

## Integrating Digital Ethics and Etiquette into Digital Literacy: A Hybrid Learning Framework for Elementary Schools in Indonesia

Anggia Rita Andriana<sup>1\*</sup>, Imam Khalid<sup>2</sup>,

---

### AFFILIATIONS

1. Universiti Utara Malaysia, Malaysia
2. Universiti Sains Islam Malaysia, Malaysia

\*Corresponding authors:  
Anggia\_rita\_a@ahsgs.uum.edu.my

Received 2026-01-16  
Accepted 2026-05-16  
Published 2026-05-30

Copyright © 2026 by  
Author(s).  
This work is licensed under  
Creative Commons Attribution  
4.0 International license (CC  
BY 4.0).

### ABSTRACT

This study proposes a hybrid learning framework to integrate digital ethics and etiquette into digital literacy in Indonesian elementary schools. Analysis reveals a gap between contemporary digital literacy concepts, which encompass digital citizenship dimensions, and national curriculum implementation that still focuses on technical aspects. The designed framework consists of three main components: (1) Tiered Content Integration to build self-awareness and responsibility; (2) Synchronization of Online-Offline Methods that connects digital exploration with offline reflection; and (3) Value-Based Contextualization that uses Indonesian local wisdom such as *tepo seliro* (mutual respect) and *gotong royong* (cooperation) as its foundation. The research employs a qualitative approach with content analysis of literature, policies, and teaching materials. The findings identify an urgent need for a holistic approach and strategic implications such as enhancing teacher competencies and addressing infrastructure gaps. This framework is expected to help shape a young generation that is not only technologically proficient but also ethical and responsible in the digital ecosystem.

### KEYWORDS:

Digital Etiquette, Digital Literacy, Elementary School, Hybrid Learning, Local Wisdom

---

## INTRODUCTION

The global digital transformation era has driven an extraordinary acceleration of technology adoption in Indonesia, particularly among the younger generation. A recent survey by the Indonesian Internet Service Providers Association (APJII, 2025) reveals continuously increasing internet penetration, including among school-age children. However, this ease of access to information and communication is accompanied by concerns over low ethics and politeness in online interactions. Incidents such as the spread of hoaxes (Indonesian Telematics Society, 2019), cyberbullying, and toxic communication (Trott, 2022; Lee, 2022) have become new social challenges. This context indicates that merely having access and technical skills (digital literacy) is no longer sufficient. As digital natives, children need to be equipped with a deep understanding of responsible behavioral norms in cyberspace to create a healthy and productive digital ecosystem (Buchholz et al., 2020).

This phenomenon is increasingly prominent in the Indonesian elementary education environment. Elementary School (SD) is a critical phase in the formation of basic character values and socialization. Although the Ministry of Education and Culture has issued various

digital literacy guidelines (Kemendikbud, 2016, 2017; Kemendikbudristek, 2021), the focus often remains limited to functional aspects such as internet safety and information search. Meanwhile, digital soft skill dimensions, particularly netiquette and digital civility in online communication, have not received systematic and integrated portions in the curriculum. Yet, the learning experience during the COVID-19 pandemic has further confirmed that digital space is an extension of the classroom and social life (Buchholz et al., 2020). Therefore, there is an urgency to build a strong foundation of digital citizenship from an early age, which includes not only technical abilities but also ethical awareness and social politeness in interacting in the virtual world.

## Literature Review

The concept of digital literacy has evolved significantly. Initially, digital literacy was more often approached as a set of technical and cognitive skills for using digital devices and information (Spante et al., 2018; Reddy et al., 2020). However, recent developments in academic studies have expanded this definition to include social, cultural, and ethical dimensions. Audrin and Audrin (2022), in their systematic literature review, conclude that effective digital literacy must include critical, collaborative, and creative abilities, as well as awareness of the social impact of digital actions. Similarly, Falloon (2020) introduces a teacher digital competency framework emphasizing the importance of pedagogical and ethical aspects, alongside technical skills. These developments indicate a paradigm shift from merely being technology literate to being competent and responsible in the digital ecosystem.

In line with this, the concept of digital citizenship emerges as an umbrella integrating social responsibility into digital literacy. Choi et al. (2017) define it as norms of appropriate and responsible behavior related to technology use, which includes nine elements, among them digital etiquette and digital rights and responsibilities. This concept is reinforced by Carmi et al. (2020) who introduce the term data citizenship, emphasizing data literacy and responsibility in facing mis/disinformation. Essentially, being a good digital citizen requires more than just skills; it requires the internalization of citizenship values such as respect, empathy, and civility in the digital context (Maine, 2021).

On the other hand, studies on character education and local wisdom values in the Indonesian context offer a relevant perspective. Agus (2021) and Asmayawati (2024) emphasize the importance of revitalizing and integrating local wisdom values such as gotong royong (mutual cooperation), respect for parents and teachers, and polite speech into modern education for sustainable character development. These noble values, traditionally taught in face-to-face interactions, have great potential to be transformed into principles of digital etiquette and civility (Sitanggang, 2025). This aligns with research by Sari et al. (2020) which identifies students' digital ethics profiles and finds the need for the cultivation of ethical values contextual to Indonesian culture to prevent risky behavior on the internet.

In the pedagogical context, the hybrid learning approach emerges as a promising model for integrating various learning dimensions. This model, which combines online and offline interactions, allows space to train technical skills while simultaneously reflecting on and practicing values directly (Blau et al., 2020; Wang, 2016). Research by Lawter (2021) also shows that the flipped classroom approach (one form of hybrid learning) can be effective in accommodating students' cultural differences. Thus, a hybrid learning framework has the

potential to become an effective vehicle for simulating real-world and virtual situations, thereby facilitating a more holistic internalization of digital etiquette (Suardipa, 2024).

Nevertheless, literature on measuring digital competency is still dominated by cognitive and technical aspects. Siddiq et al. (2016) and Jin et al. (2020) in their systematic reviews find that most digital literacy assessment instruments focus on ICT-related cognitive abilities, while affective and behavioral aspects such as civility, empathy, and ethical responsibility are often overlooked. This gap indicates the need to develop measurement tools and pedagogical approaches that can capture and build the socio-emotional dimension of digital literacy, especially at the elementary education level (Şahin & Çelikkan, 2020).

Before proceeding, it is important to clarify several related terms used throughout this study. "Digital citizenship" serves as the broadest umbrella concept, encompassing the full range of rights, responsibilities, and norms for appropriate behavior in the digital world (Choi et al., 2017). "Digital civility" refers specifically to the practice of mutual respect, empathy, and constructive engagement in online interactions (Maine, 2021). "Digital etiquette" (or netiquette) denotes the established conventions and polite behavioral norms governing online communication, such as appropriate language use and respectful tone (Buchholz et al., 2020). In this framework, digital citizenship provides the overarching conceptual foundation, while digital civility and digital etiquette represent progressively more specific dimensions that are the primary focus of the proposed integration into digital literacy education.

## Research Gap

Based on the literature review conducted, this study identifies two main unresolved gaps. First, there is a substantial gap between the contemporary concept of digital literacy, which has evolved to include digital citizenship, ethics, and socio-emotional skills, and its implementation in elementary education curricula in Indonesia. Although national guidelines such as the Digital Literacy Guide for Elementary School Teachers (Kemendikbud, 2017) and the Digital Literacy Module (Kemendikbudristek, 2021) as well as recent textbooks (e.g., Arifin et al., 2023) have taken good initial steps, existing materials still tend to focus on functional and technical aspects, such as internet safety and device operation. Explicit, systematic, and measurable integration of digital etiquette (netiquette) and digital civility principles into the digital literacy framework for elementary students remains very limited. Concretely, there is no comprehensive learning module specifically designed to build the foundation of character and positive behavioral norms in online interactions from an early age.

Second, there is a methodological gap in teaching approaches to achieve this goal. Although the potential of the hybrid learning approach for character education and literacy has been recognized (Blau et al., 2020; Suardipa, 2024), research that specifically designs and tests a hybrid learning framework to instill digital etiquette and civility in elementary school-age children in Indonesia is still very rare. Most previous studies, such as Hamzah's (2025) research on bystander intervention or Feng's (2025) on cyberbullying prevention, focus more on adolescent or teacher populations, as well as specific negative behavioral aspects. Therefore, it is necessary to conceptualize a learning model that not only integrates content about digital ethics and civility into the literacy curriculum but also strategically utilizes the synergy between online and offline learning. This model also needs to accommodate and actualize Indonesian local wisdom values, such as *gotong royong* and *tepo seliro* (empathy,

consideration for others) (Agus, 2021; Julianti, 2025), to make it more relevant, contextual, and effective in shaping student character.

### **Aims and Contributions**

Referring to the background and research gaps presented, this study has three specific aims. First, to conduct a needs assessment for integrating digital etiquette and civility dimensions into digital literacy learning at the Elementary School level. This analysis is conducted considering teachers' perspectives, alignment with the operational curriculum, and relevance to Indonesian local wisdom values. Second, to design a hybrid learning framework model that synergistically combines online and offline activities. This framework is designed to teach and train principles of digital etiquette and civility contextually and applicatively.

The contributions of this research are expected to be twofold: theoretical and practical. Theoretically, this research will enrich academic discourse in the fields of digital literacy and character education by proposing an integrative model. This model bridges the technical, social, and ethical dimensions of digital literacy, especially in the context of early-age education and Indonesian culture. Thus, this research can complement and contextualize existing digital citizenship frameworks (Choi et al., 2017; Carmi et al., 2020) through a hybrid pedagogical approach based on local values. Practically, this research will produce implementable products in the form of a prototype learning framework and innovative teaching modules. These products can become concrete references for teachers, schools, and policymakers (such as Kemendikbudristek) in developing more holistic and character-building-oriented digital literacy education. By instilling the foundations of digital etiquette and civility from an early age, this research is ultimately expected to contribute to shaping a young Indonesian generation that is not only technologically competent but also ethical, civilized, and responsible in every interaction in digital space.

## **METHODOLOGY**

### **Research Approach**

This study uses a qualitative approach with qualitative content analysis methods. The main goal of this approach is to build a robust conceptual framework through systematic and critical synthesis of literature, as stated by Creswell and Poth (2018). This approach was chosen because the research focus is to explore, analyze, and reconstruct key concepts, such as digital literacy, digital etiquette and civility, hybrid learning, and Indonesian local wisdom values, into a coherent and contextual framework proposition for the elementary school level. Such analytical qualitative research allows for an in-depth exploration of meaning and relationships between concepts from various text sources, without the aim of testing hypotheses or producing a physical product at this stage, in line with the views of Braun and Clarke (2006) and Schreier (2012).

### **Data Sources and Analysis Technique**

The main data sources consist of academic and policy text documents identified in the literature review. The scope includes international and national scientific journal articles related to core topics, Indonesian national education policy documents (such as guidelines

from Kemendikbud in 2016, 2017, and Kemendikbudristek in 2021), as well as recent relevant textbooks or teaching modules, for example, the work of Arifin et al. (2023). Source selection is based on criteria of relevance, authority, and timeliness, as outlined by Prior (2003). In total, approximately 51 documents were analyzed, comprising peer-reviewed journal articles (n=38), national policy documents and official guidelines (n=5), textbooks and teaching modules (n=3), and grey literature including survey reports (n=5). Inclusion criteria required that documents: (a) address digital literacy, digital citizenship, digital etiquette, or character education; (b) be published in reputable academic outlets or by recognized institutions; and (c) be available in English or Indonesian. Documents were excluded if they focused exclusively on higher education or adult populations without relevance to elementary-level pedagogy. Data collection was conducted through systematic documentation studies. To ensure data reliability, a source triangulation strategy was applied, namely comparing and confirming findings from various types of documents, including policies, academic studies, and teaching materials, to obtain a comprehensive understanding and reduce bias, as suggested by Bowen (2009) and Gall, Borg, and Gall (2007).

Data analysis was conducted in stages following qualitative content analysis principles. The first stage was in-depth reading and familiarization, involving close reading and paraphrasing of all documents to capture central ideas and their context. Next, coding was performed deductively based on research questions and predetermined key concepts, and inductively to accommodate new concepts emerging from the data. Codes were assigned to relevant text segments, such as “digital civility components” or “hybrid learning strategies”. Similar codes were then grouped into broader categories, which were further framed into main themes to identify patterns, relationships, and especially gaps in the existing literature. The final stage was critical synthesis and interpretation, where the identified themes were logically arranged to answer research questions and build the proposed hybrid learning framework proposition.

### **Data Validation**

To ensure the validity of findings, this study applied several strategies. First, maintaining an audit trail or detailed and systematic analytical process record. Second, conducting peer debriefing through regular discussions with colleagues or experts in the fields of education and digital literacy to evaluate the process and data interpretation. Third, analysis was stopped when thematic saturation was reached, that is, when adding new data no longer provided significant new insights or themes, in accordance with the guidance of Creswell and Poth (2018). Academic integrity was maintained through accurate citation and responsible paraphrasing. With this method, the research aims to produce a conceptual framework construct based on systematic interpretation, accountable, and sourced from a relevant body of literature.

## **FINDINGS AND DISCUSSION**

### **Policy Gap and Resonance of Local Values as the Basis for Integration Needs**

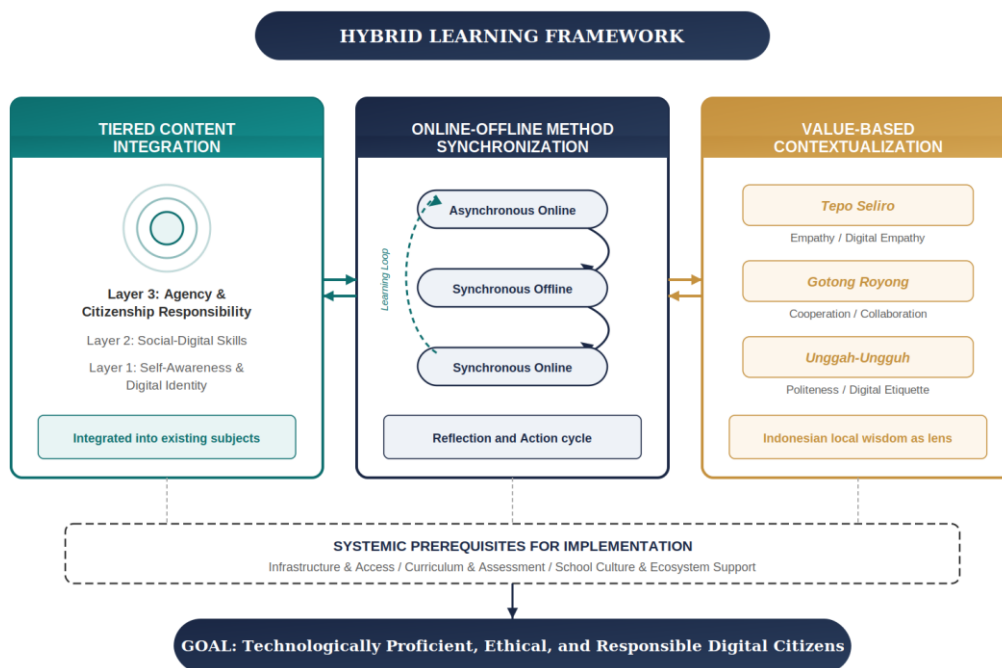
An in-depth analysis of national policy documents and school operational curricula reveals a dissonance between the formal scope of digital literacy and the manifestation of real needs in the field. Although the Digital Literacy Guide for Elementary School Teachers

(Kemendikbud, 2017) and the latest Digital Literacy Module (Kemendikbudristek, 2021) have shown progress by initiating discussions on internet safety and data privacy, qualitative content analysis indicates that the depth of relational and normative aspects in digital interaction is still minimal and tends to be implied. These documents function more as a list of warnings (don'ts) rather than constructive guides for building positive habits (dos), such as how to express opinions politely in online forums or strategies for responding to provocative content without escalating conflict. Meanwhile, empirical findings from research such as Sari et al. (2020) in Surakarta confirm that low understanding of digital ethics directly correlates with increased student involvement in risky behaviors such as cyberbullying and spreading unverified information (Kbaier, 2024; Rubin, 2019). This gap confirms that existing policy frameworks are still reactive and instrumental, not yet proactively building a foundation of civilized digital character from an early age.

On the other hand, exploration of Indonesian local wisdom and cultural literature reveals a very rich and relevant value foundation to serve as a conceptual basis for digital etiquette. Agus's (2021) study on the revitalization of traditional culture for character development and Julianti's (2025) work on Subak values in modern education show that values such as togetherness (*gotong royong*), polite language (*unggah-ungguh*), wisdom in filtering information, and empathy/consideration (*tepo seliro*) are not obsolete concepts (Sitanggang, 2025). These values have strong structural resonance with global digital civility principles, such as respect for others, empathy, and constructive collaboration (Choi et al., 2017; Carmi et al., 2020). For example, the philosophy of *tepo seliro* (feeling what others feel) can become a deeper emotional foundation for understanding the consequences of cyberbullying or harsh comments compared to mere prohibition rules. Therefore, the need to integrate digital etiquette and civility actually emerges as a strategic opportunity to perform cultural synthesis: filling the gap in digital literacy policy by enriching it through the exploration and adaptation of local values already alive in society (Asmayawati, 2024; Rahardjo, 2018). This approach not only addresses negative behavior problems in the digital world but also strengthens students' cultural identity in the global landscape, in line with Maine's (2021) argument about the importance of placing cultural literacy at the heart of learning.

### **Hybrid Learning Framework Architecture: Integration, Synchronization, and Contextualization**

To provide a comprehensive overview of the proposed framework before elaborating on each component in detail, Figure 1 presents a visual representation of the overall architecture. This diagram illustrates how the three main components interact with one another and are supported by systemic prerequisites to achieve the intended educational goal.

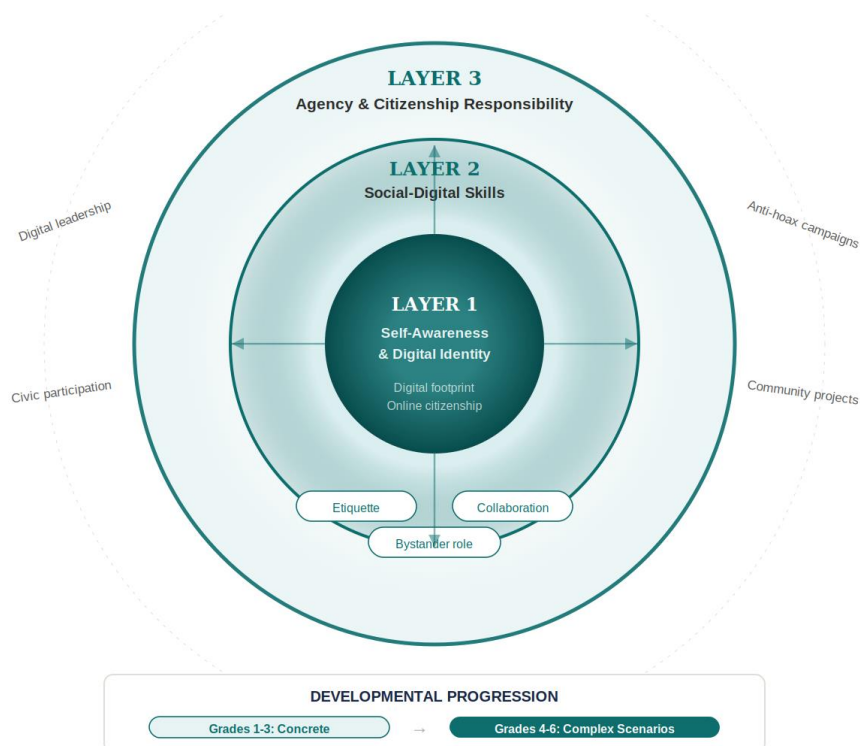


**Figure 1.** Hybrid Learning Framework Architecture: Three mutually reinforcing components supported by systemic prerequisites for implementation.

Based on the synthesis of findings from contextual needs and analysis of effective learning models, a conceptual hybrid learning framework was designed consisting of three mutually reinforcing architectural components: Tiered Content Integration, Online-Offline Method Synchronization, and Value-Based Contextualization. The Tiered Content Integration component proposes a material structure that is no longer linear and separate, but in the form of concentric layers integrated into existing subjects. The core layer is Self-Awareness and Digital Identity, building understanding about digital footprints and online citizenship. The second layer is Social-Digital Skills, explicitly teaching communication etiquette (e.g., clear and polite message structure), collaboration skills in digital projects, and the role as a positive bystander to prevent conflict, in accordance with Hamzah's (2025) findings on bystander intervention. The outermost layer is Agency and Citizenship Responsibility, involving students in real projects such as anti-hoax campaigns in the school community, thereby translating literacy into action. Importantly, the depth and complexity of each layer should be adapted to students' developmental stages. For early grades (Grades 1–3), Self-Awareness and Digital Identity may focus on recognizing personal information and understanding that online actions leave traces, using concrete visual media such as picture stories. For upper grades (Grades 4–6), students can engage with more complex scenarios, such as analyzing the consequences of sharing others' photos without consent and developing strategies for responding to cyberbullying. Similarly, the Agency layer can progress from simple classroom-based projects in early grades to broader school-community digital campaigns in upper grades.

Figure 2 visualizes this layered structure as a concentric model. The innermost circle represents the foundational layer of self-awareness and digital identity, which expands outward through social-digital skills to the broadest layer of agency and citizenship responsibility. The concentric design reflects how each layer builds upon the preceding one, ensuring that students develop a progressively deeper understanding of their roles and responsibilities in the digital ecosystem. The developmental progression bar at the bottom

indicates how content complexity increases from concrete, guided activities in early grades to more autonomous and scenario-based learning in upper grades.



**Figure 2.** Tiered Content Integration: Concentric layer model with developmental progression from Grades 1-3 (concrete) to Grades 4-6 (complex scenarios).

The Online-Offline Method Synchronization component details a synergistic cyclical learning flow. The Asynchronous Online Phase is utilized for concept introduction through short animated videos, independent exploration of case studies (e.g., screenshots of problematic group chats), and simple data collection. This phase leverages time and space flexibility while preparing students for deeper learning experiences (Wang, 2016). Subsequently, the Synchronous Offline Phase in the classroom becomes a critical moment where the teacher facilitates reflective discussions, ethical debates, and role-play simulations based on online materials. Here, abstract concepts from the virtual world are confronted with social and emotional reality in physical space. The cycle then returns to the Synchronous Online Phase (e.g., via video call) for presentation of discussion results or implementation of small collaborative projects between groups, thereby creating a learning loop that continuously connects reflection with action, as advocated in social constructivist models (Blau et al., 2020; Suardipa, 2024).

The Value-Based Contextualization component functions as a lens and adhesive that illuminates and unites the two previous components. Each layer of content and each phase of the method is colored by examples and narratives taken from local wisdom. The following table presents concrete examples of this contextualization:

**Table 1. Digital Civility Principles and Local Wisdom Values in Hybrid Learning**

Local Wisdom Value	Digital Civility Principle	Hybrid Learning Activity
<i>Tepo Seliro</i> (Empathy/Consideration)	Digital Empathy & Avoiding Cyberbullying	Online: Analyzing local folk tales about empathy. Offline: Role-play simulating hurtful chats & designing empathetic responses.
<i>Gotong Royong</i> (Cooperation)	Collaboration & Positive Contribution on Digital Platforms	Online: Collaborating on an online document to create a class netiquette guide. Offline: Group presentation and reflection on challenges of online cooperation.
<i>Unggah-Ungguh</i> (Politeness/Manners)	Polite Communication & Social Media Etiquette	Online: Observation and categorization of comments on Indonesian educational platforms. Offline: Creating a "digital book" of communication manners for the class, inspired by traditional manuscripts.

### Strategic Implications and Systemic Prerequisites for Implementation

Findings regarding needs and framework design naturally lead to the identification of systemic implications and implementation challenges. The most profound implication is a paradigm shift in the role and competency of teachers. Teachers are no longer sufficient as technology operators or information providers, but must function as digital ethics facilitators and role models (digital role models) in the digital environment. This requires complex competencies: mastery of basic technology, understanding of hybrid pedagogy, depth of insight into local wisdom values, and maturity in digital socio-emotional intelligence to guide dilemmatic discussions and model civility in their own online interactions with students and parents (Falloon, 2020). Studies by Instefjord & Munthe (2016) and Fraile et al. (2018) have long affirmed that the success of technology integration depends on teachers' pedagogical-digital competencies, which unfortunately remain a weak point in many teacher training programs in Indonesia (Srirevathi, 2025). This gap suggests that pre-service teacher education programs (LPTK) may also need restructuring to include modules on digital ethics facilitation, value-based pedagogy in digital contexts, and practical experience with hybrid learning models, so that future teachers enter the profession already equipped with these competencies.

Implementation challenges can be mapped into three interrelated domains. The Infrastructure and Access domain presents the most immediate concern. The ideal hybrid framework requires reliable internet connectivity and adequate devices, both at school and in students' homes. The reality of the digital divide between urban and rural areas, as documented by Fahmi (2022) and impacting the literacy of rural students (Usman et al., 2025), creates serious equity challenges. Implementation may have to start with low-tech or offline-first models in certain areas, where digital content is distributed via external memory and the synchronous phase is replaced with intensive teacher guidance, as discussed regarding inclusivity in digital literacy by Nedungadi et al. (2018).

Equally pressing is the Curriculum and Assessment domain. Integrating new affective and behavioral content into a packed curriculum requires strong school policy support and careful curriculum mapping. More complex is the development of authentic assessment instruments capable of capturing the development of attitudes and polite digital behaviors, such as rubrics for assessing the quality of participation in online discussion forums or student reflection portfolios, an area still rarely explored according to Siddiq et al. (2016) and Jin et al. (2020). As a preliminary suggestion, assessment of digital etiquette development could incorporate three complementary approaches: (a) observation rubrics that evaluate the quality and civility of student interactions during online collaborative activities; (b) reflective digital portfolios in which students document their online experiences and critically evaluate their own digital behavior over time; and (c) peer assessment structures where students provide constructive feedback on each other's online communication practices. These approaches align with formative assessment principles and can capture both attitudinal growth and behavioral change in ways that traditional tests cannot.

Beyond infrastructure and curriculum, the School Culture and Ecosystem Support domain constitutes the broader enabling condition. Success requires transforming school culture into an environment that consistently prioritizes civility values, both in the real and digital worlds. This requires commitment from all stakeholders, including principals and parents, as well as possibly building partnerships with local communities to reinforce messages about the wisdom values used as the learning foundation (Mehta, 2019; Tuzel, 2017). In other words, this framework will not stand alone; it requires a coherent supporting ecosystem to be implemented effectively and sustainably.

## DISCUSSION

The findings of this study collectively build a coherent argument: that digital literacy in Indonesian elementary schools requires a paradigm transformation from an instrumental-technical approach to an integrative, value-based, and contextual approach. This discussion will reflect on how the proposed hybrid framework not only responds to the identified gaps but also offers significant theoretical and practical contributions to the discourse on digital literacy and character education, particularly in the Global South.

This study strengthens and simultaneously expands the concept of digital citizenship by localizing it through local wisdom. The digital citizenship concept of Choi et al. (2017) and the data citizenship vision of Carmi et al. (2020) have established a universal foundation of rights, responsibilities, and participation. However, its implementation often experiences decontextualization. By explicitly mapping universal principles such as respect and empathy into specific values such as *tepo seliro* and *unggah-ungguh*, this research performs the important work of glocalization, the process of making the global locally relevant (Asmayawati, 2024). This addresses criticism that digital citizenship education is often imported and does not touch the socio-cultural reality of students (Shuter, 2018). By making local wisdom not merely decoration, but as an interpretive lens and content source, this framework offers a way to build a digital identity not uprooted from cultural roots, thereby potentially increasing the sense of ownership and sustainability of learning (Agus, 2021; Julianti, 2025). This is a form of small decolonization in the digital literacy curriculum, in line with the spirit of *Merdeka Belajar* (Freedom in Learning) which emphasizes the Pancasila Student Profile.

Beyond localization, the proposed synergistic hybrid design provides a mature response to the complexity of building ethical behavior in the digital age. This approach recognizes that procedural knowledge about etiquette (such as "do not write in all caps") can be taught online, but the internalization of values, moral consideration in ambiguous situations, and habit formation require rich social interaction and direct guidance. Thus, this framework intelligently leverages the medium to match learning objectives: online space as a practice field and exploration space, while offline space as a reflection space and character workshop (Blau et al., 2020; Lawter, 2021). This cycle reflects Vygotsky's (1978) social constructivist learning theory, where learning occurs through social interaction and guidance from a More Knowledgeable Other, in this case the teacher. The finding that a well-designed learning environment can enhance both self-regulation and digital literacy finds its operational form in this model (Blau et al., 2020; Suardipa, 2024). By combining the flexibility of technology with the depth of face-to-face interaction, this framework has the potential to overcome one major weakness of pure online learning: the lack of opportunity for developing socio-emotional skills that are the very foundation of digital civility (Pangrazio & Sefton-Green, 2020).

Equally important, the discussion of systemic implementation challenges shifts the focus from merely the validity of a conceptual model towards the complex reality of the educational ecology. The emphasis on the teacher's role as a digital ethics facilitator and digital role model reinforces the calls by Falloon (2020) and Instefjord & Munthe (2016) that investment in teachers' pedagogical-digital competencies is a frequently overlooked key. Consequently, professional development programs for teachers to support this framework can no longer be one-way technical training, but must be sustainable communities of practice, where teachers together experiment, reflect on practice, and develop contextual materials (Blayone, 2021; Şahin & Çelikkan, 2020). Furthermore, the recognition of wide infrastructure gaps (Fahmi, 2022; Usman et al., 2025) demands that this framework be designed with resilience and inclusivity principles. This means the framework must be adaptable to low-resource contexts, for example by utilizing community radio to disseminate digital civility messages, or using a single projector at school for simulation discussions (Reddy, Chaudhary, & Hussein, 2023). Thus, this discussion reminds us that educational innovation must be sensitive to inequality and not create new digital segregation.

Ultimately, this research paves the way for further testing and refinement. The proposed framework needs to be tested in action (action research) to evaluate its effectiveness in changing student attitudes and behaviors, as well as its impact on school climate. Further research can also explore how local wisdom values from various ethnic groups in Indonesia can be curated and integrated into a national repository of teaching materials accessible to teachers. By focusing on the integration of etiquette and civility, this research not only seeks to reduce the negative effects of the digital world but, more visionarily, attempts to utilize digital space as a new vehicle to strengthen and practice the nation's noble values, shaping a generation that is not only technologically competent but also civilized and of strong character in every interaction, both in the real and virtual worlds. While this framework was designed specifically for Indonesian elementary schools, the underlying principle of glocalization (mapping universal digital civility concepts onto culturally specific values) may be applicable to other cultural contexts. Educators in other countries could adapt this model by substituting local cultural values relevant to their communities while retaining the tripartite framework architecture. However, such adaptation would

require careful consideration of each context's unique infrastructure conditions, teacher preparation systems, and cultural norms, and thus warrants independent empirical investigation.

## CONCLUSION

In conclusion, this research affirms that transforming digital literacy in Indonesian elementary schools requires a shift from a technical approach to an integrative and value-based model. The proposed hybrid learning framework offers a strategic pathway to systematically integrate digital civility, leverage the synergy of online and offline spaces, and localize the concept of digital citizenship through local wisdom. Its implementation requires systemic support, including enhancing teacher competency, adjusting curriculum and assessment, and committing to address infrastructure challenges. Thus, this study not only aims to reduce negative behavior in the digital world but also positions digital space as a medium to strengthen the nation's noble values in shaping a generation that is both proficient and of strong character.

## Acknowledgement

The authors would like to express their sincere gratitude to Universiti Utara Malaysia and Universiti Sains Islam Malaysia for the institutional support provided during this research. Appreciation is also extended to the reviewers and editors of *Tunjuk Ajar: Journal of Education and Culture* for their constructive feedback, which significantly improved the quality of this manuscript.

## AI Usage Declaration

The authors used Claude AI (Anthropic) as a writing assistance tool during the preparation of this article. The AI was utilized to support language refinement, structural organization, and editorial polishing of the manuscript. All intellectual content, conceptual framework, analysis, interpretation, and conclusions were developed entirely by the authors. The authors reviewed, verified, and take full responsibility for all content in the final manuscript.

## Author Contribution Statement

**Anggia Rita Andriana:** Conceptualization, Methodology, Investigation, Data Curation, Formal Analysis, Writing – Original Draft, Writing – Review & Editing, Visualization. **Imam Khalid:** Supervision, Validation, Writing – Review & Editing.

## REFERENCES

- Asosiasi Penyelenggara Jasa Internet Indonesia. (2025). Laporan Survei Penetrasi dan Perilaku Pengguna Internet Indonesia 2025. <https://apjii.or.id>
- Agus, C. (2021). Revitalization of local traditional culture for sustainable development of national character building in Indonesia. Dalam W. Leal Filho, A. M. Azul, L. Brandli, A.

- Lange Salvia, & T. Wall (Eds.), *World Sustainability Series* (hlm. 347–369). Springer. [https://doi.org/10.1007/978-3-030-78825-4\\_21](https://doi.org/10.1007/978-3-030-78825-4_21)
- Arifin, C., Fedora, & Sulthony, M. M. M. (2023). *Koding dan kecerdasan artifisial untuk SD/MI Kelas V*. Pusat Perbukuan.
- Asmayawati. (2024). Pedagogical innovation and curricular adaptation in enhancing digital literacy: A local wisdom approach for sustainable development in Indonesia context. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(1), 100233. <https://doi.org/10.1016/j.joitmc.2024.100233>
- Audrin, C., & Audrin, B. (2022). Key factors in digital literacy in learning and education: A systematic literature review using text mining. *Education and Information Technologies*, 27(6), 7395–7419. <https://doi.org/10.1007/s10639-021-10832-5>
- Blau, I., Shamir-Inbal, T., & Avdiel, O. (2020). How does the pedagogical design of a technology-enhanced collaborative academic course promote digital literacies, self-regulation, and perceived learning of students? *The Internet and Higher Education*, 45, 100722. <https://doi.org/10.1016/j.iheduc.2019.100722>
- Blayone, T. J. B. (2021). Exploring technology attitudes and personal–cultural orientations as student readiness factors for digitalised work. *Higher Education, Skills and Work-Based Learning*, 11(3), 649–671. <https://doi.org/10.1108/HESWBL-03-2020-0041>
- Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27–40. <https://doi.org/10.3316/QRJ0902027>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Buchholz, B. A., DeHart, J., & Moorman, G. (2020). Digital citizenship during a global pandemic: Moving beyond digital literacy. *Journal of Adolescent & Adult Literacy*, 64(1), 11–17. <https://doi.org/10.1002/jaal.1076>
- Carmi, E., Yates, S. J., Lockley, E., & Pawluczuk, A. (2020). Data citizenship: Rethinking data literacy in the age of disinformation, misinformation, and malinformation. *Internet Policy Review*, 9(2). <https://doi.org/10.14763/2020.2.1481>
- 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>
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE Publications.
- Fahmi, F. Z. (2022). Digitalization and social innovation in rural areas: A case study from Indonesia. *Rural Sociology*, 87(2), 339–369. <https://doi.org/10.1111/ruso.12418>
- Falloon, G. (2020). From digital literacy to digital competence: The teacher digital competency (TDC) framework. *Educational Technology Research and Development*, 68(5), 2449–2472. <https://doi.org/10.1007/s11423-020-09767-4>
- Feng, X. (2025). The relationship between preschool inclusive teachers' perception of traditional culture and digital literacy: The chain mediating role of technology

- acceptance and job insecurity. *Acta Psychologica*, 258, 105141. <https://doi.org/10.1016/j.actpsy.2025.105141>
- Fraile, M. N., Peñalva-Vélez, A., & Lacambra, A. M. M. (2018). Development of digital competence in secondary education teachers' training. *Education Sciences*, 8(3), 104. <https://doi.org/10.3390/educsci8030104>
- Gall, M. D., Borg, W. R., & Gall, J. P. (2007). *Educational research: An introduction* (8th ed.). Allyn & Bacon.
- Hamzah, R. E. (2025). Digital literacy and positive bystander intervention in preventing adolescent cyberbullying. *International Journal of Law and Society*, 4(2), 329–342. <https://doi.org/10.59683/ijls.v4i2.172>
- Instefjord, E. J., & Munthe, E. (2016). Preparing pre-service teachers to integrate technology: An analysis of the emphasis on digital competence in teacher education curricula. *European Journal of Teacher Education*, 39(1), 77–93. <https://doi.org/10.1080/02619768.2015.1100602>
- Jin, K.-Y., Reichert, F., Cagasan, L. P., de la Torre, J., & Law, N. (2020). Measuring digital literacy across three age cohorts: Exploring test dimensionality and performance differences. *Computers & Education*, 157, 103968. <https://doi.org/10.1016/j.compedu.2020.103968>
- Julianti, R. T. (2025). Utilization of MOOC for Subak values extension: Maintaining Balinese local wisdom in modern education. *Journal of Educational Technology and Learning Creativity*, 3(1), 131–137. <https://doi.org/10.37251/jetlc.v3i1.1569>
- Kbaier, D. (2024). Prevalence of health misinformation on social media—Challenges and mitigation before, during, and beyond the COVID-19 pandemic: Scoping literature review. *Journal of Medical Internet Research*, 26, e38786. <https://doi.org/10.2196/38786>
- Kementerian Pendidikan dan Kebudayaan. (2016). *Panduan Gerakan Literasi Sekolah di Sekolah Dasar*. Direktorat Jenderal Pendidikan Dasar dan Menengah.
- Kementerian Pendidikan dan Kebudayaan. (2017). *Panduan Literasi Digital untuk Guru Sekolah Dasar*. Direktorat Jenderal Pendidikan Dasar dan Menengah.
- Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi. (2021). *Modul Literasi Digital di Sekolah Dasar*. Direktorat Sekolah Dasar.
- Lawter, L. (2021). Cross-cultural comparison of digital natives in flipped classrooms. *International Journal of Management Education*, 19(3), 100559. <https://doi.org/10.1016/j.ijme.2021.100559>
- Lee, C. S. (2022). Analyzing Zoombombing as a new communication tool of cyberhate in the COVID-19 era. *Online Information Review*, 46(1), 147–163. <https://doi.org/10.1108/OIR-05-2020-0203>
- Maine, F. (2021). *Dialogue for intercultural understanding: Placing cultural literacy at the heart of learning*. Springer. <https://doi.org/10.1007/978-3-030-71778-0>
- Masyarakat Telematika Indonesia. (2019). *Hasil Survey Wabah Hoax Nasional*. <https://mastel.id/hasil-survey-wabah-hoax-nasional-2019/>

- Mehta, A. (2019). The influence of values on e-learning adoption. *Computers & Education*, 141, 103617. <https://doi.org/10.1016/j.compedu.2019.103617>
- Nedungadi, P. P., Menon, R., Gutjahr, G., Erickson, L., & Raman, R. (2018). Towards an inclusive digital literacy framework for digital India. *Education + Training*, 60(6), 516–528. <https://doi.org/10.1108/ET-03-2018-0061>
- Pangrazio, L., & Sefton-Green, J. (2020). What is digital literacy? A comparative review of publications across three language contexts. *E-Learning and Digital Media*, 17(6), 442–459. <https://doi.org/10.1177/2042753020946291>
- Prior, L. (2003). *Using documents in social research*. SAGE Publications. <https://doi.org/10.4135/9780857020222>
- Rahardjo, T. (2018). Digital media literacy in Samin indigenous people. *E3S Web of Conferences*, 73, 14018. <https://doi.org/10.1051/e3sconf/20187314018>
- Reddy, P., Chaudhary, K., & Hussein, S. (2023). A digital literacy model to narrow the digital literacy skills gap. *Heliyon*, 9(4), e14878. <https://doi.org/10.1016/j.heliyon.2023.e14878>
- Reddy, P., Sharma, B., & Chaudhary, K. (2020). Digital literacy: A review of literature. *International Journal of Technoethics*, 11(2), 65–94. <https://doi.org/10.4018/IJT.20200701.oa1>
- Rubin, V. L. (2019). Disinformation and misinformation triangle: A conceptual model for “fake news” epidemic, causal factors and interventions. *Journal of Documentation*, 75(5), 1013–1034. <https://doi.org/10.1108/JD-12-2018-0209>
- Şahin, H., & Çelikkan, U. (2020). Correlational analysis of the incident factors in the level of digital competence of teachers. *Revista Electrónica Interuniversitaria de Formación del Profesorado*, 23(1), 143–159. <https://doi.org/10.6018/REIFOP.396741>
- Sari, D. I., Rejekiningsih, T., & Muchtarom, M. (2020). Students’ digital ethics profile in the era of disruption: An overview from the internet use at risk in Surakarta City, Indonesia. *International Journal of Interactive Mobile Technologies (IJIM)*, 14(03), 82–94. <https://doi.org/10.3991/ijim.v14i03.12207>
- Schreier, M. (2012). *Qualitative content analysis in practice*. SAGE Publications.
- Shuter, R. (2018). Digital behavior of university students in India and the U.S.: Cultural values and communication technologies in the classroom. *Western Journal of Communication*, 82(2), 160–180. <https://doi.org/10.1080/10570314.2017.1294703>
- Siddiq, F., Hatlevik, O. E., Olsen, R. V., Throndsen, I., & Scherer, R. (2016). Taking a future perspective by learning from the past — A systematic review of assessment instruments that aim to measure primary and secondary school students’ ICT literacy. *Educational Research Review*, 19, 58–84. <https://doi.org/10.1016/j.edurev.2016.05.002>
- Sitanggang, A. O. (2025). A systematic literature review: Character education to build tolerance. *Multidisciplinary Reviews*, 8(10). <https://doi.org/10.31893/multirev.2025201>

- Spante, M., Hashemi, S. S., Lundin, M., & Algers, A. (2018). Digital competence and digital literacy in higher education research: Systematic review of concept use. *Cogent Education*, 5(1), 1519143. <https://doi.org/10.1080/2331186X.2018.1519143>
- Srirevathi, S. D. (2025). Bridging the digital divide: AI-based in-service training for teachers of tribal students. *Asian Journal of University Education*, 21(3), 766–778. <https://doi.org/10.24191/ajue.v21i3.52>
- Suardipa, I. P. (2024). Trikaya Parisudha-based learning management system development: Enhancing digital literacy and numeracy competencies. *Edelweiss Applied Science and Technology*, 8(6), 7430–7436. <https://doi.org/10.55214/25768484.v8i6.3606>
- Trott, V. (2022). Operationalising ‘toxicity’ in the manosphere: Automation, platform governance and community health. *Convergence*, 28(6), 1754–1769. <https://doi.org/10.1177/13548565221111075>
- Tuzel, S. (2017). The use of social media and popular culture to advance cross-cultural understanding. *Comunicar*, 25(51), 63–72. <https://doi.org/10.3916/C51-2017-06>
- Usman, M., Sari, H., Hermansyah, S., Maming, K., Kahar, A., Hasan, & Elfahmi, F. K. (2025). Understanding Indonesian students’ reading knowledge in digital literacy within socio-cultural of rural middle schools. *International Journal of Information and Learning Technology*, 42(5), 432–448. <https://doi.org/10.1108/IJILT-12-2023-0239>
- Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press.
- Wang, Y. H. (2016). Could a mobile-assisted learning system support flipped classrooms for classical Chinese learning? *Journal of Computer Assisted Learning*, 32(5), 391–415. <https://doi.org/10.1111/jcal.12141>