

The Role of Teachers in Fostering Digital Literacy and Citizenship among Elementary School Students

Prince Clinton Immanuel Christian Damanik*, Mohammad Idham Chaled, Feri Dwi Jayanti, Rizki Achmad Husaeni, Anastasia Arta Uli

Universitas Negeri Jakarta, Indonesia

* princedamanik@unj.ac.id (Primary Contact)

ABSTRACT

The rapid growth of digital technology over the past decade has transformed both social and educational life, especially among elementary school students who are increasingly exposed to digital devices and social media. While these technologies offer opportunities for creativity, communication, and information access, they also present risks such as misinformation, cyberbullying, and digital addiction. This study explores the role of teachers in fostering digital literacy and citizenship among elementary school students. Using a qualitative descriptive approach, data were gathered through in-depth interviews and classroom observations involving elementary school teachers in Jakarta. Thematic analysis was employed to identify teachers' strategies, roles, and challenges in nurturing students' digital literacy and civic responsibility. The findings reveal that teachers serve as educators, facilitators, and role models who promote responsible and ethical digital behavior through project-based learning, digital storytelling, moral modeling, and the creative use of interactive media. However, challenges such as limited teacher competence, insufficient contextual teaching materials, and low parental engagement remain. The study highlights the need to strengthen teacher training in digital ethics and pedagogy and offers practical implications for policymakers to enhance digital education aligned with Indonesia's Pancasila Student Profile.

Keywords

Digital Literacy, Digital Citizenship, Elementary Education, Pancasila Student Profile, Teacher Role

Article History

Received: 2025-10-22

Accepted: 2025-11-03

Copyright © 2025, Damanik et al.
Published by MAN 4 Kota Pekanbaru
DOI: [10.56113/takuana.v4i3.166](https://doi.org/10.56113/takuana.v4i3.166)

1. INTRODUCTION

The integration of digital technology into daily life has profoundly reshaped the learning environments of elementary school students. In the contemporary digital era, children engage with smartphones, the internet, and social media from an early age, shaping their communication patterns, information-seeking behavior, and identity formation. While digital platforms offer valuable opportunities for creativity and collaboration, they also expose students to serious risks such as misinformation, cyberbullying, excessive screen time, and exposure to inappropriate content (Arifin et al., 2024; Chen et al., 2021; Heath,

2018). Consequently, equipping students with the ability to navigate these spaces critically, ethically, and responsibly has become an essential component of elementary education in the 21st century.

In Indonesia, the integration of digital technology into primary education is a key strategy for enhancing student engagement and fostering essential twenty-first-century competencies. The *Kurikulum Merdeka* embodies this shift by emphasizing active learning, personalized pathways, and flexible pedagogy that harness technology as a learning medium (Kemendikdasmen, 2025). Students are encouraged to use digital tools for research, data analysis, and creative production, positioning digital literacy as a foundational competence for lifelong learning (Leask & Younie, 2023). However, implementation challenges persist, including unequal access to digital devices and limited teacher training in digital pedagogy, both of which threaten the equitable realization of these goals (Cohen et al., 2007; Mishra & Koehler, 2006).

The notion of digital literacy has evolved beyond mere technical proficiency to include the capacity for critical evaluation, ethical decision-making, and constructive participation in digital communities (Ribble, 2021). Closely intertwined with this is the concept of digital citizenship, which foregrounds individuals' rights, responsibilities, and civic engagement in the digital realm (Choi, 2016; Jones & Mitchell, 2016). International frameworks such as those established by the International Society for Technology in Education (ISTE) outline key competencies including balanced media use, informed content curation, inclusivity, empathy, and responsible participation (ISTE, 2021; Ribble, 2021). These frameworks signify a philosophical transition from restrictive "don't do" rules toward empowering students as proactive, critical, and empathetic participants in digital society (Aryani et al., 2024; Shi et al., 2023; Webster, 2025).

Parallel to this global digital movement, Indonesia maintains a strong commitment to moral and character education rooted in Pancasila, the philosophical foundation of the nation. Encompassing belief in God, humanitarianism, unity, deliberative democracy, and social justice, Pancasila serves as both a moral compass and a framework for civic identity (Kaelan, 2010; Kesuma, 2012). Within Indonesia's education system, Civic Education (*Pendidikan Kewarganegaraan* or *PKn*) functions as the primary conduit for translating Pancasila into pedagogical practice, shaping not only knowledge but also dispositions and moral sensibilities (Pantić & Wubbels, 2012). The synergy between civic education and digital citizenship provides fertile ground for recontextualizing moral and civic learning within the digital age.

Teachers stand at the intersection of these transformative agendas. They are not merely transmitters of knowledge but also moral exemplars and digital mentors who model ethical engagement and critical digital behavior (Christian Damanik et al., 2024; Kaelan, 2010). Their pedagogical choices (from lesson design to classroom dialogue) play decisive roles in translating curricular ideals into meaningful student learning experiences. However, many teachers struggle to contextualize digital literacy within moral and civic frameworks due to limited professional support, uneven access to technology, and the scarcity of localized teaching resources (Arifin et al., 2024; Kemendikdasmen, 2025)

The intersection between global digital citizenship frameworks and Indonesia's Pancasila-based moral education presents a complex pedagogical challenge. This study positions digital citizenship not as direct adoption but as contextual adaptation within the moral and civic principles of Pancasila, aligning global competencies with local ethical

foundations. While international frameworks emphasize autonomy, self-expression, and individual digital rights (Creswell & Poth, 2018; Webster, 2025), Pancasila-oriented education highlights social harmony, collective responsibility, and respect for authority (Pantić & Wubbels, 2012). Reconciling these philosophical orientations requires teachers to adapt educational content and pedagogy that both cultivate critical thinking and preserve cultural coherence. This negotiation process is particularly significant in primary education, where learners are developing foundational ethical and digital dispositions.

In light of these dynamics, this study examines the role of teachers in fostering digital literacy and citizenship among Indonesian elementary school students. It explores how teachers integrate digital tools and civic values into everyday classroom practices, identifies strategies that promote responsible digital participation, and uncovers challenges encountered in the process. Employing a qualitative descriptive approach through interviews and classroom observations, this study seeks to illuminate how teachers nurture ethical, critical, and culturally grounded digital citizens. The findings are expected to inform teacher preparation, curriculum design, and policy development within Indonesia's evolving digital education landscape.

2. METHOD

This study employed a qualitative descriptive approach to explore the role of teachers in fostering digital literacy and citizenship among elementary school students in Jakarta. A qualitative design was selected to capture teachers' authentic experiences and contextual practices that cannot be represented through quantitative methods (Creswell & Poth, 2018; Stake, 1995). Data were gathered through semi-structured interviews, classroom observations, and document analysis of lesson plans and teaching materials. Three senior teachers from three elementary schools in Jakarta participated in this study. All participants had more than seven years of teaching experience and were implementing the *Kurikulum Merdeka*. The participants were selected through purposive sampling to ensure information-rich cases that reflected pedagogical and technological expertise (Yin, 2014).

Data were analyzed using Miles and Huberman's interactive model of (Miles & Huberman, 1994), which involves three concurrent activities: data reduction, data display, and conclusion drawing. Interview transcripts and field notes were coded thematically to identify emerging patterns related to teachers' roles, strategies, and challenges. The credibility of findings was enhanced through triangulation and member checking, while overall trustworthiness was maintained according to Lincoln and Guba's criteria (Lincoln & Guba, 1985). Ethical clearance was obtained to data collection, and all participants provided informed consent with anonymity and confidentiality fully protected. The analysis was guided by the frameworks of technological pedagogical content knowledge (TPACK) (Mishra & Koehler, 2006) and digital citizenship standards (Choi et al., 2017; Ribble, 2021) to understand how teachers integrate digital, ethical, and civic dimensions into elementary education.

3. FINDINGS AND DISCUSSION

3.1. Teachers as Moral Exemplars and Digital Mentors

Teachers in Jakarta serve as both moral educators and digital mentors who guide students to become responsible and ethical users of digital media. The findings indicate that teachers emphasize moral reasoning and social values as integral components of digital learning. Their primary aim is to shape students' understanding of responsible online behavior, including verifying information, maintaining respect, and demonstrating empathy in media use. This finding aligns with Kaelan's (2010) and Kesuma's (2012) perspectives on teachers as moral exemplars who model ethical behavior for students to emulate. Teachers' modeling of digital ethics supports Ribble's (2021) framework of digital citizenship, which promotes positive interaction and responsible engagement in digital spaces. Furthermore, the integration of digital literacy and civic values reflects the vision of the *Kurikulum Merdeka* (Kemendikdasmen, 2025), which emphasizes character-based education and the Pancasila values of collaboration and social justice (Pantić & Wubbels, 2012).

Teachers perceive their role as encompassing both the development of students' technological proficiency and the cultivation of moral consciousness. Their practices are grounded in a sense of moral responsibility to guide children in using digital media not merely skillfully but ethically and collaboratively. Teachers' pedagogical choices, such as encouraging respectful communication, promoting empathy in online interactions, and fostering shared responsibility in digital group work, reflect the moral dimensions of Pancasila, particularly the values of humanity (*sila 2*), unity (*sila 3*), and social justice (*sila 5*). This perspective aligns with Choi's (2016) conceptualization of digital citizenship as participation in digital communities guided by ethical and civic awareness. Teachers thus act as role models who internalize Pancasila principles while helping students navigate global digital environments with respect, empathy, and responsibility.

3.2. Pedagogical Strategies for Fostering Digital Literacy and Citizenship

Teachers employ diverse pedagogical strategies to cultivate digital literacy and citizenship, emphasizing creativity, critical thinking, and collaboration. The strategies include project-based learning, group discussions, and digital storytelling, which encourage students to express ideas and reflect on online content. Teachers also integrate tools such as Canva, Quizizz, and Mentimeter to make lessons more interactive and adaptive. Such practices align with the TPACK framework (Mishra & Koehler, 2006) and the ISTE standards (ISTE, 2021), which emphasize the integration of technology, pedagogy, and content to enhance student learning. Table 1 summarizes teachers' practices and their motivations for integrating digital media in primary classrooms.

These findings suggest that the integration of digital media in Jakarta elementary schools' classrooms marks a shift from using technology merely as instructional aid to embedding it as a pedagogical foundation. Interpreted through the TPACK framework, this shift indicates that teachers are moving toward balanced competence, where technological, pedagogical, and content knowledge intersect to create meaningful learning experiences. Their practices reflect the ISTE standards' emphasis on empowering students as knowledge constructors and responsible digital citizens. Teachers' conscious efforts to align technology use with moral and civic goals demonstrate an awareness that digital competence is

inseparable from ethical formation. This transformation supports the views of Arifin et al. (2024) and Webster (2025), who argue that digital learning should not only enhance academic achievement but also strengthen moral integrity and social participation.

Table 1. Integration of digital media in primary classrooms

Aspect	Findings on teacher practices	Motivation in using digital media
Purpose of Use	Teachers integrate digital media as essential teaching tools and learning materials rather than as supplementary aids. Media are used for presenting content, assessing learning, and supporting student creativity.	Teachers aim to make learning more engaging, enjoyable, and focused by adapting to students' digital habits and interests.
Instructional Integration	Teachers use slides, Canva, and learning videos to deliver material. Digital media are embedded in daily lesson routines rather than limited to content delivery.	Teachers are motivated to align their teaching strategies with technological developments and generational characteristics.
Evaluation Practices	Teachers employ Quizizz and Mentimeter for interactive assessments that measure students' understanding in real time.	Motivation stems from teachers' awareness of the effectiveness of digital tools in maintaining attention and enhancing participation.
Routine and Ritual Activities	Videos are used for morning prayers, songs, and exercises, embedding digital media into daily classroom culture.	Teachers believe that integrating digital media into routines foster a positive learning environment and consistency in learning habits.
Fostering Student Creativity	Teachers act as facilitators, guiding students in creating mini presentations and learning videos.	Motivation combines student engagement with teaching effectiveness.
Pedagogical Shift	A clear transition occurs from teacher-centered to student-centered learning, as students participate through digital presentations and interactive quizzes.	Teachers recognize that digital media promote active and experiential learning consistent with 21st-century education principles.
Underlying Orientation	Teachers view digital media as integral to modern learning, combining academic, moral, and creative goals.	Motivation is shaped by social change, digital culture, and the characteristics of the digital generation.

Source: Field data from the researcher's observation and interview results, Jakarta, 2025

3.3. Challenges in Implementation

Although teachers demonstrate strong commitment to integrating digital and moral education, they encounter several challenges. The most common difficulties include unequal access to digital devices, limited internet connectivity, and insufficient training in digital pedagogy. These challenges correspond to Cohen, Manion, and Morrison's (2007) analysis of digital inequities in education and underscore the structural disparities that affect learning outcomes. Teachers also report a lack of localized teaching materials that combine civic and digital education, which supports Mossberger & Tolbert's (2021) findings on the need for context-sensitive digital citizenship frameworks.

Another major challenge lies in the low level of parental involvement in students' digital activities. Teachers believe that character formation through digital citizenship requires shared responsibility between schools and families. Leask and Younie (2023) suggest that sustainable digital citizenship education must adopt a collaborative and community-based approach, a point also reinforced by Ribble (2021). Therefore, partnerships among teachers, parents, and policymakers are essential for creating

consistent digital learning environments that promote both academic and moral development. Teachers also expressed the importance of ongoing professional development to strengthen their confidence and competence in using digital technology responsibly and effectively within character education.

4. CONCLUSION

This study concludes that elementary school teachers in Jakarta play a pivotal role in shaping students' digital literacy and citizenship through the integration of technology with moral and civic education grounded in Pancasila values. The synthesis of digital learning and character education demonstrates that Pancasila enriches global digital citizenship concepts by embedding collective responsibility, empathy, and social harmony into practices that are often dominated by individual autonomy and self-expression. At the same time, this integration challenges global paradigms to recognize cultural and moral diversity, illustrating that digital citizenship is contextually shaped by local philosophical traditions. Teachers' efforts to model ethical online behavior and foster participatory, student-centered learning highlight Indonesia's contribution to reinterpreting digital ethics through moral and civic foundations. Strengthening teacher training, ensuring equitable digital access, and enhancing school-parent collaboration remains essential to sustaining this transformation. Future research could expand on these findings through longitudinal or mixed-method designs to explore how teachers' digital-civic practices evolve across different regions and school contexts in Indonesia.

ACKNOWLEDGMENT

The authors would like to express sincere appreciation to the teachers and students from the participating schools in Jakarta for their willingness to share their experiences and insights throughout the research process.

REFERENCES

- Arifin, B., Salim, A. N., Muzakki, A., Suwarsito, S., & Arifudin, O. (2024). Integrasi penguatan pendidikan karakter dalam pembelajaran berbasis literasi digital pada peserta didik Sekolah Dasar. *Innovative: Journal of Social Science Research*, 4(3), 13547–13555.
- Aryani, W. D., Dermawan, O., & Asrofi, I. (2024). Transformation of children's character through digital approaches in primary education. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 8(5), 957–963. <https://doi.org/10.31004/obsesi.v8i5.6116>
- Chen, L. L., Mirpuri, S., Rao, N., & Law, N. (2021). Conceptualization and measurement of digital citizenship across disciplines. *Educational Research Review*, 33, 100379. <https://doi.org/10.1016/j.edurev.2021.100379>
- Choi, M. (2016). A concept analysis of digital citizenship for democratic citizenship education in the internet age. *Theory & Research in Social Education*, 44(4), 565–607. <https://doi.org/10.1080/00933104.2016.1210549>

- 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>
- Christian Damanik, P. C. I., Murdiono, M., & Suharno, S. (2024). Enhancing university students' interest in learning and creativity through a Project-Based Learning model with Instagram Reels media. *International Journal of Multidisciplinary Research and Analysis*, 07(08). <https://doi.org/10.47191/ijmra/v7-i08-21>
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education (6th ed.)*. Routledge.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches (4th ed.)*. Sage Publications.
- Heath, M. K. (2018). What kind of (digital) citizen? *The International Journal of Information and Learning Technology*, 35(5), 342–356. <https://doi.org/10.1108/IJILT-06-2018-0067>
- ISTE. (2021). *ISTE standards for students*. International Society for Technology in Education. <https://iste.org/standards/students>
- Jones, L. M., & Mitchell, K. J. (2016). Defining and measuring youth digital citizenship. *New Media & Society*, 18(9), 2063–2079. <https://doi.org/10.1177/1461444815577797>
- Kaelan. (2010). *Pendidikan Pancasila*. Paradigma.
- Kesuma, D. (2012). *Pendidikan karakter: Kajian teori dan praktik di sekolah*. Remaja Rosdakarya.
- Leask, M., & Younie, S. (2023). *Teaching and learning with technologies in the primary school (3rd ed.)*. Routledge.
- Lincoln, Y., & Guba, E. G. (1985). *Naturalistic Inquiry*. Sage.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook (2nd ed.)*. Sage Publications.
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record: The Voice of Scholarship in Education*, 108(6), 1017–1054. <https://doi.org/10.1111/j.1467-9620.2006.00684.x>
- Mossberger, K., & Tolbert, C. J. (2021). Digital citizenship and digital communities. *International Journal of E-Planning Research*, 10(3), 19–34. <https://doi.org/10.4018/IJEPR.20210701.oa2>
- Pantić, N., & Wubbels, T. (2012). Teachers' moral values and their interpersonal relationships with students and cultural competence. *Teaching and Teacher Education*, 28(3), 451–460. <https://doi.org/10.1016/j.tate.2011.11.011>
- Peraturan Menteri Pendidikan Dasar dan Menengah Nomor 13 Tahun 2025 tentang Perubahan Atas Peraturan Menteri Pendidikan, Kebudayaan, Riset, dan Teknologi Nomor 12 Tahun 2024 tentang Kurikulum pada Pendidikan Anak Usia Dini, Jenjang Pendidikan Dasar dan Jenjang Pendidikan Menengah, Pub. L. No. 13 (2025).

- Ribble, M. (2021). *The digital citizenship handbook for school leaders: Fostering positive interactions online*. International Society for Technology in Education.
- Shi, G., Chan, K. K., & Lin, X.-F. (2023). A systematic review of digital citizenship empirical studies for practitioners. *Education and Information Technologies*, 28(4), 3953–3975. <https://doi.org/10.1007/s10639-022-11383-z>
- Stake, R. E. (1995). *The art of case study research*. Sage Publications.
- Webster, J. (2025). Defining digital citizenship and digital citizenship education: a Delphi study. *Journal of Research on Technology in Education*, 1–16. <https://doi.org/10.1080/15391523.2025.2536564>
- Yin, R. K. (2014). *Case study research: Design and methods (5th ed.)*. Sage Publications.