

Strengthening Digital Literacy through Social Studies Learning to Foster Digital Citizenship among Elementary School Students

¹Raziska Ibrahim, ²Lili Kasmini, ³Helminsyah, ⁴Tria Marvida

^{1,2,3,4}Universitas Bina Bangsa Getsempena, Indonesia.

¹raziska@bbg.ac.id, ²lili@bbg.ac.id, ³helmi@bbg.ac.id, ⁴tria@bbg.ac.id

ABSTRACT : This study aims to describe the implementation of strengthening digital literacy through Social Studies learning to foster digital citizenship among students at SD Negeri 25 Banda Aceh. The study employed a qualitative approach using a case study design. The research participants consisted of the principal, the fifth-grade teacher, and fifth-grade students selected through purposive sampling. Data were collected through classroom observations, semi-structured interviews, and document analysis, and were analyzed using the interactive model of Miles, Huberman, and Saldaña, which includes data collection, data condensation, data display, and conclusion drawing. Data trustworthiness was ensured through source triangulation, technique triangulation, and member checking. The findings revealed that digital literacy was systematically integrated into the planning, implementation, and evaluation stages of Social Studies instruction through the use of various digital learning media, including instructional videos, interactive presentations, online learning platforms, and internet-based information resources. This implementation enhanced students' ability to access, evaluate, and communicate information critically while strengthening key dimensions of digital citizenship, including digital ethics, responsibility, digital security, and respect for intellectual property rights. The successful implementation was supported by the principal's leadership, teachers' digital competence, the availability of digital learning facilities, and students' enthusiasm. However, several challenges were identified, including limited access to digital devices, varying levels of students' digital competence, and insufficient parental support in supervising technology use. This study concludes that Social Studies learning plays a strategic role in integrating digital literacy while fostering digital citizenship among elementary school students. Therefore, sustained collaboration among schools, teachers, parents, and policymakers is essential to enhance the effectiveness of its implementation.

Keywords: Digital Literacy, Social Studies Learning, Digital Citizenship, Elementary School, Case Study.

INTRODUCTION

The rapid development of information and communication technology (ICT) has transformed various aspects of human life, including education. Digital transformation has encouraged schools to integrate technology into the teaching and learning process. As members of the digital generation, elementary school students have become familiar with digital devices and internet use from an early age. While this condition creates opportunities to improve the quality of education, it also presents challenges such as the spread of misinformation, cyberbullying, and limited awareness

of personal data security. According to Masyhura and Ramadan (2021), digital transformation must be accompanied by the strengthening of digital literacy in educational practices. Similarly, Citriadin and Hakim (2021) emphasized that the effective, safe, and responsible use of technology requires adequate digital competence among both teachers and students.

Digital literacy has become one of the essential competencies of the twenty-first century. It encompasses the ability to access, understand, evaluate, create, and communicate information through digital media critically and responsibly. These competencies enable students to navigate the overwhelming flow of information while distinguishing credible information from misinformation. Furthermore, digital literacy fosters awareness of ethical online communication and digital identity protection. Juwairiyah et al. (2024) identified digital literacy as a fundamental competency in contemporary education. Likewise, Wasarai, Asmida, and Safitri (2023) reported that digital literacy significantly enhances elementary school students' critical thinking skills.

In Indonesia, strengthening digital literacy has become a major component of human resource development. The increasing number of internet users among school-age children indicates that digital technology has become an integral part of everyday life. Nevertheless, the rapid growth of internet usage has not been matched by adequate digital literacy skills, making students vulnerable to misinformation, harmful online content, and misuse of personal data. The Indonesian Internet Service Providers Association (APJII, 2024) reported that internet penetration has continued to increase annually. Rosyidah, Septiani, and Wibowo (2024) argued that integrating digital literacy into classroom instruction is an essential strategy for developing critical thinking skills and promoting responsible technology use.

Social Studies plays a strategic role in strengthening digital literacy because it not only provides students with social knowledge but also develops responsible citizenship. Within the context of a digital society, Social Studies education is expected to cultivate digital citizenship competencies. Saqjuddin and Saputra (2025) found that digital media-based Social Studies instruction enhances students' critical thinking and communication skills. Similarly, Suyanti (2024) demonstrated that integrating digital literacy into Social Studies learning contributes to improved academic achievement by enhancing students' abilities to search for, evaluate, and utilize digital information effectively.

Digital citizenship refers to the ability to use technology ethically, safely, and responsibly. This concept encompasses digital rights and responsibilities, cybersecurity, personal data protection, and ethical communication in digital

environments. Instilling digital citizenship values from the elementary school level is essential to prepare students to participate positively in an increasingly digital society. Haq and Sangkala (2025) explained that digital citizenship includes digital literacy, digital ethics, digital security, and responsible technology use. Consistent with this perspective, Lee and Lee (2024) found that digital citizenship-based instruction significantly improves students' digital citizenship competencies and learning engagement.

The implementation of digital literacy in Social Studies learning may be carried out through the use of digital learning media, information searching from credible sources, project-based learning, discussions of contemporary digital social issues, and reflection on digital ethics. These instructional strategies provide meaningful learning experiences while simultaneously fostering critical thinking, creativity, collaboration, and communication skills. Permata S., Idawati, and Nawir (2024) concluded that interactive digital learning media improve the effectiveness of Social Studies instruction. Likewise, Azizah, Ibrahim, and Hasni (2025) reported that digital media not only strengthen students' digital literacy but also promote the development of twenty-first-century skills among elementary school learners.

SD Negeri 25 Banda Aceh has integrated various forms of digital media into classroom instruction, including interactive presentations, educational videos, online learning platforms, and internet-based learning resources. The school also promotes the responsible use of technology by fostering digital ethics among students. Nevertheless, several challenges remain, including disparities in students' digital competencies, limited availability of digital devices, and the need to further improve teachers' digital competencies. Muhammadi (2025) stated that the successful implementation of digital literacy is influenced by teachers' readiness, curriculum support, and the availability of adequate digital infrastructure.

Based on these conditions, this study aims to describe the implementation of strengthening digital literacy through Social Studies learning in fostering digital citizenship among students at SD Negeri 25 Banda Aceh. Specifically, this study seeks to identify the instructional strategies employed by teachers, examine the supporting factors, and explore the challenges encountered during the implementation process. The findings are expected to provide valuable insights for teachers, schools, and policymakers in developing innovative Social Studies instruction while strengthening digital literacy. Ultimately, such efforts are expected to prepare elementary school students to become intelligent, ethical, responsible, and active digital citizens capable of addressing the challenges of the twenty-first-century digital society.

METHODS

This study employed a qualitative approach using a case study design to obtain an in-depth understanding of the implementation of strengthening digital literacy through Social Studies instruction in fostering digital citizenship among students at SD Negeri 25 Banda Aceh. A qualitative case study was selected because it enables researchers to comprehensively examine a phenomenon based on participants' experiences and perspectives within its real-life context. According to Creswell and Creswell (2023) qualitative research focuses on exploring the meanings individuals assign to social phenomena through interaction with participants. Likewise, Yin (2024) argued that the case study is an appropriate research strategy for investigating contemporary phenomena in depth within their natural settings. The study was conducted at SD Negeri 25 Banda Aceh during the second semester of the 2025/2026 academic year.

The research participants were selected using purposive sampling, in which informants were intentionally chosen based on their relevance to the research objectives. The participants consisted of the school principal, the fifth-grade Social Studies teacher, and fifth-grade students who participated in the instructional process. The study utilized both primary and secondary data sources. Primary data were obtained through direct observations and interviews with the participants, whereas secondary data consisted of school documents, including teaching modules, instructional materials, student worksheets, photographs of learning activities, students' work, and other documents related to the implementation of digital literacy in Social Studies instruction.

Data were collected through classroom observations, semi-structured interviews, and document analysis. Classroom observations were conducted to examine the implementation of digital literacy-based Social Studies instruction. Semi-structured interviews were carried out with the principal, the teacher, and students to explore instructional strategies, supporting factors, implementation challenges, and efforts to strengthen digital literacy. Document analysis was conducted to complement the findings using instructional materials, photographs of classroom activities, and other supporting documents. In qualitative research, the researcher served as the primary research instrument (human instrument), supported by observation guidelines, interview protocols, documentation sheets, an audio recorder, and a digital camera as supplementary research instruments.

The data were analyzed using the interactive analysis model developed by Miles, Huberman, and Saldaña (2020) which consists of four stages: data collection, data condensation, data display, and conclusion drawing and verification. Data analysis was conducted continuously throughout the research process to ensure that

emerging findings were systematically verified. The trustworthiness of the data was established through credibility procedures, including source triangulation and methodological triangulation, by comparing information obtained from the principal, teacher, and students and cross-checking the findings from observations, interviews, and document analysis. In addition, member checking was conducted with the participants to ensure that the research findings accurately reflected their experiences and the actual conditions in the field (Creswell & Creswell, 2023).

RESULT AND DISCUSSION

RESULTS

A. Implementation of Digital Literacy in Social Studies Learning

The implementation of digital literacy in Social Studies instruction at SD Negeri 25 Banda Aceh was analyzed using three data collection techniques: classroom observation, semi-structured interviews, and document analysis. These methods were employed to obtain a comprehensive understanding of how digital literacy was integrated into the instructional process, the teacher's role as a facilitator, and students' engagement in utilizing technology as a learning resource. The findings indicate that digital literacy was systematically integrated into the planning, implementation, and evaluation stages of Social Studies instruction. Teachers not only utilized digital media as instructional tools but also guided students to search for, evaluate, process, and communicate information critically and responsibly.

The observation findings revealed that classroom instruction was conducted actively through the use of various digital media. Teachers utilized instructional videos, interactive presentations, internet search engines, and digital learning platforms to enrich Social Studies content. Furthermore, teachers guided students in selecting credible sources of information and verifying information obtained from the internet. A summary of the observation findings is presented in Table 1.

Table 1. Observation Findings on the Implementation of Digital Literacy in Social Studies Learning

No.	Observation Aspect	Findings
1	Lesson planning	The teacher developed teaching modules integrating digital literacy through internet-based information-searching activities.
2	Learning media	The teacher used interactive PowerPoint presentations, instructional videos, LCD projectors, and internet resources.
3	Student activities	Students searched for information from multiple websites, compared the information obtained, and presented the

		results of their group discussions.
4	Digital literacy competence	Students demonstrated the ability to select credible information sources and perform basic verification of digital information.
5	Classroom interaction	The teacher acted as a facilitator by guiding discussions and reinforcing students' information-searching results.
6	Learning evaluation	The teacher provided feedback regarding the quality of information and the credibility of the sources used by students.

As shown in Table 1, digital literacy has become an integral component of the Social Studies learning process. Information-searching activities, collaborative group discussions, and classroom presentations provided students with opportunities to develop critical thinking, communication, collaboration, and responsible technology-use skills.

These observation findings were further supported by interviews conducted with the school principal, the fifth-grade teacher, and fifth-grade students. The interviews aimed to obtain information regarding school policies, teachers' instructional strategies, and students' learning experiences during digital literacy-based Social Studies instruction. A summary of the interview findings is presented in Table 2.

Table 2. Summary of Interview Findings

Participant	Code	Summary of Statement
Principal	PS-01	The school supports digital literacy by providing internet access, LCD projectors, and professional development for teachers.
Fifth-grade teacher	FT-01	Digital media are used as instructional tools while training students to search for information from credible sources.
Fifth-grade teacher	FT-02	Students are guided to compare information from multiple sources before drawing conclusions.
Student	ST-01	Instructional videos make Social Studies topics easier to understand.
Student	ST-02	The teacher teaches students how to identify trustworthy websites before using information.
Student	ST-03	Group discussions help students better understand information obtained from the internet.

The interview findings indicate that all participants shared relatively similar perspectives regarding the importance of digital literacy in Social Studies instruction. Teachers believed that technology enhanced students' learning engagement, while

the school supported implementation by providing adequate facilities and strengthening teachers' professional competencies.

This is reflected in the following statement from the fifth-grade teacher:

"The use of digital media in Social Studies instruction is intended not only to facilitate content delivery but also to train students to search for, compare, and evaluate information from various digital sources so that they become accustomed to using valid information throughout the learning process." (FT-01)

The principal also emphasized the importance of institutional support for digital literacy implementation:

"The school continuously encourages teachers to integrate digital technology into classroom instruction by providing appropriate facilities and professional training so that learning becomes more innovative and enhances students' digital competencies." (PS-01)

Meanwhile, students reported that digital media created more engaging learning experiences and made Social Studies content easier to understand:

"Learning through videos and the internet makes it easier for me to understand the lessons because I can see real examples. Our teacher also teaches us how to choose reliable information so that we do not obtain information from just any website." (ST-02)

In addition to observations and interviews, the findings were further strengthened through document analysis, which was conducted to verify the implementation of digital literacy in Social Studies instruction. A summary of the documentation findings is presented in Table 3.

Table 3. Documentation Findings

No.	Document	Findings
1	Social Studies teaching module	Contains internet-based information-searching activities.
2	PowerPoint presentation	Includes instructional videos, images, hyperlinks to learning resources, and QR codes.
3	Student worksheets	Guide students to compare information from multiple digital sources.
4	Photographs of classroom activities	Show students participating in group discussions using digital media.
5	Student presentations	Demonstrate students' ability to systematically present the results of digital information analysis.

The document analysis corroborated the observation and interview findings, confirming that digital literacy had been integrated into both instructional planning

and classroom implementation. Therefore, triangulation across these three data sources demonstrates that the strengthening of digital literacy at SD Negeri 25 Banda Aceh has been systematically implemented through the use of digital learning media, information-search-based instructional activities, and the promotion of students' use of credible information sources.

Based on the observation, interview, and documentation findings, the implementation of digital literacy in Social Studies instruction at SD Negeri 25 Banda Aceh has been systematically carried out throughout the planning, implementation, and evaluation stages of instruction. Teachers integrated various forms of digital media—including instructional videos, interactive presentations, online learning platforms, and internet-based learning resources—into student-centered learning activities. The triangulated findings consistently indicate that technology integration not only supports instructional delivery but also enables students to access, evaluate, manage, and communicate information critically through the use of credible learning resources.

The implementation of digital literacy also contributed positively to the development of twenty-first-century competencies. Throughout Social Studies instruction, students demonstrated the ability to collaborate in groups, participate actively in discussions, express opinions based on evidence obtained from digital information sources, and formulate conclusions through critical analysis of multiple digital resources. These findings indicate that Social Studies instruction not only enhances students' conceptual understanding but also develops critical thinking, communication, collaboration, creativity, and responsible digital information management skills. Nevertheless, several challenges were identified, including differences in students' digital competencies, limited access to digital devices among some students, and the need to further strengthen teachers' competencies in designing more innovative digital literacy-based instruction.

The findings indicate that strengthening digital literacy through Social Studies instruction contributes positively to the development of students' digital citizenship at SD Negeri 25 Banda Aceh. Students demonstrated improved abilities to use technology wisely, identify credible information sources, practice ethical behavior in digital environments, and act responsibly when interacting in online spaces. The successful implementation was supported by systematic instructional planning, teachers' professional competence, school leadership, institutional support, and collaboration with parents. Consequently, Social Studies instruction has become an effective means of strengthening digital literacy while fostering responsible digital citizenship among elementary school students.

B. Strengthening the Dimensions of Digital Citizenship

Strengthening digital citizenship is one of the primary objectives of implementing digital literacy through Social Studies instruction at SD Negeri 25 Banda Aceh. Based on the findings from classroom observations, interviews, and document analysis, Social Studies instruction was designed not only to improve students' ability to use digital technology but also to foster attitudes, values, and responsibilities as responsible digital citizens. These dimensions were integrated into various learning activities through modeling, habitual practice, case discussions, classroom assignments, and reflection on the use of digital media.

The findings indicate that the dimensions of digital citizenship developed through Social Studies instruction include digital ethics, digital responsibility, digital safety, and information literacy. These four dimensions complement one another in shaping students' behavior so that they are able to use technology intelligently, safely, and responsibly.

Table 4. Observation Findings on the Strengthening of Digital Citizenship Dimensions

No.	Digital Citizenship Dimension	Observation Findings
1	Digital ethics	The teacher encouraged students to use polite and respectful language during discussions and digital communication.
2	Digital responsibility	Students were required to cite information sources in every assignment that used internet-based references.
3	Digital safety	The teacher educated students about protecting personal data, using secure passwords, and avoiding sharing personal information on social media.
4	Information literacy	The teacher guided students to compare multiple information sources and identify the characteristics of valid information and misinformation (hoaxes).

As presented in Table 4, digital citizenship was not taught as a separate subject but was integrated throughout the Social Studies learning process. Teachers consistently connected instructional content with real-life situations encountered by students in digital environments, enabling them to understand digital citizenship values within authentic contexts.

These observation findings were further supported by interviews with the school principal, the fifth-grade teacher, and students. All participants agreed that Social Studies instruction served as an effective medium for fostering ethical and responsible technology use.

Table 5. Summary of Interview Findings on Strengthening Digital Citizenship

Participant	Code	Summary of Statement
Principal	PS-02	The school promotes responsible technology use through instructional activities and character education programs.
Fifth-grade teacher	FT-03	Students are guided to use respectful language, appreciate others' intellectual work, and properly cite information sources.
Fifth-grade teacher	FT-04	The teacher presents examples of misinformation (hoaxes) and encourages students to verify information before believing or sharing it.
Student	ST-04	Students understand the importance of citing information sources when completing assignments.
Student	ST-05	Students understand that personal information should not be shared with strangers on the internet.

The interview findings demonstrate that teachers served not only as instructors but also as facilitators in developing students' digital citizenship. This is reflected in the following statement:

"Whenever students use information from the internet, I always remind them to cite the sources they use. I also demonstrate how to identify trustworthy websites and explain that using someone else's work without proper attribution is both academically and ethically inappropriate." (FT-03)

The teacher further explained that Social Studies instruction provides opportunities for students to address issues commonly encountered in digital environments.

"In several lessons, I present examples of news circulating on social media, and students are asked to analyze whether the information is trustworthy. Through this activity, they learn to verify information before sharing it with others." (FT-04)

The principal also emphasized that strengthening digital citizenship has become part of the school's culture.

"The school strives to build a positive digital culture by promoting responsible technology use in both classroom instruction and other school activities. Teachers are encouraged to integrate these values into every subject area." (PS-02)

Meanwhile, students demonstrated their understanding of digital citizenship values acquired during classroom learning.

"Now I know that when I use pictures or text from the internet, I have to mention the source. Our teacher also reminds us not to share personal information and to make sure the news we read is true before sending it to friends." (ST-05)

In addition to the observation and interview findings, the strengthening of digital citizenship was also supported by instructional documents.

Table 6. Documentation Findings on Strengthening Digital Citizenship

No.	Document	Findings
1	Social Studies teaching module	Includes learning objectives integrating digital literacy and digital ethics.
2	Student worksheets	Include activities requiring information verification and citation of references.
3	Assessment rubric	Includes criteria related to responsible use of information sources and group collaboration.
4	Classroom activity photographs	Show students discussing the validity of digital information and presenting the results of their analyses.

The documentation findings indicate that digital citizenship has been integrated into various instructional components of Social Studies learning at SD Negeri 25 Banda Aceh. Teaching modules, student worksheets, assessment rubrics, and instructional media were designed to encourage students to use digital technology responsibly. Learning activities required students to search for information from multiple sources, evaluate the credibility of information, cite references appropriately, and systematically present the results of their analyses. Documentation in the form of classroom photographs and students' work further demonstrates that digital citizenship strengthening was consistently planned and implemented throughout the instructional process.

The observation, interview, and documentation findings collectively indicate that the strengthening of digital citizenship dimensions was implemented in an integrated manner through Social Studies instruction. Teachers not only developed students' technological competencies but also cultivated digital ethics, digital responsibility, digital safety, and critical thinking skills for managing information. These competencies were fostered through modeling, habitual practice, classroom discussions, assignments, and reflective activities, enabling students to gain meaningful learning experiences that correspond to the demands of contemporary digital society. Data triangulation demonstrated consistency across all sources regarding the implementation of this educational program.

The study also revealed that strengthening digital citizenship positively influenced students' behavior in using digital technology. Students became accustomed to communicating respectfully in digital environments, respecting intellectual property by citing information sources, protecting personal data, and verifying information before using or sharing it. In addition to improving students'

ability to search for and process information, Social Studies instruction contributed to the development of digital character characterized by responsibility, ethical awareness, and critical thinking, all of which are essential competencies for the twenty-first century.

Nevertheless, several challenges remain in implementing digital citizenship education, including differences in students' levels of digital literacy, limited access to digital devices and internet connectivity, and the need to further enhance teachers' competencies in designing innovative technology-based instruction. Therefore, the successful strengthening of digital citizenship requires adequate school facilities, continuous professional development for teachers, and active collaboration with parents. Overall, the findings demonstrate that Social Studies instruction at SD Negeri 25 Banda Aceh plays an effective role in preparing students to become knowledgeable, responsible, ethical, and active digital citizens who are capable of participating positively in today's digital society.

C. Supporting Factors for the Implementation of Digital Literacy in Social Studies Learning

The successful implementation of digital literacy in Social Studies instruction at SD Negeri 25 Banda Aceh is supported by several key factors. Based on the findings from classroom observations, interviews, and document analysis, the success of the program is influenced by school policy support, the availability of technological facilities and infrastructure, teachers' competence in utilizing educational technology, and students' high levels of motivation and participation throughout the learning process. These factors interact with one another to create a conducive learning environment for strengthening digital literacy and fostering students' digital citizenship.

The observation findings revealed that the school has provided various facilities to support digital-based instruction. In addition to internet access and LCD projectors in classrooms, teachers effectively utilized digital devices as instructional media integrated into Social Studies lessons. Students actively participated in technology-enhanced learning activities and collaborated effectively in completing internet-based information-searching tasks. A summary of the observation findings is presented in Table 7.

Table 7. Observation Findings on the Supporting Factors for the Implementation of Digital Literacy

No.	Supporting Factor	Observation Findings
1	Principal's support	The principal established policies encouraging teachers to integrate digital technology into classroom instruction.

2	Facilities and infrastructure	The school provided internet access, LCD projectors, laptops, and other digital learning equipment.
3	Teacher competence	Teachers demonstrated the ability to operate various digital learning media and integrate them into Social Studies instruction.
4	Student motivation	Students actively used digital media to search for information, participate in discussions, and present learning outcomes.

As shown in Table 7, the successful implementation of digital literacy depends not only on the availability of technological facilities but also on the school's commitment and teachers' readiness to develop innovative learning experiences. These supporting factors created a more interactive learning environment that motivated students to utilize technology as a valuable learning resource.

The observation findings were reinforced through interviews with the school principal, the fifth-grade teacher, and students. All participants agreed that the successful implementation of digital literacy resulted from collaboration among the school administration, teachers, and students in fostering a learning culture that adapts to technological developments.

Table 8. Summary of Interview Findings on Supporting Factors

Participant	Code	Summary of Statement
Principal	PS-03	The school supports digital literacy through policies, digital facilities, and professional development programs for teachers.
Fifth-grade teacher	FT-05	Teachers' competence in using digital media facilitates the integration of digital literacy into Social Studies instruction.
Fifth-grade teacher	FT-06	Students' enthusiasm motivates teachers to continuously improve technology-based instruction.
Student	ST-06	Learning through videos and internet resources makes Social Studies content easier to understand.
Student	ST-07	Students are more interested in learning when digital media are used compared to conventional instruction.

The interview findings indicate that school policy support is one of the major factors contributing to the successful implementation of digital literacy. The principal explained that the school continuously strives to create a learning environment that supports technology integration by providing adequate facilities and improving teachers' competencies.

"The school fully supports the integration of technology into classroom instruction by providing internet access, digital learning equipment, and professional training aimed at enhancing teachers' competencies in developing innovative instructional practices." (PS-03)

The fifth-grade teacher also emphasized that teachers' technological competence plays a crucial role in successfully integrating digital literacy into Social Studies instruction.

"Teachers' ability to utilize various digital media greatly facilitates Social Studies instruction. When teachers select media that appropriately match the learning content, students become more actively engaged, understand concepts more easily, and participate more enthusiastically in classroom activities." (FT-05)

Furthermore, the teacher explained that students' motivation further strengthens the effectiveness of digital-based learning.

"Students demonstrate high levels of enthusiasm whenever lessons involve videos, interactive images, or internet-based information searching. This situation makes the learning process more active and collaborative." (FT-06)

Students also expressed positive perceptions regarding the use of digital media in Social Studies instruction.

"Learning through videos and the internet makes the lessons easier to understand because we can see real examples. We also enjoy discussing with our classmates while searching for information online." (ST-06)

The observation and interview findings were further supported through documentation collected during the study.

Table 9. Documentation Findings on Supporting Factors

No.	Document	Findings
1	School work program	Includes digital literacy strengthening as one of the school's priority programs for improving instructional quality.
2	Teacher training documentation	Shows teachers' participation in professional development related to the use of digital learning media.
3	School facilities inventory	Confirms the availability of internet access, LCD projectors, laptops, and other digital learning equipment.
4	Classroom activity photographs	Demonstrate the active use of digital media during Social Studies instruction.

As presented in Table 9, the documentation demonstrates the school's strong commitment to supporting the implementation of digital literacy. The school's annual

work program explicitly identifies digital literacy strengthening as one of its priority initiatives. Furthermore, documentation of teacher training indicates continuous efforts to improve teachers' professional competencies, while the inventory of school facilities confirms that adequate technological infrastructure has been provided to support digital learning. Classroom documentation also demonstrates that digital media are consistently utilized as an integral component of Social Studies instruction.

Based on the observation, interview, and documentation findings, the successful implementation of digital literacy in Social Studies instruction at SD Negeri 25 Banda Aceh is supported by four primary factors: the principal's leadership and support, the availability of digital facilities and infrastructure, teachers' competence in utilizing educational technology, and students' high levels of enthusiasm. Data triangulation revealed that the principal played a significant role in promoting technology-based instructional policies through the provision of digital facilities and professional development opportunities for teachers. Moreover, teachers' competence in integrating digital media into classroom instruction enabled learning to become more interactive, contextualized, and student-centered.

Overall, the implementation of digital literacy depends not only on the availability of technology but also on the synergy among school leadership, teacher professionalism, adequate technological infrastructure, and active student participation. Students' enthusiasm for using digital media promotes the development of critical thinking, communication, collaboration, and information literacy skills throughout Social Studies learning. The interaction of these supporting factors creates a conducive learning environment that strengthens digital literacy and contributes to the development of digital citizenship competencies among elementary school students.

D. Inhibiting Factors in the Implementation of Digital Literacy in Social Studies Learning

Although the implementation of digital literacy in Social Studies instruction at SD Negeri 25 Banda Aceh has generally been successful, the findings indicate that several challenges continue to affect its effectiveness. Based on classroom observations, interviews, and document analysis, the main inhibiting factors include the limited ownership of digital devices among some students, differences in students' levels of digital competence, and the lack of optimal parental supervision of technology use at home. These factors have prevented the strengthening of digital literacy from being implemented equally and effectively for all students.

The observation findings revealed that not all students had equal access to digital devices. During several learning activities requiring internet access, some

students had to share devices with their classmates because they did not own smartphones or personal digital devices. In addition, students demonstrated varying levels of proficiency in using educational applications and searching for information online. Consequently, teachers were required to provide more intensive guidance to students who experienced difficulties. A summary of the observation findings is presented in Table 10.

Table 10. Observation Findings on the Inhibiting Factors in the Implementation of Digital Literacy

No.	Inhibiting Factor	Observation Findings
1	Limited access to digital devices	Some students did not own personal digital devices and therefore had to share devices during classroom activities.
2	Differences in digital competence	Students demonstrated varying abilities in using digital applications and searching for information on the internet.
3	Parental supervision	Some students used the internet at home without adequate parental guidance or supervision.
4	Classroom time management	Teachers required additional instructional time to assist students who experienced difficulties using digital media.

As shown in Table 10, the challenges associated with implementing digital literacy are not limited to technological facilities and infrastructure but are also influenced by students' readiness and the family environment. Differences in students' digital competencies require teachers to adjust instructional strategies so that all learners can participate effectively in the learning process.

These findings were reinforced by interviews with the school principal, the fifth-grade teacher, and students. All participants acknowledged that the implementation of digital literacy continues to face several challenges that require collaborative attention from both the school and parents.

Table 11. Summary of Interview Findings on the Inhibiting Factors

Participant	Code	Summary of Statement
Principal	PS-04	Not all students have equal access to digital facilities; therefore, the school seeks to optimize the use of available resources.
Fifth-grade teacher	FT-07	Students' levels of digital literacy vary considerably, requiring differentiated instructional support.
Fifth-grade teacher	FT-08	Parents do not always provide adequate supervision of their children's internet use at home.

Student	ST-08	Some students must use their parents' devices or share devices with classmates.
Student	ST-09	Students sometimes experience difficulty distinguishing reliable information from less trustworthy information.

The interview findings indicate that limited access to digital devices remains one of the primary barriers to implementing digital literacy.

"Not all students have personal digital devices that they can use independently. Therefore, in some learning activities we organize students into collaborative groups so that everyone can participate using the available devices." (PS-04)

The fifth-grade teacher further explained that differences in students' digital competencies require more adaptive instructional strategies.

"Students have different levels of technological competence. Some are already familiar with searching for information online, while others still require guidance, starting from accessing websites to identifying reliable information sources. Therefore, teachers need to provide step-by-step assistance according to each student's needs." (FT-07)

The teacher also emphasized the importance of parental involvement in supervising technology use at home.

"Strengthening digital literacy cannot be accomplished solely at school. Parents play a crucial role in supervising children's use of digital devices, limiting access to inappropriate content, and encouraging the use of technology for educational purposes." (FT-08)

Students also described several difficulties they encountered during digital-based learning.

"Sometimes I have to use my parents' mobile phone, so I cannot always use it for studying at home. When searching for information on the internet, I still need my teacher's help to know which information is trustworthy." (ST-08)

The observation and interview findings were further supported by the documentation collected during the study.

Table 12. Documentation Findings on the Inhibiting Factors

No.	Document	Findings
1	School facilities inventory	The number of available digital devices is still insufficient for individual use by all students.
2	Learning progress records	Teachers provide additional guidance to students who experience difficulties using digital media.
3	Classroom activity photographs	Some students are observed working collaboratively while sharing a single digital device.

4	School-parent communication documents	The school provides guidance to parents regarding the importance of supervising children's technology use at home.
---	---------------------------------------	--

As presented in Table 12, the documentation supports the observation and interview findings regarding the existing barriers to implementing digital literacy. The school inventory records indicate that the available number of digital devices is insufficient to meet the needs of all students for individual learning activities. Photographs of classroom activities show that students frequently share devices while completing digital learning tasks. Furthermore, communication documents between the school and parents demonstrate that the school has actively sought to strengthen family involvement in supervising children's technology use at home through various forms of communication and awareness programs.

Based on the observation, interview, and documentation findings, the implementation of digital literacy in Social Studies instruction at SD Negeri 25 Banda Aceh continues to face several challenges that affect its overall effectiveness. Data triangulation revealed that limited ownership of digital devices, differences in students' levels of digital competence, and insufficient parental supervision of technology use constitute the primary barriers. These differences require some students to receive more intensive guidance in accessing, evaluating, and utilizing digital information throughout the learning process.

Nevertheless, teachers and school administrators have undertaken various efforts to address these challenges through collaborative learning strategies, gradual instructional support for students, and strengthened communication with parents regarding the importance of supervising technology use at home. Overall, these inhibiting factors do not prevent the implementation of digital literacy-based Social Studies instruction but instead represent important considerations for future program improvement. Therefore, increasing the availability of digital facilities, strengthening students' digital competencies, and enhancing partnerships between schools and families constitute strategic steps toward improving the effectiveness of digital literacy implementation while further promoting the development of digital citizenship among elementary school students.

DISCUSSION

The findings of this study indicate that the implementation of digital literacy in Social Studies instruction at SD Negeri 25 Banda Aceh has been systematically integrated into the planning, implementation, and evaluation stages of the instructional process. Teachers utilized a variety of digital media to assist students in

searching for, evaluating, and communicating information critically, thereby promoting a more student-centered learning environment. These findings are consistent with those of Widiati and Ruhimat (2022) who reported that integrating digital literacy into Social Studies instruction enhances student engagement and supports the development of twenty-first-century competencies. Similarly, Suyanti (2024) found that digital literacy is positively associated with students' achievement in Social Studies because it strengthens their ability to access, evaluate, and utilize information from credible sources.

The findings further demonstrate that the implementation of digital literacy in Social Studies instruction contributes significantly to strengthening students' digital citizenship. Through various learning activities, students were encouraged to communicate respectfully in digital environments, acknowledge intellectual property by citing information sources, protect personal data, and verify information before sharing it. These findings suggest that digital literacy extends beyond technological proficiency to encompass the development of ethical values, responsible behavior, and digital citizenship competencies. This result supports the findings of Solehudin (2023) who emphasized the importance of introducing digital citizenship education at the elementary school level to foster ethical online behavior. Likewise, Marsini (2025) argued that Social Studies instruction provides an effective context for developing digital ethics, privacy awareness, and critical thinking skills when interacting with digital information.

The successful implementation of digital literacy identified in this study was supported by several key factors, including strong school leadership, teachers' professional competence, the availability of digital learning facilities, and students' high levels of motivation and engagement. The principal's commitment, reflected in policies that encourage instructional innovation and the provision of technological resources, created opportunities for teachers to integrate digital technology effectively into Social Studies instruction. Furthermore, teachers' competence in selecting and utilizing appropriate digital media contributed to the creation of more interactive, meaningful, and student-centered learning experiences. These findings are consistent with Khodijah, Patras, and Julaeha (2024) who reported that effective school leadership is closely associated with increased instructional innovation among teachers. Similarly, Handayani, Rahmandani, and Muzzaki (2023) concluded that digital-based instructional innovation enhances both students' digital competencies and their active participation in classroom learning.

Despite these positive findings, the study also identified several challenges affecting the implementation of digital literacy, including limited access to digital

devices, differences in students' digital competencies, and insufficient parental supervision of technology use at home. These findings indicate that the success of digital literacy initiatives depends not only on instructional practices within schools but also on support from families and the broader learning environment. This observation is consistent with Sundah and Karo Karo (2022) who identified disparities in access to digital resources and variations in teacher competence as continuing challenges for strengthening digital literacy in elementary schools. Likewise, Fahmi, Subroto, and Suprijono (2022) emphasized that parental involvement through supervision and supportive parenting practices plays a critical role in developing children's literacy competencies within the family environment.

Overall, the findings demonstrate that Social Studies instruction plays a strategic role in integrating digital literacy while simultaneously fostering digital citizenship among elementary school students. Social Studies education extends beyond the acquisition of social knowledge by promoting essential twenty-first-century competencies, including critical thinking, communication, collaboration, creativity, and responsible technology use. The integration of digital literacy into classroom instruction encourages students to become more thoughtful and responsible in accessing, evaluating, and utilizing digital information. Therefore, strengthening digital literacy should remain a collaborative effort involving schools, teachers, parents, and policymakers to prepare students as knowledgeable, ethical, responsible, and digitally competent citizens who are well equipped to participate in an increasingly digital society.

CONCLUSION

The findings of this study indicate that the implementation of digital literacy in Social Studies instruction at SD Negeri 25 Banda Aceh has been systematically integrated into the planning, implementation, and evaluation stages of instruction. Teachers effectively utilized various forms of digital media, including instructional videos, interactive presentations, online learning platforms, and internet-based information resources, to create student-centered learning experiences. This implementation not only enhanced students' abilities to access, evaluate, and communicate information critically but also strengthened key dimensions of digital citizenship by fostering digital ethics, digital responsibility, digital safety, and respect for intellectual property.

The successful implementation of digital literacy was supported by effective school leadership, teachers' professional competence, the availability of digital learning facilities, and students' enthusiasm for technology-enhanced learning.

Nevertheless, the study also identified several challenges, including limited access to digital devices, differences in students' digital competencies, and insufficient parental supervision of technology use at home. Therefore, sustained collaboration among schools, teachers, parents, and policymakers is essential to further improve the quality of digital literacy education. Through such collaborative efforts, Social Studies instruction can continue to serve as a strategic platform for preparing elementary school students to become knowledgeable, critical, ethical, and responsible digital citizens capable of meeting the challenges of an increasingly digital world.

REFERENCES

- Asosiasi Penyelenggara Jasa Internet Indonesia. (2024). *Survei penetrasi internet Indonesia 2024*. APJII. <https://apjii.or.id/survei>
- Azizah, U., Ibrahim, & Hasni. (2025). Pemanfaatan media pembelajaran berbasis digital dalam mata pelajaran IPS di sekolah dasar. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 11(2), 248–258. <https://journal.unpas.ac.id/index.php/pendas/article/view/44886>
- Citriadin, Y., & Hakim, M. V. F. (2021). Elementary school teachers' training needs: Innovating digital competence. *Al-Ishlah: Jurnal Pendidikan*, 13(3), 2327–2334. <https://doi.org/10.35445/alishlah.v13i3.1485>
- Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). SAGE Publications.
- Fahmi, M. Q., Subroto, W. T., & Suprijono, A. (2022). Analisis peran pola pengasuhan orang tua dalam perkembangan literasi siswa sekolah dasar. *Jurnal Basicedu*, 6(5), 8495–8502. <https://doi.org/10.31004/basicedu.v6i5.3460>
- Handayani, T., Rahmandani, F., & Muzzaki, A. (2023). Inovasi pembelajaran berbasis digital melalui *Liveworksheet* untuk membudayakan keterampilan digital peserta didik. *JINoP (Jurnal Inovasi Pembelajaran)*, 9(1), 31–43. <https://doi.org/10.22219/jinop.v9i1.26276>
- Juwairiyah, A., Parisu, C. Z. L., Sisi, L., & Saputra, E. E. (2024). Analisis literasi digital para guru tingkat pendidikan sekolah dasar. *INNOVATIVE: Journal of Social Science Research*, 4(1), 930–938. <https://j-innovative.org/index.php/Innovative/article/view/9514>
- Khodijah, N., Patras, Y. E., & Julaeha, S. (2024). Hubungan kompetensi pedagogik guru dan kepemimpinan kepala sekolah terhadap keinovatifan guru sekolah dasar. *Jurnal Studi Guru dan Pembelajaran*, 7(1), 114–129. <https://doi.org/10.30605/jsgp.7.1.2024.3264>

- Lee, J., & Lee, Y. (2024). Effects of a digital citizenship learning model on elementary school students' digital citizenship and academic interest. *The New Educational Review*, 76(2), 139–148. <https://doi.org/10.15804/TNER.2024.76.2.10>
- Marsini, M. (2025). Empowering young minds: Transforming social studies education to foster digital ethics in elementary schools. *Jurnal Civics: Media Kajian Kewarganegaraan*, 22(1), 110–118. <https://doi.org/10.21831/jc.v22i1.1352>
- Masyhura, N., & Ramadan, Z. H. (2021). Implementation of digital literacy in elementary schools. *International Journal of Elementary Education*, 5(4), 639–647. <https://doi.org/10.23887/ijee.v5i4.39480>
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2020). *Qualitative data analysis: A methods sourcebook* (4th ed.). SAGE Publications.
- Muhammad Zia ul Haq, & Sangkala, I. (2025). Digital citizenship framework: A systematic review of contemporary elements and implementation challenges. *Journal of Computer Interaction in Education*, 8(1), 34–39. <https://jurnal.fkip.unismuh.ac.id/index.php/jcie/article/view/1913>
- Permata S., N. I., Idawati, & Nawir, M. (2024). Pengembangan media pembelajaran digital interaktif pada mata pelajaran IPS di sekolah dasar. *Jurnal Riset dan Inovasi Pembelajaran*, 4(1), 579–593. <https://doi.org/10.51574/jrip.v4i1.1332>
- Ramadhani, G. R. (2025). Implementasi kurikulum berbasis teknologi melalui penguatan literasi digital siswa sekolah dasar. *Jurnal Pendidikan Dasar*, 16(2), 369–380. <https://journal.unj.ac.id/unj/index.php/jpd/article/view/64682>
- Rosyidah, A. Z., Septiani, N. E. P., & Wibowo, S. (2025). Mewujudkan generasi CERDIG (Cerdas Digital): Literatur review integrasi literasi digital dalam pembelajaran di sekolah dasar. *Journal of Education Research*, 6(4), 813–821. <https://doi.org/10.37985/jer.v6i4.2285>
- Saqjuddin, S., & Saputra, E. E. (2025). Pengembangan media komik digital untuk meningkatkan minat belajar IPS pada siswa sekolah dasar. *Jurnal Pendidikan Multidisiplin*, 1(2), 65–74. <https://doi.org/10.54297/jpmd.v1i2.1210>
- Solehudin, R. H. (2023). Pengenalan *digital citizenship* di lingkungan sekolah dasar: Studi kasus di SD Aisyiyah Kota Sukabumi Jawa Barat. *J-PIPS (Jurnal Pendidikan Ilmu Pengetahuan Sosial)*, 9(2), 139–151. <https://ejournal.uin-malang.ac.id/index.php/jpips/article/view/23392>
- Sundah, P. M., & Karo Karo, R. (2022). Literasi digital di Sekolah Dasar Negeri 03 Batok, Kabupaten Bogor: Bentuk penguatan nilai ketahanan nasional. *Jurnal Lemhannas RI*, 10(4), 325–340. <https://doi.org/10.55960/jlri.v10i4.371>

- Suyanti. (2024). Hubungan literasi digital dengan hasil belajar siswa dalam pembelajaran tematik IPS sekolah dasar. *Jurnal PGSD: Jurnal Ilmiah Pendidikan Guru Sekolah Dasar*, 17(1), 51–56. <https://doi.org/10.33369/pgsd.17.1.51-56>
- Wasarai, S. A. A., Asmida, & Safitri, N. A. (2023). Peran literasi digital dalam meningkatkan keterampilan berpikir kritis siswa sekolah dasar. *Journal Sultra Elementary School*, 4(2), 590–601. <https://jurnal.yayasanmeisyarainsanmadani.com/index.php/JSES/article/view/391>
- Widiati, T., & Ruhimat, M. (2022). Penerapan literasi digital dalam pembelajaran IPS di masa pandemi Covid-19. *Edukasi IPS*, 6(1), 1–7. <https://doi.org/10.21009/EIPS.006.01.01>
- Yin, R. K. (2024). *Case study research and applications: Design and methods* (7th ed.). SAGE Publications.