculum effectively?

## Research Objectives

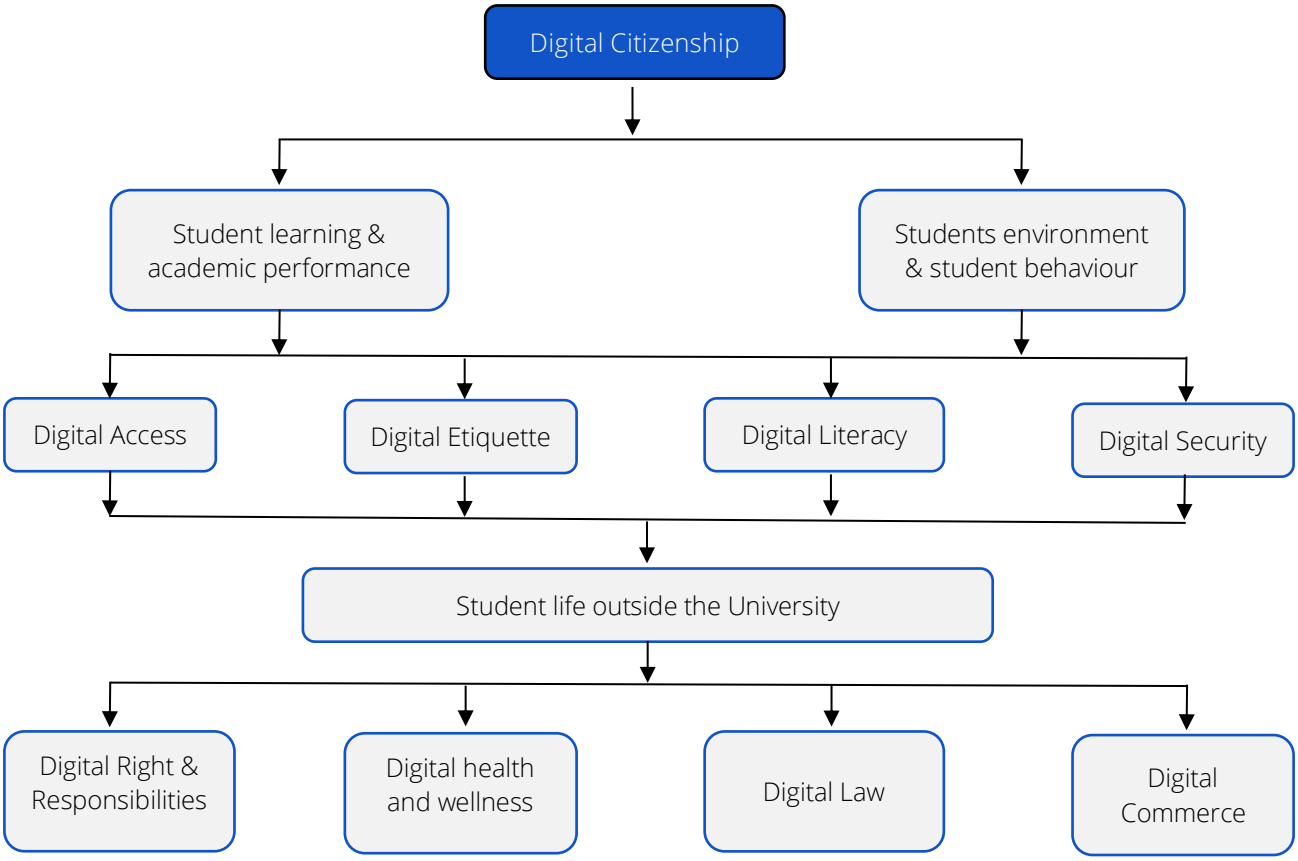
The primary aim of this study is to explore the current state of digital citizenship education in Pakistan and identify actionable steps to enhance students' understanding and practice of responsible online behavior. The specific objectives of the study are:

1. To assess the level of digital citizenship awareness among students in both urban and rural educational institutions.
2. To identify the key issues students face regarding online safety, privacy, misinformation, and digital ethics.
3. To examine the perspectives of educators and parents on their roles and responsibilities in fostering digital citizenship.

4. To investigate the institutional and pedagogical barriers that hinder the effective implementation of digital citizenship education.
5. To propose strategic recommendations for integrating digital citizenship into the universities curriculum and teacher training programs.

**Figure 2**

*Conceptual Framework*




## Conceptual Framework

A conceptual framework for Digital Citizenship refers to a structured model that organizes the key elements involved in responsible and ethical participation in the digital world. It helps individuals understand the various aspects of digital engagement, emphasizing the knowledge, skills, and responsibilities required to navigate the digital landscape safely, responsibly, and effectively. The framework typically highlights nine essential elements of digital citizenship, which are critical in shaping how individuals interact with digital technologies, maintain security, communicate, and behave in online environments. The Digital Citizenship Framework is designed to promote a balanced, ethical, and respectful approach to engaging in the digital world. It emphasizes the importance of.

- Awareness of the risks and benefits of digital technology.
- Empowerment of individuals to use digital tools responsibly.
- Education on navigating online spaces safely and ethically.
- Collaboration between individuals, educators, parents, and institutions to foster a safe, inclusive, and informed digital environment.

## Population and Sampling

The population for this study consisted of university students, university educators, and parents from various educational institutions across Pakistan. To ensure a comprehensive understanding of the issue, the study targeted

participants from both urban and rural settings, accounting for the diverse socio-economic and technological contexts within the country. A total population of 200 students were selected through stratified random sampling to confirm miscellaneous representation from other universities from different regions. These students contributed in a survey conducted to collect quantitative data regarding their awareness, observations, and involvements connected to digital citizenship. A purposive sampling was used to select 20 teachers and 20 parents for in-depth qualitative interviews. This method allowed the study to apprehension rich, appropriate visions from persons who play a direct role in learners' education, with particular focus on their views, challenges, and endorsements associated to digital conduct and knowledge.

**Table 1**

| S/No | Educators | Parents | Students |
|---|---|---|---|
| 1 | 20 | 20 | 200 |
| 2 | Interview | Interview | Survey |
| 3 | purposive sampling | purposive sampling | Stratified random sampling |

The teachers, students and parent's viewpoints, as well as the inclusion of many geographical and institutional involvements, added to the productiveness and rationality of the study's results.

## Research Design

The study exploited a mixed-methods exploratory sequential design, integrating qualitative and quantitative approaches to improve a complete understanding of digital citizenship awareness and practices among learners in Pakistan. This design allowed the study to go beyond surface-level data by recognition the primary attitudes, circumstantial impacts, and inspirations that shape learners' digital behavior.

## Qualitative Component

To enhance the survey data, semi-structured interviews were conceded with 20 teachers and 20 parents. These considerations fixated on their understanding of digital citizenship, their roles in mentoring learners, the problems they encounter, and their commendations for improving learning around responsible digital behavior. All interviews were conducted with contributors' permission, recorded, transcribed, and inspected through thematic analysis, which simplified the documentation of common themes, insights, and context-specific hurdles.

## Quantitative Component

An organized questionnaire was administered to a sample of 200 students from different geographical areas and different universities. The survey involved both closed- and open-ended questions aimed at measuring learners' knowledge of digital citizenship perceptions, their online conducts, and involvements with digital contests such as cyberbullying, propaganda, and data privacy. Expressive statistics were used to analyze the data and identify tendencies and gaps in awareness.

## Triangulation

The use of multiple data sources and perspectives (students, educators, and parents) ensured triangulation, enhancing the validity and reliability of the research. The combination of numerical data and narrative accounts provided a comprehensive understanding of the issue, bridging the gap between observed behaviors and contextual realities.

## Ethical Considerations

Participation in the study was voluntary, and informed consent was obtained from all participants. Data confidentiality and anonymity were strictly maintained throughout the research process. Ethical approval was secured from relevant educational authorities before conducting the study.

## Data analysis

### Qualitative

### Table 2

*Data from Parents*

| S /No | Question | Key Findings | Interpretation |
|---|---|---|---|
| 1 | Familiarity with Digital Citizenship | 4 very familiar, 6 somewhat, 5 heard of it, 5 not familiar | Over half of the parents (55%) have limited understanding, indicating a need for awareness programs. |
| 2 | Responsibility for Digital Education | 12 strongly agree, 5 agree, 2 neutral, 1 disagree | 85% of parents acknowledge their role, suggesting a supportive environment for home-university collaboration. |
| 3 | Discussed Digital Topics | 3 regularly, 7 occasionally, 6 rarely, 4 never | Only 50% of parents have meaningful digital discussions, revealing a communication gap at home. |
| 4 | Confidence in Guiding Children | 5 very confident, 6 somewhat, 6 not very, 3 not at all | Around 45% lack confidence, suggesting a need for parent-focused training or resources. |
| 5 | university's Role | 3 yes, 8 somewhat, 5 not sure, 4 no | Mixed responses show perceived gaps in university-level digital citizenship efforts. |

Interviews conducted with 20 parents revealed varying levels of awareness and engagement regarding digital citizenship. While a small number of parents (4 out of 20) reported being very familiar with the concept of digital citizenship, the majority (11 parents) indicated only a vague understanding or limited awareness. This suggests a general need for greater exposure to digital citizenship principles among parents, especially in rural settings where digital literacy initiatives may be less prominent. Despite limited familiarity, a significant proportion of parents (17 out of 20) expressed a strong sense of responsibility in guiding their children's online behavior. Most agreed that educating children on online safety, privacy, and ethical digital conduct was not solely the role of schools but also a parental duty. However, when it came to actual discussions at home, the responses varied. Only a few parents (3) regularly spoke to their children about cyberbullying, misinformation, and online privacy. Another 7 parents mentioned occasional discussions, while the remaining 10 admitted to rarely or never addressing these topics. Confidence in discussing and guiding children on digital issues was moderate. Around 11 parents said they were only somewhat confident or not very confident, highlighting a potential gap between parental responsibility and their preparedness to fulfill it effectively. Many pointed out that they lacked proper knowledge, tools, or resources to confidently advise their children on digital matters. Lastly, when asked whether schools were doing enough to teach digital citizenship, responses were mixed. Only 3 parents felt that schools were providing sufficient education. Several parents expressed uncertainty, reflecting either a lack of visibility into school efforts or inconsistent implementation across institutions. Overall, the interviews suggest that while parents recognize their role in promoting digital citizenship, there is a need for collaborative efforts between schools and families. Structured programs that equip parents with knowledge and tools, coupled with school-led initiatives, could enhance the digital readiness and safety of students across both urban and rural areas.

**Table 3**

| S /No | Question | Key Findings | Interpretation |
|---|---|---|---|
| 1 | Confidence in Teaching | 3 very confident, 7 somewhat, 6 not very, 4 not confident | Only 50% feel confident, indicating a significant skills/training gap. |
| 2 | Formal Training Received | 4 yes, 10 no, 3 a little, 3 planning | Majority (65%) have not had adequate training, highlighting a professional development need. |
| 3 | Frequency of Integration | 2 regularly, 6 occasionally, 7 rarely, 5 never | 60% rarely or never teach digital citizenship, suggesting limited curriculum presence. |
| 4 | Biggest Challenge | 6 lack of training, 5 no curriculum, 4 lack of time, 3 student disinterest, 2 other | Main barriers are structural and institutional, not teacher unwillingness. |
| 5 | School Support | 3 yes, 6 somewhat, 7 no, 4 not sure | Majority feel schools do not provide sufficient resources or support structures. |

Interviews which were conducted with 20 teachers provided valued viewpoints on their understanding, self-confidence, and the problems they face in carrying digital citizenship education. Only a small number (3 teachers) described feeling highly self-confident in talking key topics such as digital ethics, online safety, propaganda, and secrecy. In gap, the majority (13 teachers) described their self-confidence as either modest or low. This shows an overall acknowledgement among educators of the rank of digital citizenship, but also a dominant wisdom of being improvised to impart it effectively. An important contributor to this lack of preparation is the partial accessibility of official training breaks. Among those interrogated, only 4 had participated in any planned professional development connected to digital citizenship. Ten educators indicated they had not ever received any such exercise, while others described only insignificant experience or objectives to follow training in the future. This reflects a wider issue within teacher education programs, where digital literacy and ethics are not constantly highlighted, in spite of their growing significance in modern learning. About authentic classroom practices, only 2 teachers designated that they constantly incorporate digital citizenship into their instruction. Most (12 teachers) believed they trace on these topics rarely or occasionally, and 5 acknowledged they do not tell them at all. The most common motives cited were lack of time and the absence of devoted course space, saying that digital citizenship is often viewed as additional fairly than indispensable. When asked about the primary difficulties to teaching digital citizenship, teachers highlighted a combination of institutional and instructional challenges. The most frequently mentioned barrier was inadequate training (6 teachers), followed by the absence of an identical curriculum (5) and a lack of time within the academic timetable (4). A few also stated that learners occasionally show partial interest in these topics, though this was not a leading concern.

Finally, teachers were asked whether their organizations providing satisfactory resources and funding for teaching digital citizenship. The replies suggest that official support is unpredictable and often unsatisfactory, further contributing to the challenges teachers face in mixing this critical subject into their instructions. Responses were mostly negative or uncertain, with only 3 teachers feeling fully supported. Most expressed that either no dedicated resources were provided or that there was no formal emphasis from the administration on digital literacy. In conclusion, while teachers recognize the importance of digital citizenship, many feel under-equipped and unsupported. There is a clear need for structured training, curriculum integration, and institutional backing to empower teachers to confidently and consistently educate students on responsible digital behavior. Collaborative planning between education authorities, university leadership, and teacher training institutions could help address these gaps and ensure that digital citizenship becomes a standard part of educational practice.

## Quantitative Data

**Objective 1:** Awareness across institutions

**Table 4**

*Frequency of Respondents regarding Students Learned About Digital Safety Mostly from Social Media Not from Institution*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | SDA | 20 | 10.5 | 10.5 | 10.5 |
| | DA | 37 | 19.4 | 19.4 | 29.8 |
| | UD | 27 | 14.1 | 14.1 | 44.0 |
| | A | 73 | 38.2 | 38.2 | 82.2 |
| | SA | 34 | 17.8 | 17.8 | 100.0 |
| | Total | 191 | 100.0 | 100.0 | |

Table 4 depicts frequency distribution of responses indicates varied opinions regarding the statement, "learned about digital safety mostly from social media not from institution". A total of 191 respondents participated, with 10.5% strongly disagreeing (SDA) and 2.1% disagreeing (DA), totaling 12.6% expressing disagreement. (2.1%) were undecided (UD), Conversely, 8.9 % agreed (A) and 76.3 % strongly agreed (SA), resulting in 85.2 % of participants expressing agreement. Which is major portion of agreement. Generally, 85.2% of the respondents were displaying agreement, showing that respondents felt that digital safety mostly from social media not from institution

**Objective 1/2:** Awareness and online privacy issues

**Table 5**

*Frequency of Respondents Regarding Statement Institutions Rarely Discusses Online Privacy in Classes*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | SDA | 20 | 10.5 | 10.5 | 10.5 |
| | DA | 4 | 2.1 | 2.1 | 12.6 |
| | UD | 4 | 2.1 | 2.6 | 15.2 |
| | A | 17 | 8.9 | 8.9 | 24.1 |
| | SA | 145 | 76.3 | 75.9 | 100.0 |
| | Total | 190 | 100.0 | 100.0 | |

Table 5 depicts frequency distribution of responses indicates varied opinions regarding the statement, "institutions rarely discusses online privacy in classes". A total of 190 respondents participated, with 10.5% strongly disagreeing (SDA) and 2.1% disagreeing (DA), totaling 12.6% expressing disagreement. (2.1%) were undecided (UD), Conversely, 8.9 % agreed (A) and 76.3 % strongly agreed (SA), resulting in 85.2 % of participants expressing agreement. Which is major portion of agreement. Generally, 85.2% of the respondents were displaying agreement, showing that respondents felt that institutions rarely discuss online privacy in classes.

**Objective 2:** Misinformation awareness

**Table 6**

*Frequency of Respondents Regarding Statement that. "I Often Feel Unsure about which Online Information to Trust."*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | SDA | 20 | 10.5 | 10.5 | 10.5 |
| | DA | 26 | 13.6 | 13.6 | 24.1 |
| | UD | 38 | 19.9 | 19.9 | 44.0 |
| | A | 78 | 40.8 | 40.8 | 84.8 |
| | SA | 29 | 15.2 | 15.2 | 100.0 |
| | Total | 191 | 100.0 | 100.0 | |

Table 6 showed varied opinions regarding the statement" I often feel unsure about which online information to trust." A total of 191 respondents participated, with 10.5% strongly disagreeing (SDA) and 13.6% disagreeing (DA), totaling 25.1% expressing disagreement. (19.9%) were undecided (UD), Conversely, 40.8 % agreed (A) and 15.2 % strongly

agreed (SA), resulting in 46% of participants expressing agreement. This shows that comparatively more percentage is of the opinion that student is unsure about which online information to trust.

**Objective 2:** Online safety issues

**Table 7**

*Frequency of Respondents regarding Statement ""Cyberbullying is a Problem I've seen but not Something we Talk about Enough in Institution."*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | SDA | 44 | 23.0 | 23.0 | 23.0 |
| | DA | 29 | 15.2 | 15.2 | 38.2 |
| | UD | 32 | 16.8 | 16.8 | 55.0 |
| | A | 69 | 36.1 | 36.1 | 91.1 |
| | SA | 17 | 8.9 | 8.9 | 100.0 |
| | Total | 191 | 100.0 | 100.0 | |

Table 7 shows the data regarding Cyberbullying is a problem I've seen but not something we talk about enough in institution. A total of 191 respondents responded, with 23% strongly disagreeing (SDA) and 15.2% disagreeing (DA), total disagreeing 38.2%. (16.8%) were undecided (UD), Conversely, 36.1 % agreed (A) and 8.9 % strongly agreed (SA), resulting in 45 % of respondents expressing agreement. Agreement percentage (45%) > disagreement percentage (38.2%).

**Objective 2/3:** Digital ethics and educator role

**Table 8**

*Frequency of Respondents Regarding Statement "My Teachers Rarely talk about How to Behave Ethically Online."*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | SDA | 13 | 6.8 | 6.8 | 6.8 |
| | DA | 39 | 20.4 | 20.4 | 27.2 |
| | UD | 32 | 16.8 | 16.8 | 44.0 |
| | A | 93 | 48.7 | 48.7 | 92.7 |
| | SA | 14 | 7.3 | 7.3 | 100.0 |
| | Total | 191 | 100.0 | 100.0 | |

Table 8 shows the data regarding awareness of the My teachers rarely talk about how to behave ethically online. A total of 191 respondents responded, with 6.8% strongly disagreeing (SDA) and 20.4% disagreeing (DA), total disagreeing percentage is 27.2. there were 32 respondents with 16.8% who could not decide, Conversely, 48.7 % agreed (A) and 7.3% strongly agreed (SA), resulting in 56 % of respondents expressing agreement. Agreement percentage (56%) > disagreement percentage (27.2%).

**Objective 3:** Parental perspective on digital citizenship

**Table 9**

*Frequency of Respondents Regarding Statement "My Parents Don't Really Understand the Digital World I'm in."*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | SDA | 9 | 4.7 | 4.7 | 4.7 |
| | DA | 27 | 14.1 | 14.1 | 18.8 |
| | UD | 18 | 9.4 | 9.4 | 28.3 |
| | A | 103 | 53.9 | 53.9 | 82.2 |
| | SA | 34 | 17.8 | 17.8 | 100.0 |
| | Total | 191 | 100.0 | 100.0 | |

Table 9 shows the data regarding parents don't really understand the digital world I'm in. A total of 191 respondents responded, with 4.7% strongly disagreeing (SDA) and 14.1% disagreeing (DA), total disagreeing percentage is 18.8.

There were 18 respondents with 9.4% who could not decide, Conversely, 53.9 % agreed (A) and 17.8% strongly agreed (SA), resulting in 71.7 % of respondents expressing agreement. Agreement percentage (71.7%) > disagreement percentage (19.8%).

**Objective 3/4:** Educator challenges and roles

**Table 10**

*Frequency of Respondents Regarding Statement "Teachers Want to Help, But They Don't Always Know How to Teach Digital Topics."*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | SDA | 12 | 6.3 | 6.3 | 6.3 |
| | DA | 32 | 16.8 | 16.8 | 23.0 |
| | UD | 28 | 14.7 | 14.7 | 37.7 |
| | A | 72 | 37.7 | 37.7 | 75.4 |
| | SA | 47 | 24.6 | 24.6 | 100.0 |
| | Total | 191 | 100.0 | 100.0 | |

Table 10 shows the data regarding Teachers want to help, but they don't always know how to teach digital topics. A total of 191 respondents responded, with 6.3% strongly disagreeing (SDA) and 16.8% disagreeing (DA), total disagreeing percentage is 23. There were 28 respondents with 14.7% who could not decide, Conversely, 37.7 % agreed (A) and 24.6% strongly agreed (SA), resulting in 62.3 % of respondents expressing agreement. Agreement percentage (62.3%) > disagreement percentage (23%).

**Objective 4:** Institutional barriers

**Table 11**

*Frequency of Respondents regarding Statement "We Don't have Enough Digital Tools or Training to Explore Digital Citizenship Properly."*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | SDA | 8 | 4.2 | 4.2 | 4.2 |
| | DA | 40 | 20.9 | 20.9 | 25.1 |
| | UD | 29 | 15.2 | 15.2 | 40.3 |
| | A | 91 | 47.6 | 47.6 | 88.0 |
| | SA | 23 | 12.0 | 12.0 | 100.0 |
| | Total | 191 | 100.0 | 100.0 | |

Table 11 shows the data regarding We don't have enough digital tools or training to explore digital citizenship properly. A total of 191 respondents responded, with 4.2% strongly disagreeing (SDA) and 20.9% disagreeing (DA), total disagreeing percentage is 25.1. There were 29 respondents with 15.2% who could not decide, Conversely, 47.6 % agreed (A) and 12% strongly agreed (SA), resulting in 59.6 % of respondents expressing agreement. Agreement percentage (59.6%) > disagreement percentage (25.1%).

**Objective 5:** Curriculum integration recommendation

**Table 12**

*Frequency of Respondents Regarding Digital Citizenship may be a Regular Part of University Courses*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | SDA | 11 | 5.8 | 5.8 | 5.8 |
| | DA | 52 | 27.2 | 27.2 | 33.0 |
| | UD | 71 | 37.2 | 37.2 | 70.2 |
| | A | 35 | 18.3 | 18.3 | 88.5 |
| | SA | 22 | 11.5 | 11.5 | 100.0 |
| | Total | 191 | 100.0 | 100.0 | |

Table 12 shows the data regarding Digital citizenship may be a regular part of university courses. A total of 191 respondents responded, with 5.8% strongly disagreeing (SDA) and 27.2% disagreeing (DA), total disagreeing percentage is 33. There were 71 respondents with 37.2% who could not decide, Conversely, 18.3 % agreed (A) and 11.5% strongly agreed (SA), resulting in 29.8 % of respondents expressing agreement. Agreement percentage (29.8%) < disagreement percentage (33%).

**Objective 5:** Teacher training recommendations)

**Table 13**

*Frequency of Respondents Regarding Aware of Lifelong Learning and New Digital Tools. "Future Teachers Need Proper Training On Digital Responsibility."*

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | SDA | 28 | 14.7 | 14.7 | 14.7 |
| | DA | 62 | 32.5 | 32.5 | 47.1 |
| | UD | 25 | 13.1 | 13.1 | 60.2 |
| | A | 61 | 31.9 | 31.9 | 92.1 |
| | SA | 15 | 7.9 | 7.9 | 100.0 |
| | Total | 191 | 100.0 | 100.0 | |

Table 13 shows the data regarding aware of lifelong learning and new digital tools. "Future teachers need proper training on digital responsibility. A total of 191 respondents responded, with 14.7% strongly disagreeing (SDA) and 32.5% disagreeing (DA), total disagreeing percentage is 47.1. There were 25 respondents with 13.1% who could not decide, Conversely, 31.9 % agreed (A) and 7.9% strongly agreed (SA), resulting in 39.8 % of respondents expressing agreement. Agreement percentage (39.8%) < disagreement percentage (47.1%).

## Findings

This study explored digital citizenship awareness and challenges across various stakeholders, including students, parents, and teachers. Both qualitative interview responses and quantitative survey data were analyzed to identify patterns related to digital behavior, online safety, misinformation, and the roles of institutions and families in fostering responsible digital engagement.

### Parental Awareness and Engagement

Interviews with parents revealed limited familiarity with the concept of digital citizenship, with over half (55%) having only a basic or no understanding. Despite this, 85% of parents acknowledged their responsibility in guiding children's digital behavior. However, only 50% engaged in regular or occasional discussions with their children on topics such as cyberbullying and misinformation. Around 45% of parents lacked confidence in addressing these topics, indicating a strong need for community-based awareness and parental training programs.

### Teachers' Confidence and Institutional Support

Teacher interviews highlighted moderate awareness but low confidence in teaching digital citizenship. Only 15% felt very confident, while the rest reported insufficient training and support. A significant number (60%) rarely or never integrated digital citizenship into their classroom practice, citing lack of curriculum, time, and student interest. While 65% of teachers had not received formal training, the majority believed that schools were not adequately supporting digital citizenship education.

### Student Perceptions and Privacy Awareness

Quantitative data from 191 student respondents indicated high personal awareness of digital privacy, with 85.2% agreeing that protecting personal information was important. However, 56% reported learning about digital safety primarily from social media rather than formal instruction, highlighting a gap in institutional education. Similarly, 45% believed that cyberbullying is under-discussed in their institutions despite its prevalence.

### Ethical Guidance and Role of Educators

Over half (56%) of students agreed that teachers rarely address ethical online behavior. This perception aligns with teacher feedback on lacking curriculum support and training in digital ethics. Furthermore, 62.3% of students felt that teachers are willing but do not know how to effectively teach digital topics.

### Institutional Barriers and Curriculum Gaps

A substantial portion (59.6%) of students reported that their institutions lack adequate tools and training to support digital citizenship learning. Regarding curriculum integration, 29.8% supported making digital citizenship part of university courses, while 37.2% were undecided and 33% disagreed, indicating ambivalence or lack of clarity. Moreover, while 39.8% believed future teachers need training on digital responsibility, 47.1% disagreed, suggesting a potential misunderstanding of the topic's importance.

## Discussion

The present study aimed to assess the level of digital citizenship awareness among students, parents, and educators, and to identify the key challenges and institutional gaps affecting its implementation. By triangulating qualitative data from parent and teacher interviews with quantitative data from 191 student surveys, several core themes emerged that offer a multidimensional understanding of the current digital citizenship landscape. The data clearly indicate that awareness of digital citizenship is limited across all three stakeholder groups. Over 55% of parents admitted to having only a basic or no understanding of digital citizenship. Similarly, only 15% of teachers felt very confident teaching digital topics, which correlates with student survey findings where 56% stated they primarily learn about digital safety from social media, not formal education. This suggests a major gap in institutional communication and training. While 85.2% of students value the protection of personal data, the lack of structured instruction from teachers or guidance from parents weakens their ability to act on this knowledge in responsible ways. Both parents and teachers acknowledge their roles in guiding students' digital behavior. 85% of parents accepted responsibility, and teachers generally expressed a willingness to help. However, teacher interviews revealed that 65% had received little or no formal training, and 60% rarely or never taught digital citizenship, largely due to curriculum limitations, lack of time, and absence of resources. Meanwhile, 62.3% of students agreed that "teachers want to help but don't know how." This triangulation exposes a critical disconnect between perceived responsibility and actual capacity to deliver digital education. Students, caught in the middle, often lack consistent ethical guidance highlighted by the fact that 56% felt teachers rarely talk about online behavior ethics. The perception among students that "parents don't understand the digital world" (confirmed by 71.7% of respondents) is strongly validated by parent interviews. While some parents do make efforts to engage in digital topics, only 50% regularly or occasionally discussed cyberbullying, misinformation, or privacy issues with their children. This lack of home-based digital dialogue underscores the necessity of joint home-school digital education strategies. Educators and institutions also do not seem to compensate for this gap. For instance, in discussing cyberbullying, only 45% of students agreed it is addressed, and even fewer parents reported schools actively involving them in these matters. The findings consistently highlight systemic obstacles to effective digital citizenship education. Teachers cited a lack of training (30%), curricular support (25%), and time constraints (20%). This is reinforced by the 59.6% of students who stated their institutions do not provide enough tools or training. Furthermore, mixed views on whether digital citizenship should be included in university courses only 29.8% agreement vs. 33% disagreement reflect a broader uncertainty or resistance within educational institutions to adopt digital citizenship as a core academic concern. The findings reveal that while students are generally aware of digital rights and risks, both teachers and parents lack preparedness, and institutions lack structure to support digital education. Importantly, students' perception of educators and parents as unprepared confirms what both groups admitted during interviews. This mutual recognition strengthens the case for a coordinated digital citizenship strategy that includes:

- Integration into university curricula.
- Formalized teacher training.
- Parental education programs.
- Institutional infrastructure and resources for digital tools.

**Table 14**

*Triangulated Summary Table*

| Theme | Parents | Teachers | Students (Survey) |
|---|---|---|---|
| Awareness of digital citizenship | 55% limited awareness | 65% lacked training | 56% learn from social media |
| Responsibility & guidance | 85% accepted role, 50% discussed topics | Willing but under-equipped | 62.3% say teachers don't know how to teach it |
| Ethics and online behavior | Rarely discussed at home | 56% say not integrated into curriculum | 56% say teachers don't discuss online ethics |
| Institutional support | Mixed trust in schools | 60% rarely teach due to lack of time/support | 59.6% say schools lack tools/training |
| Cyberbullying and safety | Under-discussed both at home and in school | Not a priority in curriculum | 45% say it's a problem rarely talked about |
| Curriculum inclusion | Not discussed | Seen as needed but not implemented | Only 29.8% support it as regular coursework |

In triangulating data from all three groups, the study reveals that digital citizenship is widely recognized as important but poorly implemented. Parents lack awareness, teachers lack training, and institutions lack support systems. Meanwhile, students are navigating the digital world largely alone. Addressing this issue requires holistic, cross-sector collaboration linking educators, parents, and policymakers in designing inclusive, consistent, and practical digital citizenship frameworks for both urban and rural educational settings. The findings of this study clearly highlight a pressing need for structured and inclusive digital citizenship education in Pakistan. The incorporation of low student awareness and teachers' imperfect capability to efficiently impart accountable digital behavior highlights the wider, general nature of the problem. These outcomes are reliable with previous studies by Choi et al. (2017) which point to the discriminating threats handled by the learners in online situations largely due to insufficient training and an absence of institutional support.

## Conclusion

This study aimed to explore the awareness of digital citizenship among learners, parents, and teachers, while also identifying hindrances to its operative application within educational situations. By analyzing data from both qualitative interviews and quantitative surveys, several key conclusions materialize. Firstly, although digital citizenship is commonly recognized as significant, actual knowledge and understanding remain restricted, especially among parents and educators. Many parents communicated unfamiliarity with the concept especially in the rural areas, and a large number of teachers described low-confidence and an absence of official training to efficiently impart digital citizenship. As a result, students obtain information about digital rules and online safety through casual resources somewhat than through organized educational curriculums. Secondly, the research points to a significant gap between the recognition of responsibility and actual practice. While parents and teachers acknowledge their roles in fostering responsible digital behavior, this awareness rarely translates into consistent action due to insufficient training, confidence, and institutional support. This leaves students to manage the difficulties of digital atmospheres with incomplete adult supervision or informative backgrounds. Thirdly, various institutional and pedagogical experiments obstruct the integration of digital citizenship into university curricula. Educators face restrictions such as incomplete instructional phase, the lack of a devoted curriculum, and a lack of access to essential digital means. Moreover, institutional backing looks fragmented, with many stakeholders noticing digital citizenship as an under prioritized or incompatibly addressed issue within advanced learning. Finally, although broad agreement on the importance of themes like digital ethics, online security, and privacy, the study reveals that curriculum integration remains negligible and policy direction unclear. Although there is some support for embedding digital citizenship into university courses and teacher professional development, uncertainty and resistance persist, highlighting the vital need for stronger policy frameworks and conclusive official management.

## Recommendations

To bridge the gaps identified in awareness, training, and institutional support for digital citizenship education, the following recommendations are proposed. These are aimed at educators, policymakers, curriculum developers, and institutions working to foster responsible digital behavior among students.

### Integrate Digital Citizenship into Curriculum

- Formalize digital citizenship as part of the school and university curriculum across disciplines.
- Include modules on online safety, misinformation, privacy, and ethical behavior from early education through higher education.
- Make digital citizenship a mandatory component of teacher education programs, especially in both pre-service and in-service training.

### Develop Teacher Training and Professional Development

- Design and implement structured training programs for teachers on digital ethics, responsible technology use, and digital pedagogy.
- Provide ongoing professional development through workshops, webinars, and online courses focused on current digital trends and classroom integration.
- Encourage peer-sharing of best practices and success stories within teaching communities.

### Engage and Empower Parents

- Conduct awareness campaigns and digital literacy workshops for parents, especially in rural areas, to help them understand their role in their children's digital lives.
- Schools should provide regular communication and resources (e.g., guides, newsletters, seminars) to parents on topics such as cyberbullying, online privacy, and screen time management.

### Strengthen Institutional Support and Infrastructure

- Educational institutions must ensure that teachers and students have access to reliable digital tools, internet access, and educational resources.
- Appoint digital citizenship coordinators or teams within schools to lead integration, support training, and monitor effectiveness.
- Allocate specific curriculum time and include assessment strategies to evaluate digital competency.

### Promote Collaborative Stakeholder Involvement

- Foster partnerships between educators, parents, students, and policy makers to co-create relevant and inclusive digital citizenship policies.
- Encourage community engagement, involving NGOs, tech organizations, and education departments to support awareness and access to training.

### Monitor and Evaluate Implementation

- Establish feedback mechanisms and regular assessments to measure the impact of digital citizenship initiatives on student behavior and digital literacy.
- Use both qualitative and quantitative methods (surveys, interviews, observations) to continuously improve strategies based on stakeholder input.

## References

Ali, I., Butt, K., & Warraich, N. F. (2023). Factors effecting digital citizenship in education sector: A systematic review and future direction. *Education and Information Technologies, 28*(12), 15789-15821. https://doi.org/10.1007/s10639-023-11811-8

Choi, M., Glassman, M., & Cristol, D. (2017). What it means to be a citizen in the internet age: Development of a reliable and valid digital citizenship scale. *Computers & Education*, *107*, 100–112. https://doi.org/10.1016/j.compedu.2017.01.002

Frau-Meigs, D., O'Neill, B., Soriani, A., & Tomé, V. (2017). *Digital citizenship education: Volume 1: Overview and new perspectives.* Council of Europe.

Jones, L. M., & Mitchell, K. J. (2016). Defining and measuring youth digital citizenship. *New Media & Society*, *18*(9), 2063–2079. https://doi.org/10.1177/1461444815577797

Liu, J., & Shadiev, R. (2025). A review of empirical research on game-based digital citizenship education. *Education and Information Technologies*, 1-53. https://doi.org/10.1007/s10639-025-13549-x

Ribble, M. (2015). *Digital Citizenship in Schools: Nine Elements All Students Should Know* (3rd ed.). Washington DC: International Society for Technology in Education.

Saqib, M. U., & Mushtaq, R. (2022). Content Analysis: An Exploration of Islamic Ethical Values in The Textbooks of 4th Class in Punjab. *International Journal of Early Childhood Special Education, 14*(6). http://dx.doi.org/10.9756/INTJECSE/V14I6.167

Saqib, M. U., & Mushtaq, R. (2025). Role of National Professional Standards for Teachers in Cultivating Ethical Values in Teachers. *ProScholar Insights*, *4*(1), 1-7. https://doi.org/10.62997/psi.2025a-41035

Sel, B., & Demirci, N. (2025). The global trends in digital citizenship research: A bibliometric analysis with R program and viewer. *Education and Information Technologies*, 1-29. http://dx.doi.org/10.1007/s10639-025-13332-y

Senos, S., João, G., Loureiro, M. J., Torres, J., & do Rosário, R. M. (2024). Digital citizenship in secondary education: the project "The Internet as we see it". *Educational Media International, 61*(4), 368-382. https://doi.org/10.1080/09523987.2024.2436739

Simon, N. (2025). Towards technological literacy: Fostering digital citizenship and sustainable development education in next-generation teaching. In *Digital Citizenship and Building a Responsible Online Presence* (pp. 241–258). IGI Global. http://dx.doi.org/10.4018/979-8-3693-6675-2.ch009

Vajen, B., Kenner, S., & Reichert, F. (2023). Digital citizenship education–Teachers' perspectives and practices in Germany and Hong Kong. *Teaching and Teacher Education, 122,* 103972. https://doi.org/10.1016/j.tate.2022.103972

Vargas-Murillo, A. R., Pari-Bedoya, I. N. M. D. L. A., & Gordillo Bedoya, S. M. (2024, October). Digital Education Strategies and Tools in Developing Citizenship Skills: A Literature Review Based on Scopus (2014-2024). In *Proceedings of the 2024 8th International Conference on E-Society, E-Education and E-Technology* (pp. 50-55).