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Narrow Frames, Shallow Roots: Prospective Teachers' Conceptual Understanding of Digital Citizenship in Pakistani Teacher Education

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Abstract

How teachers teach digital citizenship depends on their conceptual understanding of it, and currently available research indicates that it is often only partially developed and focused exclusively on safety and not well-informed in a wider context of law, civic, and rights-based education. This paper presents findings from a qualitative study that aimed to explore the conceptualisation of digital citizenship by prospective teachers at a public university in Punjab, Pakistan, and to infer from these the extent of the adequacy of existing teacher preparation. Reflexive Thematic Analysis was used to explore the findings. The data were obtained from semi-structured interviews with the participants who were enrolled in BS Education programmes. Four themes were created in the analysis: a reductive conceptual frame, which was marked by considerations of safety and ethics; experiential knowledge as a substitute for formal instruction; and a gap between participants' knowledge and that required by international frameworks on digital citizenship. The results show that teacher preparation in this context views digital citizenship as a "side matter" and a matter that, for the most part, is only briefly and superficially covered in teacher preparation programs, producing a fragmented conceptual map in prospective teachers. The paper concludes that changes to the curriculum, practice-based pedagogy, and policy are needed to prepare teachers to develop students as full digital citizens.

Keywords: Digital Citizenship, Prospective Teachers, Teacher Education, Pakistan, Reflexive Thematic Analysis, Conceptual Understanding, Teacher Beliefs

Introduction

The governance of digital life is now certainly one of the most urgent concerns in the field of contemporary education, and teacher preparation structures in many lower-and middle-income countries have remained slow to embrace the discussions and changes that the notion of digital demands from teachers (Muhammad, Qureshi, & Siddiqui, 2025; Rasheed et al., 2025; Samina et al., 2025). For teachers, digital citizenship concepts adopted during training can be conveyed in various ways; how teachers think about digital citizenship affects how students will be exposed to it, and helps answer the question of whether they will be exposed to digital citizenship at all. This paper explores the conceptual understandings of prospective teachers from a Pakistani public university regarding what they mean by 'digital citizenship', focusing on patterns of understanding and misunderstanding created in the accounts.

Digital citizenship, in a general sense, offers a broad perspective of the knowledge, capabilities, judgments, and actions that define safe, ethical, and responsible use of information technology, such as digital literacy and online safety, ethical conduct, digital rights, and civic involvement in a digital world (Ribble, 2015). Pre-service teachers come to pre-service education with well-established belief systems constructed by their childhood and primary education experiences, which provide a lens by which new knowledge about the content is interpreted, accepted, or resisted (Ertmer & Newby, 1996; Ng et al., 2010; Wall, 2016). There is a need to encourage a broadening of these beliefs, and where they reflect a lack of information or even misinformation, a formal teacher preparation process must purposefully correct the narrow beliefs that still infuse teacher thinking.

Empirical studies on this topic find a sustained occurrence of pre-service teachers adopting the same perspective of digital citizenship, treating it as synonymous with online safety, and one that is solely focused on harm avoidance and legal matters rather than a multidimensional approach involving civic engagement and rights (Vajen et al., 2023). Much of this research has been conducted in populations living in Europe, North America, and East Asia. However, the Pakistani context makes things more complex, as there is a growing but inequitable digital transformation, a teacher preparation framework historically focused on technological skills rather than ethical or civic aspects of technology, and a Pakistani policy discourse that has started to emphasise digital competence without equipping teachers with the means to achieve it. The Pakistani case is of interest and relatively understudied in this context.

This paper is based on an MPhil thesis, which was done at GC Women University Sialkot in 2026 (Pervaiz, 2026), and produces an original qualitative paper based on the conceptual dimension of that paper. How do pre-service teachers from a Pakistani public university think about digital citizenship? (What is the meaning of digital citizenship in their thinking? What do they focus on and what do they consistently ignore? What do these patterns tell us about what teacher education programmes are, and are not doing, conceptually? The paper presents the literature review, followed by the methodology, and then moves on to the findings and finally the discussion of the results, offering originality in both population and context.

Literature Review

Digital Citizenship as a Multidimensional Construct

Digital citizenship is a topic subject to ongoing scholarly contestation, a field of practice for many, and a concept in the process of development. The concept is now much broader than the early formulations, which focused on the safe and acceptable use of the Internet. Ribble's nine elements of digital citizenship fall under three categories: respect, educate, and protect, with digital access, digital commerce, digital communication, digital literacy, digital etiquette, digital law, digital rights and responsibilities, digital health and wellness, and digital security under those categories (Ribble, 2015). It is clear in this framework that being a responsible digital participant is not just about being polite and safe online, but also about legal literacy, civic engagement, and an awareness of rights. This framing emphasises the holistic nature of digital citizenship, which differs from its actual understanding and practice as a concept for teaching in teacher education. Vallès-Peris and Domènech (2024) argue that a "true" digital citizenship should reflect and foster engagement in digital public life, which is not the focus of teacher education programmes in the name of digital citizenship. The gap between broad scholarly conceptualisation and narrow classroom implementation.

Teacher Beliefs and Their Persistence

Teacher cognition literature has confirmed that beliefs are not just "misconceptions" or false knowledge structures, but durable meaning schemas shaped by experience and daily life, whereas "misconceptions" may be constructed by means of a different schema (Ertmer & Newby, 1996; Fives & Buehl, 2016; Shah, 2021). Research has shown that the beliefs that prospective teachers bring to university based on their direct experience with technology, their informal peer exchanges, and their experiences of schooling form a coherent network within their understanding of the digital world they inhabit, but have not led them to engage with the legal aspect of the digital world, nor the rights frameworks of that world, nor the civic potential of the digital world. Teacher beliefs theory suggests that, when formal instruction fails to shift, clarify, and expand these prior beliefs (PB), then these PB remain in the minds of the graduates, and these students use the limited conceptual map in their teaching. This point is clear for the curriculum design - what teacher education has to do with the pre-existing beliefs is to address them explicitly (Mishra & Koehler, 2006) and not try to add on top of them.

TPACK and the Knowledge Architecture of Digital Teaching

TPACK offers an analytical framework for understanding what teachers should know to support teaching and learning with digital technology and about digital technology (Mishra & Koehler, 2006). TPACK goes beyond an additive view of technological, pedagogical, and content knowledge; they argue that a teacher needs to have some understanding of the social and legal context of digital citizenship in order to properly teach students from these perspectives. Research on TPACK in pre-service teacher populations invariably reveals more sophisticated technological knowledge than pedagogical knowledge and content knowledge about and for digital citizenship (Ertmer & Newby, 1996; Vajen et al., 2023). This imbalance has important implications; it creates teachers who know how to use technology but lack the conceptual base for ethical, legal, and civic dialogue with youth during their use of technology. The TPACK lens relocates narrow conceptualisation from individual to structural, specifically teacher education design.

Digital Citizenship in Pakistani Teacher Education

The Pakistani policy context constitutes a certain pattern of pressures and absences. Calls to digital competence have been central to national education policies in recent years, and higher education institutions in Pakistan have increased the provision of technologies, following global developments, such as those issued by UNESCO and OECD. Policy endorsement does not necessarily produce teacher preparedness; while policy deals with the tools, citizenship deals with the ethical, social, and legal aspects of inhabiting a digital space. The teacher education literature for Pakistan reveals that digital content in teacher education mostly addresses technology integration while avoiding ethics and civic formation (Muhammad, Qureshi, & Farooq, 2025; Muhammad, Qureshi, & Rauf, 2025; Pervaiz, 2026). What happens is that a prospective teacher graduates with some knowledge of technology and with the conceptual architecture to teach any one aspect of digital citizenship, but often lacks the capacity to teach digital citizenship comprehensively. While this is not a uniquely Pakistani phenomenon, the confluence of accelerating digital transition and the absence of proper institutionalisation and policies presents the Pakistani context as a productive site for studying this conceptual knowledge problem.

Partial Understanding and Its Consequences

Studies indicate a consistent pattern among pre-service teachers that pre-service teachers equate digital citizenship with harm avoidance (Vajen et al., 2023; Vallès-Peris & Domènech, 2024). Research underscores that pre-service teachers rated digital citizenship as not being harmful (Martin et al., 2019; Mirra et al., 2022; Örtegren, 2022). This negative framing produces a

pedagogy focused on what students should not do online, instead of teaching learners to be informed, active, and rights-aware citizens in a digital public space. The literature also indicates that partial understandings are not random, and prospective teachers know more about the digital citizenship dimensions generally discussed in public discourse (cyberbullying, misuse of the Internet, privacy) and less about the digital citizenship dimensions generally associated with formal legal/civic knowledge (digital law, misuse of digital devices, intellectual property, digital rights). The relevance of this structure is that it means that an expansion of conceptual understanding will require deliberate curricular activities aimed at the aspects not covered by personal experiences and popular discourses (Vajen et al., 2023).

Methodology

Research Design

The use of Reflexive Thematic Analysis (Reflexive TA) in this study draws on the work of (Braun & Clarke, 2006, 2022), who have developed and refined the analysis. To answer the research questions around meaning-making, Reflexive TA was chosen, focusing on the prospective teachers' construction and articulation of their understanding of digital citizenship, the conceptual resources mobilised in reaching this understanding, and the pattern of thinking that the teachers' accounts reveal. Reflexive TA is a method that offers flexibility and is extremely well-suited to constructionist qualitative research, which prioritises interpretation over frequency counts (Braun & Clarke, 2022). The method is consistent with the study's Big Q focus on a qualitative perspective that emphasises knowledge as being contextually constructed, data as co-produced through the enquiry, and analysis as a generative interpretive process instead of a technique for the discovery of specific patterns.

Philosophical Paradigm

The study takes a relativist stance on ontology; not one reality in meaning exists for prospective teachers as to the meaning of digital citizenship, but rather multiple realities of meaning for the same individuals of what it means to be a digital citizen in different contexts with varying experiences and institutions. This is a constructionist approach to epistemology; knowledge concerning prospective teachers' understanding of digital citizenship is not taken from the participants, but is given during/as a process of interaction between researcher and participants during the interview. The data related to digital citizenship is described by the participants; language is considered not so much a mirror of internal thoughts, but as a phenomenon in itself that implies the production of digital citizenship itself. The analytic approach is experiential – it aims to understand understanding participants make about their own situation – as well as – it seeks to explore the contents of those accounts and the picture of institutional conditions this conveys.

Analytic Approach

The analysis was largely an inductive process in the sense that coding and the development of themes were based on the data and not a pre-existing framework. This inductive approach of "grounding" the analysis was suitable because the focus of the study was to uncover the conceptual patterns that appeared in the participants' accounts and not to evaluate how closely or how divergent they were from a pre-existing framework. The analysis operated at a semantic level (what was said) in relation to the extent to which the dimensions of digital citizenship were explicitly mentioned in relation to the technology, and a latent level addressing assumptions and what was left unsaid. This shift enabled the study to surface both explicit knowledge and tacit conceptual gaps.

Participants and Sampling

The researcher selected the participants using purposive sampling in view of a clear criterion-based sampling process, which was: students' enrolment in the BS Educational programme at GC Women University Sialkot, completion of at least the fifth semester, and exposure to one or more courses related to Pedagogy and Technology Integration (Creswell & Poth, 2018). These criteria allowed for the selection of participants who were at a stage of preparation where they had the formal input offered by teacher education programmes regarding digital citizenship, and thus offered meaningful conceptual accounts as evidence of what such programmes produce (Patton, 2015). It involved 10 participants representing different specialisations. This approach was analytically fruitful as it enabled the study to examine whether there were differences in levels of understanding of what digital citizenship entails within different subject specialisations. Information power guided sample size: A small purposeful sample with rich data and a focused research question was considered sufficient (Malterud et al., 2016).

Data Collection

Semi-structured individual interviews were used to generate data. The interview guide was designed based on the research questions for the study and a literature review of the concepts of digital citizenship and teacher beliefs. Questions invited participants to articulate their understanding of digital citizenship, describe how they perceived the differences between digital citizenship and digital skills, describe their perceptions of how digital citizenship should be taught, and reflect on their own preparation. Interviews were conducted to last approximately 30–45 minutes each, using either face-to-face or a video platform, as determined by the participant. With informed consent of all interviews, they were all recorded by audio and then transcribed verbatim. Field notes were taken soon after each interview to capture some preliminary observations and impressions about the context of each interview. The semi-structured format provided consistency while allowing the researcher to pursue emerging ideas that came to light via follow-up probing.

Data Analysis Procedures

Data analysis was conducted in accordance with the six stages of reflexive TA (Braun & Clarke, 2022). All transcripts were read multiple times in Phase 1, prior to coding, to develop familiarity with the data and to make preliminary notes on content and tone. Phase 2 produced codes that were created inductively from every occurrence participants used to describe, define, bound, or qualify what they knew related to digital citizenship. This led to the production of a large initial code set that remained close to the data. During Phase 3, coding was organised into candidate themes where codes with a central organising concept were clustered together. Phase 4 evaluated the coherence and internal consistency of candidate themes, as well as their credibility and relevance to the research questions, and various themes were merged, split, or dropped during this phase. Themes in Phase 5 were refined and given names; names were chosen to reflect the interpretive analysis, not merely describe content. The analytical narrative was written in Phase 6 using the themes from the analysis, together with the participant stories, and placing them in context.

Trustworthiness and Quality

Quality was evaluated based on the following, specific to the Big Q, qualitative research: conceptual coherence, reflexive engagement, interpretive depth, and data grounding. In the aspect of conceptual coherence, the research question, analytic approach, and theme structure can be seen from their coherence. Reflexive work is manifest in the analytical journal and in the cited researcher's positioning throughout the research. The move from semantic to latent analysis demonstrates interpretive depth beyond description that are displayed and understood as measures

of interpretive depth. Data grounding is evidenced by direct quotations from the participants that substantiate interpretive claims to the data.

Ethical Considerations

Before collecting the data, ethical approval was obtained from GC Women University Sialkot. Participants received written information about the study's purpose, procedures, and their rights prior to consenting. Both were allowed to participate voluntarily with the option of withdrawal at any time without repercussions. Participant identities were safeguarded by consistent use of pseudonyms (P1, P2, etc.) both during analysis and in this paper. After transcription, audio recordings were deleted, while the transcript was kept in documents that were password-protected and only accessible by the researchers.

Findings

Interview data were analysed, and four superordinate themes are presented below with additional themes grouped underneath them, interpretive commentaries, and illustrative participant quotes.

Theme 1: Safety as the Conceptual Ceiling

The overarching theme in the data was a reductive conception of digital citizenship as safety and ethics. Participants were easily able to explain what it meant to be a responsible digital citizen, but not as a rights-bearing, legally protected, or civically active citizen.

Online Safety as the Default Frame

Almost all of the participants who were asked to describe what a digital citizen is spoke first and foremost in terms of safety. The idea seemed to serve as a kind of default to organisation, affecting all subsequent aspects of their understanding. Digital citizenship was one participant's way of calling attention to the "using technology and staying safe" (Participant 2) aspect. A third found it in harm prevention: "It's about things that you can do to make sure you don't get into trouble online, such as cyberbullying or scams" (Participant 7). While not wrong, these definitions do not fully describe all of Ribble's nine elements, but would capture one cluster of these elements/questions (Ribble, 2015); others are not addressed. The safety frame was at times so dominant that participants appeared to believe it constituted a complete account and that the dimensions described provided a comprehensive outline of digital citizenship. The intersectionality of this pattern was analytic because the pattern pointed to what wasn't and thus was not included in the definitions of these individuals and the items that they defined as safe. Analytically, these omissions define the safety-centred frame as much as its inclusions do; digital law, digital commerce, digital rights, and civic engagement were not part of these definitions.

Ethics Without Law

The second subtheme in this theme was ethical language in the absence of legal literacy. Participants discussed respect, privacy, and responsible conduct at length, but without reference to the legal structures underpinning them; the structure or underpinning of the legal aspects of these three concepts was missing from the accounts. Participant 5 said: "Digital citizenship means being ethical, respecting other people's information, and not doing things that would hurt them online, and I believe if you're ethical, you're already a good digital citizen." This narrative makes it implicitly assumed that being an ethical person and abiding by the law will occur automatically - "Digital law is about the rights and responsibilities of a digital person, separately from their own personal ethical obligations." Plagiarism/copying was raised by one participant who referred to the relationship with the law, although she said that she did not know enough about the law to have firsthand awareness of the issue (Participant 9). For the majority of participants there was no gap

they perceived; there was no “pocket” in their conceptual picture, no category of “legal knowledge”.

Theme 2: Experiential Knowledge as a Double-Edged Resource

The second theme was related to how the participants were introduced to digital citizenship. Most participants pointed to their own personal digital experience as a resource and constraint on their knowledge.

Learning by Living in Digital Environments

Each time there was a conversation on the personal understanding of what digital citizenship is, which was the result of a person's experiences using a digital platform and not a formal lesson. “Well, I have been online my entire life, I know what's okay and what's not okay” (P3). This story is about the frequent interactions on the Internet that are equated with preparatory learning. It's not an intellectual construct, it's a living knowledge of what works and doesn't in the digital world. Vajen et al. (2023) found that the aspects of digital citizenship which involve formal knowledge, legal rights, civic participation frameworks, and policy environments are difficult (or impossible) to learn through personal use of platforms. The lack of formal education thus results in a certain type of incomplete knowledge–a competence in the experiential aspects of digital citizenship and a lack of knowledge in systematic aspects.

Coursework as Definitional Rather Than Formative

Participants had a "definitional encounter" with digital citizenship in instances where it was identified in their teacher education programme. They had acquired a vocabulary for the concept through their coursework, yet their conceptual understanding did not deepen to the same extent. One participant bluntly expressed his position: "We were told what it was and the key points, but I did not feel as though my thinking on it changed" (Participant 6). Another participant mentioned the following: "The course talked about the topic of digital citizenship, but didn't provide us with the opportunity to think about it or utilise it any differently" (Participant 1). As these accounts suggest, this is one type of pedagogical breakdown: providing content without breaking up or expanding pre-existing beliefs that students have related to the content.

This corresponds to what teacher beliefs theory predicts when instruction does not surface prior beliefs: when instruction does not approach the belief system at the level of the related structure of beliefs and underlying assumptions, these beliefs remain intact (Ertmer & Newby, 1996).

Theme 3: Knowing That Versus Knowing How

The third theme concerned the relationship between conceptual understanding and pedagogical readiness. The participants affirmed their commitment to teaching digital citizenship but lacked principled pedagogical strategies for doing so.

Confidence at the Shallow End

Participants felt moderately secure about teaching the safety-oriented dimensions of digital citizenship: “I feel like I could cover cyberbullying and online safety, as it's something that students are already familiar with, and I have that in my environment” (Participant 4). This confidence was based not upon pedagogical preparation, but upon so much perceived experiential overlapping between the knowledge of the teacher and the one of the student. In tandem with the pedagogical transparency, salient to the familiar, ‘educational approachability’ was also found in relation to safety discourse, but not in respect of the less familiar. The same subjects, asked then about teaching digital law/digital rights were very unclear: "because I'm not sure what the laws are" (Participant 4), "that would need a lot more knowledge on my part because I'm not sure exactly what the laws are or how to explain them at the school level" (Participant 4). This asymmetry, with

confidence at the safety end and uncertainty at the legal and civic end of the continuum, is asymmetric, which corresponds linearly to the shape of participants' conceptual understanding.

Pedagogical Improvisation in the Absence of Preparation

Participants highlighted their practices as informal, and not methodically planned. Discussions of scenario-based incidents, dealing with issues based on real-life experiences and inclass case studies were the most commonly proposed strategies. One participant explained that he was providing the participants with real-life scenarios and spoke about what things were going wrong at and what a person could do: "I was telling them what they see online is what they don't want to see, I would show them some of these scenarios that would actually happen, and what one could do" (Participant 8). This constructivist predisposition is educationally legitimate, but some ad hoc situations, which could come from their personal experiences, will certainly continue and reinforce an approach of safety which can actually be the teacher's conceptual model. Pedagogical creativity is limited if systematic conceptual width is missing.

Theme 4: The Invisible Curriculum and Its Visible Silences

The fourth theme concerned with what participants didn't say from the data in systematic absence. The reason for these absences was not a casual one, but rather one deliberately, methodically, omitted: It was a systematic absence; and perhaps it aimed to be a measure of the parameters of experiential learning or those of teacher education programmes.

The Undiscovered Dimensions

Ribble's (2015) nine element framework was used and acted as a checklist to consider the accounts of the participants. When applied, it showed a general consistency that the elements with the closest association with personal digital experience (etiquette, safety, and communication) were most widely cited, while the elements with association with formal knowledge (law, rights, and commerce) were largely omitted. When asked directly about digital rights, one of the participants dithered while trying to answer: "I think it's something about freedom of speech on the internet, but I haven't thought about it being something I'd have to teach" (Participant 10). The account reveals the concept as known but absent from the pedagogical imaginary; familiarity does not produce teachability. What is known but not considered teachable does not enter practice.

Institutional Silences as Curriculum

The change or lack of change in the participants' conceptual awareness is not the individual fault of the participants; it is the fault of teacher education programmes, as they have and have not taught. Participants could not identify what their programs lacked because the omission generated no expectation of what was missing. "I don't know what I don't know about digital citizenship, and that is the problem" (Participant 3). It is a reflexive account and does justice to what Reflexive TA can offer participants, namely, to make visible the structure that is creating the partial understanding, but not just the contents of those understandings that the participants themselves can see.

Discussion

Interpretation of Findings

From this analysis, four themes emerge, with a common thread running through each: the conceptual frame pre-service teachers bring to digital citizenship is internally coherent yet structurally limited. This is coherent in that the concepts of safety, ethics, and respectful communication are linked as an interconnected and intervalidating set of ideas. It is constrained in that this collection only covers a small portion of the construct of digital citizenship as a field of scholarship and policy. However, the frame is not merely incomplete; safety discourse acts as a ceiling beyond which participants have no conceptual vocabulary.

This is a pattern consistent with the teacher beliefs literature, suggesting that background beliefs influence the uptake of new knowledge (Ertmer & Newby, 1996). When teacher education programmes offer digital citizenship as content rather than challenging prior beliefs, the safety frame absorbs new information without expanding. Because of this, students can define digital citizenship but interpret it through their prior conceptual frame.

Connection to Existing Literature

The results indicate that prospective teachers emphasize safety, ethics, the avoidance of harm, which aligns with research indicating that digital citizenship is often expressed as risk and/or responsible conduct, digital safety, and/or ethical use. In this regard, Vajen et al. (2023), based on practising teachers in both Germany and Hong Kong, noted the threat of manipulation and antidemocratic practices in digital environments. Ata and Yıldırım (2019) investigated Turkish pre-service teachers' attitudes about digital citizenship in terms of the dimensions of digital citizenship such as digital security and digital ethics. Kansu and Öksüz (2019) also treated digital ethics and legal issues, digital safety as one of the major aspects of the digital citizenship pre-service teachers.

This study adds to this literature by placing the pattern in the context of a public university in Pakistan, suggesting that the pattern is not culturally specific to Western contexts but recurs across varied institutional environments. The context in Pakistan allowed one type of digital literacy to be particularly salient: the rapid and uneven digital transition meant that negative consequences such as fraud, cyberbullying, and misinformation constituted many participants' primary digital experience, in the form of online fraud, cyberbullying, and misinformation. These are real contextually based issues but they can return to a safety-as-default mentality which overlooks structural aspects.

The TPACK lens (Mishra & Koehler, 2006) emphasize the knowledge gap that is taking place with the TPACK lens. This is because the technological knowledge of the participants was acquired by its application to the Course, the pedagogical knowledge was acquired within the Course, and the content knowledge, in terms of digital citizenship as law, citizenship and rights, was created in a systematic way. This imbalance may result in TPACK integration that is pedagogically sophisticated, but is not as conceptually deep as it could be in its content base.

The current study findings also align with the literature on the gap in teacher education in Pakistan, which shows that teacher education programmes tend to favour theoretical over practical teacher learning and consistently address only a partial conception of digital citizenship (Pervaiz, 2026). This study adds to this documentation by explicating the concept of the problem: The gap is not only practical but also conceptual; prospective teachers hold a narrow understanding of what they are being prepared to teach.

Implications

The results show that teacher preparation curricula need to focus on conceptuality as well as practical aspects of curriculum reform. Digital citizenship is frequently reduced to modules framed around safety and ethics, omitting the legal, civic, and rights dimensions. What is missing from a programme is as significant as what is in it, as explained in Theme 4. This study evidences that there is a conceptual gap, that a curriculum that focuses on Ribble 's (2015) full 9-element framework with an explicit focus on digital law, digital rights, and civic participation would help address. As for policy, this is clearly an indication that national endorsement of digital competence must specify what teacher education programmes are required to cover and how outcomes are assessed. Without precise competence frameworks, policy aspirations will not translate into programmes that address legal and civic dimensions.

Limitations

The conclusions and arguments in this study are based on the experiences of 10 participants from one institution in one district of Punjab only. The findings are analytically transferable, as the conceptual patterns align with and extend those in existing literature; however, they are not empirically generalisable to all teacher education institutions in Pakistan. Proximity to the research site enabled familiarity with participants but also risked over-familiarity in interpretation. The institutional range of the data is limited to one public university.

Conclusion

This study explored the nature of the idea of digital citizenship held by prospective teachers of a public university in Punjab, Pakistan, and what the idea of digital citizenship reveals in terms of proper support for teacher education. Four themes emerged: a safety-centred frame acting as a ceiling; experiential knowledge as both a resource and constraint; a gap between propositional and procedural knowledge; and structured conceptual silences reflecting systematic omissions in teacher education. Together, the themes reveal prospective teachers' coherent but narrow grasp of digital citizenship and their limited awareness of what they do not know.

This study contributes to theory by applying Reflexive TA to conceptually analyse the problem of teachers' knowledge in a non-Western teacher education context, complementing and extending the teacher beliefs literature by demonstrating the cross-cultural persistence of the safety-centred frame. Its practical contribution lies in the specificity of the diagnosis: amply ignored issues in digital citizenship extend beyond the formal knowledge gaps identified in prospective teachers–a legal, civic, and rights-based gap that formal education must address.

Adding topics to the digital citizenship curriculum is insufficient. It demands an approach that makes more visible and calls into question the beliefs of the safety-minded candidate teachers carried over in programmes, foregrounds the full spectrum of digital citizenship, including digital law, civic participation, and digital rights, and embeds conceptual understanding in practice-oriented learning that develops both propositional and procedural knowledge. This requires teacher education to reframe digital citizenship as a civic and legal construct, not merely a behavioural one.

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