



# DEVELOPING A SCHOOL-BASED FRAMEWORK FOR DIGITAL CITIZENSHIP IMPLEMENTATION IN CIVIC EDUCATION: INSIGHTS FROM TEACHERS AND EXPERTS IN BANDA ACEH

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## Article Info

## ABSTRACT

### Keywords:

*Digital Citizenship, Civic Education, Implementation Framework, Teachers' Perceptions*

In the digital era, Civic Education must evolve to address students' online behaviors, responsibilities, and participation as digital citizens. However, many high school educators in Indonesia lack the guidance, confidence, and institutional support to meaningfully integrate digital citizenship into their teaching. This study aims to explore the challenges and needs experienced by Civic Education teachers and experts, and to develop a practical school-based framework for implementing digital citizenship in senior high schools in Banda Aceh. Employing a qualitative research design, data were collected through in-depth interviews with seven Civic Education teachers and three national education experts. Thematic analysis was used to identify key patterns across participant narratives. The findings reveal major challenges, including uncertainty in curriculum integration, low teacher digital literacy, and limited stakeholder collaboration. Teachers expressed a need for structured training, contextualized teaching templates, and stronger institutional support. Based on these insights, the study proposes a three-phase implementation framework: (1) planning and stakeholder engagement, (2) curriculum-based integration using active learning, and (3) continuous evaluation and reflection. The study concludes that successful integration of digital citizenship requires systemic collaboration, professional development, and adaptive policy reforms. These findings contribute theoretically by advancing context-sensitive models of digital civic education grounded in empirical teacher perspectives, and practically by offering an actionable framework to guide schools, policymakers, and curriculum developers in fostering responsible and participatory digital citizens within the Indonesian education system.

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## 1. INTRODUCTION

The integration of digital citizenship into Civic Education has become a pressing issue in the 21st century, where civic participation and identity are no longer confined to physical spaces but increasingly

shaped by online interactions. This transformation is particularly relevant in today's educational landscape, as young people encounter complex digital environments that require ethical awareness, critical thinking, and responsible behavior. These demands go beyond conventional civic instruction and call for updated pedagogical approaches that prepare students for active engagement in digital society. UNESCO (2021) emphasizes that developing digital citizenship competencies—such as digital ethics, online safety, media literacy, and digital rights—must be a core educational goal. The OECD (2022) further reports that although 94% of adolescents in Southeast Asia access the internet daily, fewer than 40% receive systematic instruction on how to engage responsibly online. In Indonesia, Kominfo (2023) documented a significant rise in digital threats affecting youth, including cyberbullying and misinformation. Yet, most schools lack structured programs to address these issues. These data highlight the urgent need for Civic Education to incorporate digital citizenship in meaningful and contextually appropriate ways, particularly in Banda Aceh, where religious values, local culture, and youth digital behavior intersect in ways that demand localized educational solutions.

Although the concept of digital citizenship has gained traction in global education discourse, a considerable gap persists between theoretical frameworks and their practical applications, especially in non-Western settings such as Indonesia. Many widely cited models—including Ribble's (2022) nine elements and Choi's (2016) framework on democratic engagement—were developed in Western contexts and prioritize abstract ethical ideals over classroom implementability. Greenhow and Lewin (2022) also argue that much of the research focuses on students' online behaviors without adequately exploring how educators facilitate digital citizenship in authentic learning environments. Simões et al. (2024) emphasize the lack of embedded training opportunities in teacher education programs, which leaves many educators underprepared to integrate digital literacy and ethics into their pedagogy. Critically, Fajri, Budimansyah, and Komalasari (2022), through a systematic literature review, reveal that Civic Education remains underutilized as a platform for digital citizenship, with many studies lacking pedagogical depth and failing to address practical curriculum integration. These concerns are echoed by Prasetyo et al. (2023), who highlight the role of project-based learning but acknowledge its limitations in systemic implementation. Consequently, this study aims to fill the gap by designing a pedagogically grounded and empirically informed school-based framework, rooted in the lived realities of Civic Education teachers in Banda Aceh.

Beyond theoretical limitations, digital citizenship education in Southeast Asia faces significant challenges related to cultural, religious, and institutional alignment. Most global models take a universalist approach, often neglecting how localized values—such as collectivism, spirituality, and communal responsibility—influence civic identity formation. In Aceh, for instance, Islamic ethical traditions play a central role in school life, necessitating models of digital citizenship that are culturally respectful and pedagogically relevant. However, Kimmons (2020) critiques international frameworks for lacking sociocultural sensitivity, while Kurniawati et al. (2023) point out the limited readiness among Indonesian Civic Education teachers to address digital ethics in class. The importance of culturally responsive approaches is underscored in studies by Sim (2019) and Zhang & Ho (2022), which stress the need for localized educational strategies in Singapore and Malaysia, respectively. Furthermore, Fajri et al. (2022) argue that while Civic Education holds great potential to foster digital citizenship, existing policies and frameworks in Indonesia have yet to fully capitalize on this opportunity due to weak contextual integration. Dahliana et al. (2024) and Iskandar et al. (2025) further advocate for models that align national character education with digital competencies. Responding to these gaps, this study proposes a school-based digital citizenship implementation framework built upon empirical insights from teachers and experts in Banda Aceh, ensuring cultural compatibility and pedagogical utility.

The novelty of this study lies in its development of a school-based framework for digital citizenship that is not only grounded in empirical insights from Civic Education teachers but also tailored to the local sociocultural and religious context of Banda Aceh. Unlike previous models that often adopt a one-size-fits-all approach rooted in Western paradigms, this framework integrates Islamic ethical values, communal norms, and localized pedagogical practices, ensuring both cultural relevance and classroom feasibility. By centering the lived experiences of educators in a non-Western setting, this study offers a context-responsive and actionable model for digital citizenship education that bridges global principles with local realities—a contribution that remains largely absent in existing literature.

In response to the gaps in existing literature and practice, this study poses two central questions that guide its investigation into the implementation of digital citizenship in Civic Education at the high school level. These questions are vital to explore the real-world challenges, perceived needs, and strategic possibilities that shape how digital citizenship can be taught effectively within schools—especially in a region like Banda Aceh, where local values and religious norms heavily influence educational processes. Without a grounded understanding of educators' experiences and expert perspectives, any attempt to design a

workable implementation framework may fall short of addressing classroom realities. Accordingly, the study is framed by the following research questions: (1) What are the key challenges and needs identified by teachers and experts in implementing digital citizenship in Civic Education at the high school level? and (2) How can these insights inform the development of a school-based implementation framework for digital citizenship in Civic Education? These inquiries respond directly to the call for more context-responsive and teacher-informed research, as emphasized by Greenhow and Lewin (2022), who argue that digital education policies must be shaped by practitioners' voices to be both effective and sustainable. By grounding the study in these two research questions, the research not only addresses a timely educational concern but also lays the foundation for building a contextually rooted framework with practical value for educators and policymakers alike.

This study argues that the successful implementation of digital citizenship within Civic Education requires the development of school-based frameworks that are grounded in local pedagogical experiences and adapted to the cultural, ethical, and institutional realities of the communities they serve. Rather than applying generic models that may neglect the nuanced intersections of digital ethics, religious values, and civic identity, a context-sensitive approach allows educators to design meaningful and sustainable learning experiences. In Banda Aceh, where Islamic moral education is closely integrated into the school system, adopting Western-centric frameworks without modification risks cultural misalignment and pedagogical resistance. Previous studies reinforce this argument: Kimmons (2020) critiques global digital citizenship standards for their lack of cultural adaptability, while Al-Zahrani (2020) demonstrates how localized frameworks in the Middle East yield better teacher engagement and student outcomes. Furthermore, Selwyn and Jandrić (2021) emphasize that digital citizenship education must engage deeply with place-based pedagogies and avoid one-size-fits-all solutions. Based on these insights, this study contends that a school-based digital citizenship implementation framework—developed through empirical input from teachers and experts in Banda Aceh—can offer a viable model that bridges global principles with local realities, advancing both scholarly and practical approaches to Civic Education in the digital era.

## 2. RESEARCH METHOD

This study focused on the phenomenon of implementing digital citizenship in Civic Education at the senior high school level in Banda Aceh, Indonesia. The object of the research was the practical and institutional efforts made by teachers, schools, and experts in integrating digital citizenship into PKn teaching. The phenomenon was selected because the digital behavior of students is increasingly intertwined with civic identity, yet the formal curriculum in Indonesia has not sufficiently addressed this domain. Banda Aceh was selected as the research site because it is a regional center of education with strong Islamic cultural traditions that shape both civic identity and digital behavior. These unique characteristics make it a strategic context for developing a culturally grounded school-based framework. The five selected senior high schools were all public (SMA Negeri), accredited at least "B," and located in different sub-districts of Banda Aceh. These schools were purposively chosen based on their prior involvement in digital literacy programs and their accessibility for field research. The research was conducted between June and July 2023 across the selected institutions, ensuring the contextual relevance of the findings to urban public education settings.

This study employed a qualitative research approach, which was deemed appropriate to explore the depth of teachers' and experts' perceptions, experiences, and expectations regarding the integration of digital citizenship into Civic Education. The qualitative approach allows researchers to uncover underlying meanings, intentions, and contextual interpretations that cannot be quantified (Creswell & Poth, 2018).

The data collected were primary, obtained directly through field-based methods. The primary data comprised in-depth interviews with Civic Education teachers and educational technology experts. A total of ten interviews were conducted—seven with Civic Education teachers and three with national education experts—with each interview lasting approximately 45 to 60 minutes. This choice aligns with the goal of constructing a school-based implementation framework rooted in local realities, as qualitative inquiry facilitates theory generation from empirical insights (Merriam & Tisdell, 2016).

The study involved ten participants, consisting of seven Civic Education teachers from five different senior high schools (public SMA) in Banda Aceh, and three national education experts with experience in digital learning and curriculum development.

Inclusion criteria for teachers included: (a) currently teaching PKn at the SMA level in Banda Aceh; (b) having at least three years of teaching experience; and (c) willingness to engage in in-depth interviews. Exclusion criteria were teachers who were not currently active in the classroom or had no exposure to digital integration in education. Experts were selected based on their academic and practical contributions to the fields of civic education or digital pedagogy at the national level.

Purposive sampling was used to ensure that participants could provide rich and relevant information regarding the topic (Patton, 2015). All participants were briefed about the objectives of the study, and informed consent was obtained. Pseudonyms were used to maintain the anonymity and confidentiality of respondents. Ethical principles such as voluntary participation and the right to withdraw at any time were strictly upheld throughout the research process.

The research followed four major stages: (1) initial preparation and design, (2) data collection, (3) data organization and transcription, and (4) analysis and validation.

The primary data collection method was semi-structured in-depth interviews, allowing participants to elaborate on their views while enabling the researcher to probe deeper into emerging themes. An interview guide was prepared, covering aspects such as understanding of digital citizenship, instructional challenges, resource needs, stakeholder roles, and suggestions for school-based implementation.

Each interview lasted approximately 45–60 minutes, conducted face-to-face or via online platforms (Zoom/Google Meet) when necessary. All interviews were audio-recorded (with permission) and later transcribed verbatim. Field notes were also taken to capture non-verbal cues and contextual observations. Data collection took place over six weeks from mid-June to late July 2024, ensuring sufficient engagement with each school and participant.

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The data were analyzed using thematic analysis, following Braun and Clarke's (2006) six-phase framework: (1) familiarization with data, (2) initial coding, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the report. This approach enabled systematic identification and interpretation of patterns related to teachers' and experts' insights.

Manual coding was conducted using a combination of deductive categories (e.g., curriculum alignment, digital ethics, stakeholder collaboration) and inductive codes emerging from participant narratives. The process involved repeated reading of transcripts, memo writing, and thematic clustering.

To ensure credibility and trustworthiness, the study applied the following validation strategies:

- a) Triangulation: comparing data across participants and cross-checking with field notes.
- b) Member checking: sharing summarized interpretations with selected participants to verify accuracy.
- c) Audit trail: maintaining detailed documentation of the coding and analytic decisions.

These strategies align with qualitative research best practices for ensuring rigor and transparency (Lincoln & Guba, 1985; Nowell et al., 2017).

### 3. RESULTS AND ANALYSIS

#### *Challenges and Needs in Implementing Digital Citizenship in Civic Education*

The findings indicate that Civic Education teachers in Banda Aceh face several significant barriers in implementing digital citizenship. These include uncertainty about curricular integration, low initial understanding of digital citizenship concepts, lack of confidence, and limited digital resources. As one teacher admitted, "We're unsure where to place digital topics in the syllabus, and afraid to be seen as deviating from core PKn content." (Teacher 3, SMAN 2 Banda Aceh). These limitations are compounded by rapid technological change and students' weak digital ethics, as another participant stated, "Some students bully others online without realizing it's wrong. They need guidance, but we're not prepared." (Teacher 2, SMAN 3 Banda Aceh).

This mirrors global findings by Choi (2016), who argues that educators often lack clarity on how to align digital citizenship with traditional civic learning goals. Ribble (2011) also highlights that without institutional support, teachers may feel overwhelmed in keeping pace with evolving digital norms. The challenge is not only technical, but also pedagogical and cultural. In centralized systems like Indonesia's, curriculum rigidity exacerbates these struggles (Kimmons, 2020).

Teachers and experts agreed that intensive professional development is urgently needed. They emphasized training that is not just conceptual, but practical and contextual. “Workshops must not only explain what digital citizenship is, but simulate how to teach it using real-life examples,” noted one expert (Expert 1). In addition, teachers need culturally relevant lesson templates and support systems. Students also need structured exposure to digital ethics, online safety, and privacy, while parents require guidance on mentoring digital behavior at home. One teacher reflected, “Most parents still think screen time is the only problem—they don’t see the ethical side of digital life.” (Teacher 5).

From a reflective standpoint, these findings point to a widening disconnect between formal civic instruction and students’ lived experiences in digital environments. Traditional PKn often centers around offline civic duties, whereas students are already navigating complex online spaces that involve identity, ethics, participation, and risks. When students’ digital lives are ignored in civic education, schools fail to prepare them for full civic engagement. This aligns with Westheimer and Kahne’s (2004) critique that superficial civic education often neglects meaningful engagement—something increasingly relevant in digital spheres.

The implications are both pedagogical and systemic. Schools must move beyond treating digital issues as extracurricular or reactive. As Hollandsworth et al. (2017) emphasize, sustainable digital citizenship implementation requires school-wide commitment. In the Banda Aceh context, this means forming collaborative teams involving Civic Education teachers, principals, and ICT staff. Moreover, teacher education institutions must embed digital citizenship modules into both pre-service and in-service training programs (Jones & Mitchell, 2016). Policymakers should consider integrating explicit digital citizenship indicators into national PKn curriculum standards.

These challenges stem largely from institutional inertia and a lack of proactive policy frameworks. Teachers operate within constrained autonomy, receive minimal exposure to new digital pedagogies, and rarely have access to updated learning resources. Additionally, sociocultural hierarchies in schools tend to marginalize innovation, especially from younger teachers. This explains why most digital education efforts are fragmented and short-lived. As noted by ISTE (2018), digital citizenship must be “embedded, not appended” to be sustainable.

Going forward, schools need to institutionalize digital citizenship through curriculum alignment, shared leadership, and co-teaching strategies. Pilot models using cross-functional teams can be tested and refined. Research should explore how students perceive their own roles as digital citizens, and how family-school partnerships can reinforce values taught in class. As civic identity expands into digital spaces, Civic Education must evolve accordingly—equipping students not only to engage ethically offline, but also to act responsibly online.

### ***Developing a School-Based Framework for Digital Citizenship Implementation***

To address these challenges, this study developed a school-based implementation framework consisting of three practical phases: (1) Planning and preparation, (2) Classroom integration, and (3) Evaluation and improvement (Figure 1). In Phase 1, stakeholders are involved early to align goals with the existing curriculum and secure leadership support. Teachers shared that planning needs to happen before the semester begins. One said, “If we get clarity early, we can plan digital citizenship topics alongside core civic materials.” (Teacher 4, SMAN 11 Banda Aceh).

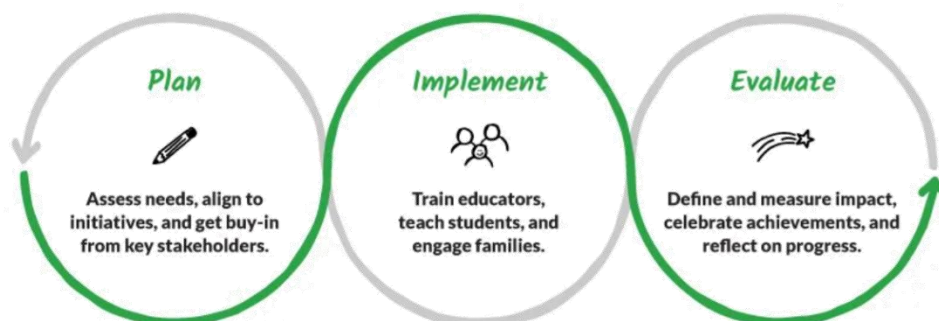


Figure 1. Three-Phase School-Based Framework for Digital Citizenship Implementation in Civic Education

In Phase 2, digital citizenship themes are embedded into PKn instruction using active and contextualized learning approaches. Teachers proposed using social media case studies, debates on digital rights, and

ethical reflections on online behavior. These approaches reflect best practices in participatory civic education, as outlined by Banks (2008), where students analyze contemporary issues to develop critical thinking and democratic values. For example, one teacher shared, “I use viral online content to spark class discussions about digital ethics and laws.” (Teacher 6).

Phase 3 emphasizes evaluating both knowledge and behavior. Suggested tools include reflection journals, digital behavior checklists, and collaborative feedback loops involving parents. One expert emphasized, “We can’t just test understanding—we need to observe whether students apply these values online.” (Expert 2). The evaluation phase also includes teacher reflection, allowing schools to revise strategies based on what works.

This framework provides a structured and adaptive pathway for schools. It is grounded in the local realities of Banda Aceh, yet flexible enough for broader use. The approach aligns with the global shift toward digital civic education that promotes inclusion, participation, and responsible online behavior (Ohler, 2012). Most importantly, it positions digital citizenship not as an add-on, but as a fundamental part of preparing students for life in a connected, ethical society.

This school-based framework, while grounded in the sociocultural and religious values of Banda Aceh, offers transferable principles that can be adapted to various educational contexts. For implementation in other regions, stakeholders can localize the content by integrating region-specific values, social norms, and institutional policies into the planning phase. The active learning strategies proposed—such as using relevant digital dilemmas and participatory classroom tools—can be modified to reflect local media consumption habits, student interests, and ethical concerns. Moreover, the evaluation tools and feedback cycles can be tailored to suit the capacity of different schools and community involvement levels. By offering a balance between structure and flexibility, this framework can serve as a replicable model for advancing digital citizenship education in diverse cultural and national settings, particularly within developing countries where contextual relevance and institutional capacity play a pivotal role in educational reform.

#### 4. CONCLUSION

This study explored the challenges, needs, and opportunities in implementing digital citizenship within Civic Education at the high school level in Banda Aceh, Indonesia. The key findings reveal that teachers face significant barriers in integrating digital citizenship, including uncertainty about curricular alignment, limited conceptual understanding, lack of confidence, and insufficient resources. Additionally, the study highlights the crucial role of stakeholder collaboration, especially involving school leaders, parents, and cross-subject educators. Drawing from the insights of teachers and experts, a school-based implementation framework was developed, consisting of three phases: planning and preparation, classroom integration, and continuous evaluation.

The study contributes conceptually by contextualizing digital citizenship within the Indonesian Civic Education framework and offering a culturally grounded implementation model. Methodologically, it provides a qualitative roadmap for developing practice-oriented educational frameworks based on stakeholder engagement. Practically, the findings offer actionable guidance for policymakers, schools, and teacher training institutions to address the digital behavior gap in civic instruction. Ultimately, this study provides an original and context-sensitive contribution to the discourse on digital citizenship education in developing countries by offering a replicable school-based model that bridges global digital norms with local cultural realities—filling a critical gap in both academic literature and practical policy development.

However, the study has limitations in terms of geographic scope, participant diversity, and time constraints. The data were drawn only from public high schools in Banda Aceh, and future research should involve a wider range of school contexts, including rural and private institutions. Additionally, longitudinal studies are needed to examine the long-term impact of the proposed framework. Further research could also explore student perspectives and the role of digital tools in enhancing civic competencies.

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