Jurnal Kajian Komunikasi, Volume 13, No. 1, June 2025, pp. 37-54
https://doi.org/10.24198/jkk.v13i1.61731

Strategic communication to overcome challenges in digital literacy policy implementation in Japan Schools

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Submitted: 15 February 2025**, Revised:** 14 April 2025**, Accepted:** 17 April 2025**, Published:** 29 June 2025

ABSTRACT

Background: The Japanese government has initiated a national policy to improve digital literacy in elementary schools, but its implementation still faces various challenges, such as disparities between regions, limited infrastructure, and the readiness of educators to teach digital literacy effectively. **Purpose:** This study aims to analyze communication strategies in the implementation of digital literacy policies in elementary schools in Japan. **Methods:** The research used a qualitative case study approach in several elementary schools in the Tokyo metropolitan area. Data were collected through in-depth interviews with key informants using a purposive approach. **Result:** The results show that the implementation of digital literacy policies has not been uniform across elementary schools in Japan. The main barriers found include a lack of teacher training, limited digital infrastructure and a lack of systematic communication strategies. Schools in urban areas of Japan are more advanced in implementing the policy compared to schools in rural areas of Japan. However, some schools managed to overcome these challenges through strategic communication and collaboration with parents, communities, and the technology sector, as well as utilizing social media and digital platforms. **Conclusion:** This study emphasizes the importance of more systematic and inclusive communication strategies in the implementation of digital literacy policies. Effective communication between the government, schools, teachers, and parents plays a role in increasing understanding and participation in this policy. **Implications:** This study opens up opportunities for further exploration of the effectiveness of different communication methods, such as digital platforms, social media, and face-to-face approaches.

Keywords: Strategic communication; digital and information literacy; policy implementation; education policy; Japanese primary schools

To cite this article (APA Style):
Boonwattanopas, D. (2025). Strategic communication to overcome challenges in digital literacy policy implementation in Japan Schools. *Jurnal Kajian Komunikasi*, *13*(1), 37-54. https://doi.org/10.24198/jkk.v13i1.61731

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ISSN: 2303-2006 (print), ISSN: 2477-5606 (online). Website: http://jurnal.unpad.ac.id/jkk

INTRODUCTION

In the ever-evolving digital era, digital and Information literacy (DIL) skills are becoming fundamental for individuals to participate actively in a technology-based society. Digital literacy includes skills in accessing, evaluating, using, and communicating Information critically through various digital platforms. Most literature reviews identify the importance of digital and Information literacy (DIL) skills as tools for lifelong learning. DIL has been described as a core literacy enabling other learning forms. When embedded in the education system, digital and information literacy can significantly improve students' ability to assess the quality and credibility of Information.

Digital and information literacy (DIL) is an essential competency for global citizens who can effectively utilize technology to maximize its benefits. DIL skills should be nurtured from the primary education level. Various countries have adopted policies to strengthen digital literacy in the education sector in response to these changes. Countries such as the United States, the United Kingdom, and Singapore have developed national plans to improve digital literacy skills in primary and secondary schools (Gust et al., 2014). Japan, one of the countries with a high level of technological advancement, has also developed similar policies to strengthen digital literacy among students.

As one of the countries with a high level of technological advancement, Japan also seeks to adopt policies that encourage strengthening digital literacy in the educational environment. Japan has a long history of integrating Information and communication technology (ICT) into education. Since the first report of the National Council for Education Reform in 1985, Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT) has established various policies to support the use of technology in learning. In 2008, MEXT recognized the importance of informal education in supporting the development of digital literacy. Since then, various initiatives have been introduced to expand technology access and use in education.

Data from the Program for International Student Assessment (PISA) in 2009 showed that although Japanese students can find and extract Information from reading materials, they still face challenges in understanding the context of the Information and relating it to their experiences. Therefore, one of the main goals of Japan's education policy is to ensure that students have access to digital technologies and can use and critically assess them.

PISA results for Japanese children in 2009 showed that Japanese students were good at locating and extracting necessary Information from reading materials. However, they lacked understanding of the context of the Information, making interpretations and relating it to their own experiences. In 2012, an OECD report showed that Japan had a high level of information literacy. Therefore, the government aims to use

ICT in education to create a learning system and schools ready to survive in the 21st century. This system encourages Japanese students to have the necessary skills and information literacy.

Japan's Ministry of Education, Culture, Sports, Science, and Technology (MEXT) strategically guides education policy through the Basic Plan for Advancing Education, which is rooted in the principles established by the Basic Education Law**.** First passed in 1947 and revised in 2006, the Act emphasizes democracy, cultural development, and global peace while fostering a society of lifelong learners who encourage independence, creativity, and cooperation. To operationalize these principles, MEXT developed the Basic Plan for Education Promotion, which is updated every five years to address societal changes and prepare learners for future challenges (MEXT, 2018).

In light of the national policy, many schools want to improve their students' abilities, so many schools began developing lessons in 2018. These schools use different teaching methods for their students based on prefectural and school policies. Therefore, how educators in Japan implement digital and Information literacy policies to develop the skills of elementary school students is a crucial question and answer. In-depth interviews with key informants provide an overview of success and failure case studies related to Japan's efforts to promote digital and Information literacy. Digital and Information Literacy (DIL), an essential skill in the 21st century, encompasses a variety of interconnected literacies and has received significant attention.

Digital and Information Literacy (DIL) is a multifaceted concept often used with related terms such as computer, library, network, internet, and hyperliteracy to clarify their interrelationships. In the digital age, human communication behavior has shifted significantly, with information resources moving from paper to digital formats and being disseminated through information technology (Mojjada, 2024). Digital literacy integrates knowledge and understanding of Information with digital competence, emphasizing technological tools to enhance learning, adapt to modern lifestyles, and critically evaluate Information. This integration empowers individuals to create and present innovative ideas while ethically recognizing the work of others (Grant et al., 2017).

In addition to digital literacy, it is essential to have digital competence, which is the confident, critical, and responsible use of digital technologies and engagement with digital technologies for learning, work, and community participation. These competencies include information and data literacy, communication and collaboration, media literacy, digital content creation (including programming), security (including digital well-being and cybersecurity competencies), intellectual property considerations, problem-solving, and critical thinking. Together, these skills make DIL an essential competency for navigating and

Table 1 Summary of a Framework for Promoting Skills Related to Information Literacy (IL), Digital Literacy (DL), or Digital and Information Literacy (DIL)

Open University (Durham 2013)	Australian Catholic University (2015)	The University of Sheffield (2017)	Big 6 Skills (Eisenberg & Berkowitz, 1992)
Understand and participate in digital work	Require information and determine the knowledge required and take into account ethical, social/ teamwork, and cultural aspects	Develop a search strategy and tools. Discovery of the data may be guided, inquired, or queried from various formats, including search databases, social networking, and reading. Discovery recognizes accessibility issues, including open access and ethical access	Task Definition: Determination of information needs by identifying the problem and what information will be used to solve problems
Find information	Find and generate necessary information using appropriate methods;	Find meaning and use contextual content. It covers academic reading, a variety of traditional and digital media using literacy skills;	Information seeking strategies: Determination of information search strategies well as assessing information sources systematically.
Evaluate online information critically	Assess the credibility of information sources.	Analyze, assess, interpret and think critically about information.	Location and access: Information source identification and access. It is a search for information from selected information sources. by having to study how to use information sources
Manage and communicate information searched	Manage the information and information that has been found or created for disclosure or dissemination;	Accept the work of others based on the analysis of existing knowledge. It also allows the identification of sources by creating citations and creating an accurate bibliography. These skills understand the legal and ethical context of information and enable the correct management of information.	Use of information: Information use is a compilation of record information such as downloading data-saving text or images to determine whether the information gathered is sufficient and meets the needs.
Collaborate with others and be able to disseminate digital information.	Analyze and synthesize information critically. to create knowledge new insights to individuals or working groups	Incorporating new ideas and knowledge generated through a wide range of media and covering text, audiovisual methods	Synthesis: Synthesis and presentation of information media when collecting and classified or summarizing ideas to present them in an appropriate format concerning the source To create good ethical use of information.
	Present research processes and findings taking into account ethical, social and cultural issues;	Share and disseminate work. The preservation and dissemination of digital information is a crucial element.	Evaluation: is the consideration of presentation results and research process. by considering whether the results are consistent with the problem or need and considering the work process, whether it is defective or not, and how.

Source: (Australian Catholic University, 2015; Belshaw, 2013; Einsberg & Berkowitz, 1992; Grant et al., 2017)

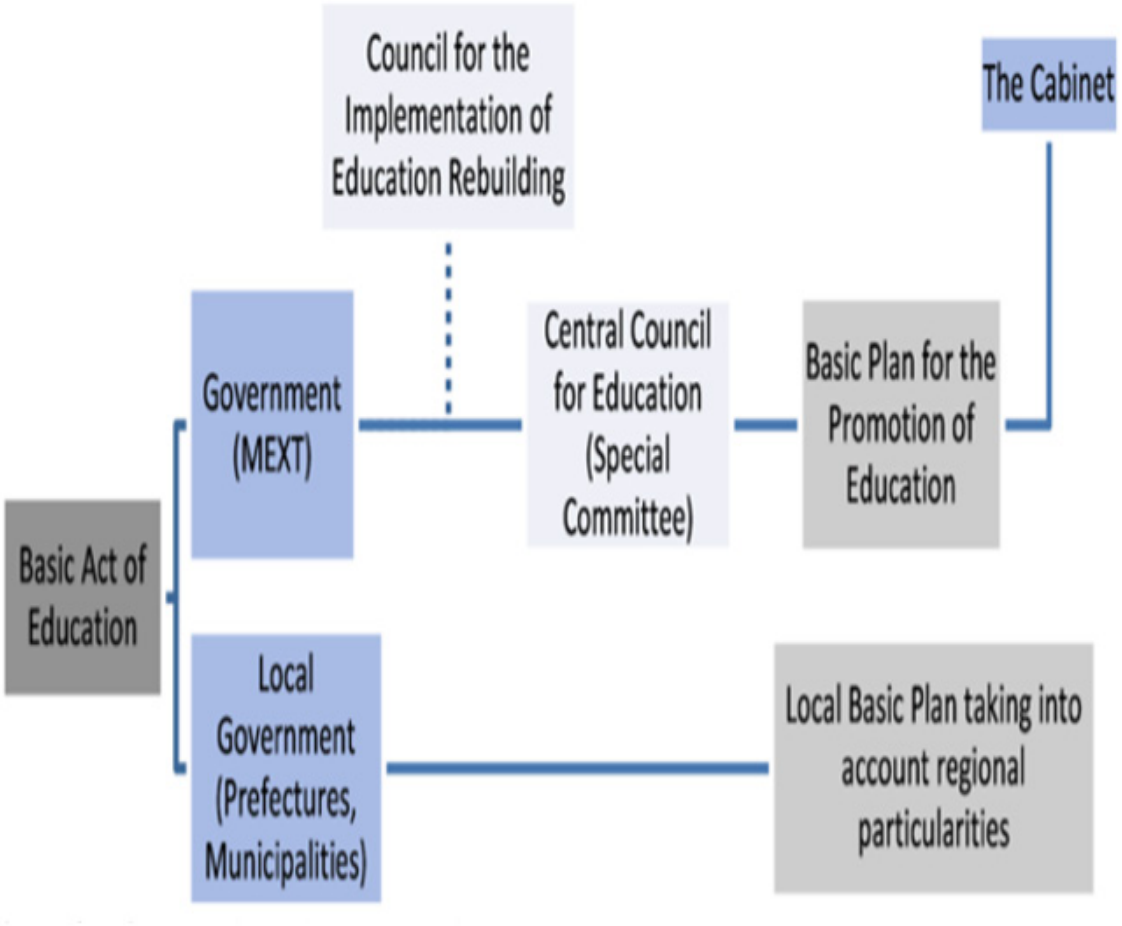
thriving amid the complexities of the modern digital world (Table 1).

Exploring Japan's education system and MEXT policies is crucial for understanding how the country tackles modern challenges. The decentralized structure, along with initiatives such as the Basic Plan for Education Promotion and the Vision for ICT in Education, highlights efforts to modernize, improve digital literacy, and balance tradition with the demands of global education. While Japan's education system is not as centralized as it may initially appear, a government authority (MEXT) is responsible for developing and implementing national education policy; distributing public resources for education at the national, prefectural, and municipal levels; and guiding national curriculum standards, textbook development, and teacher training.

At the regional level, each of Japan's 47 prefectures has a board of education responsible for coordinating education management in its geographical area, according to the Regional Education Basic Plan. Prefectural boards of education regulate the number of educational institutions; they have legal authority to establish and close schools. They also certify teachers, control the quality of teaching, and offer support measures necessary for implementing projects in cities and towns and for the proper operational management of those facilities (providing instruction, advice, and assistance; sending inspectors to municipal schools, etc.). At the municipal level, each of Japan's approximately 1,700 municipalities has a board of education responsible for selecting school textbooks. However, school principals also participated in this selection to some extent. The curriculum is taught almost exclusively by teachers, who also have authority over actual classroom instruction and practice.

As part of its ongoing efforts to improve the quality of national education, the Japanese government, through the Ministry of Education, Culture, Sports, Science, and Technology (MEXT), has developed a plan to create a strong foundation for the implementation of education policies, especially at the primary and secondary education stages. With the acceleration of social and technological changes, MEXT emphasizes the need for an adaptive approach to improve students' competencies, especially in an increasingly complex digital era (Figure 1).

Several key targets will be achieved within this policy framework over the next five years. One of the main priorities is the development of a sustainable and innovative learning system with an emphasis on improving the capacity of educators. Teachers play a central role in the success of digital education; therefore, MEXT aims to improve the quality and skills of educators through various training programs. The program aims to improve teachers' competence in utilizing digital technology as a practical learning tool and strengthen school administration systems to be more efficient and integrated with modern technology. With this system, teachers are expected to focus more



Source: MEXT, 2016

Figure 1 Responsibility process of the Basic Plan for the Promotion of Education

on learning activities and their primary tasks, without excessive administrative burdens.

In addition, the plan emphasizes strengthening the foundation for utilizing information and communication technology (ICT) in schools. The Japanese government aims for every student to access comprehensive digital education. In its implementation, this policy included several strategic measures. The first is developing information literacy among students, including skills in gathering, assessing, expressing, and managing information effectively. This competence is necessary for 21st-century pupils to engage in digital society. Second, increasing ICT use in education makes learning more interactive, immersive, and self-directing.

The major strategy for adopting digital education in Japanese elementary schools must be ICT4E (ICT for Education in Japan) to support this policy. ICT4E has four primary components that help Japanese schools implement digital use. Technology, including digital learning infrastructure, comes first. Computers, iPads, and reliable Internet connections are the most crucial components of technology-based

learning. Second, pendagogy involves a flexible curriculum design that meets modern student demands. Digital technology helps children develop critical thinking, communication, and cooperation skills, but instructors are the most crucial facilitators.

The third is organizational, including a digital school management system for academic data management and more efficient school administration. The fourth is context, which includes government policies and social and economic variables that affect digital education. The Japanese government also introduced ICT in Education Vision to promote digital-based education by teaching children digital skills early on. This initiative seeks to improve collaboration, interaction, and technological adaptability in education.

The implementation of this digital education program involves three important areas. Through information literacy, students learn to manage information and act properly in a digital society. Second, digital technology can be used in new learning approaches, such as online learning platforms and interactive software, to engage students. Third, digital technologies should be used to increase school management's efficiency and effectiveness.

The Japanese government values digital literacy for both students and teachers. Developing teachers' digital teaching skills was the primary focus. Teacher training programs help teachers understand digital technology in education and manage online learning. Schools should also improve communication to engage parents in digital education for their children.

Japan has digital literacy policies, but their implementation is difficult. Teachers, students, the government, the community, and parents must communicate to implement digital literacy in education. Communication between teachers, students, and parents is crucial for digital literacy policy implementation. Parents heavily influence technology use at home. Therefore, schools must develop effective communication tactics with parents to help them understand digital literacy and promote their children's digital literacy at home.

This study examined how Japanese primary schools communicated to adopt digital literacy policies. This research focuses on the communication characteristics that affect school-level digital literacy policy implementation, emphasizing the involvement of teachers, students, and parents. This study also compares urban and rural policy implementation in Japan and evaluates how strategic communication might close the gap. This study sought to understand how strategic communication supports elementary-school digital literacy initiatives and the problems of stakeholder communication in the Japanese education system.

This study will allow for further research on communication techniques for digital literacy policy implementation. Future research could examine how digital platforms, social media, and face-to-face interactions can help

stakeholders understand and support digital literacy policies. Comparative studies with other nations could provide a broader view of communication tactics to support digital literacy policies in diverse school systems.

RESEARCH METHODS

In-depth interviews were conducted to obtain data for this qualitative case study. This technique was chosen to explore the experiences, perspectives, and obstacles of implementing the digital literacy policy in further detail (Creswell & Poth, 2018). This study examined policy implementation, impediments, possibilities, and improvements through in-depth interviews.

Six important informants were interviewed. Purposive sampling was used to recruit interviewees with relevant backgrounds and experience in Japanese elementary school digital literacy initiatives (Spradley, 2007). Six important informant-education players who directly implemented this policy were interviewed. The informants included two elementary school teachers who taught and implemented digital literacy. Three education faculty or department academics explored digital literacy theory and policy. One learning center manager delivers educational technologies and digital resources for school-based digital learning. This collection of informants includes practitioners, researchers, and learning center managers who support digital-based education to gain a broader perspective on digital literacy policy implementation.

Tokyo was chosen as the research site because it is a center of educational innovation in Japan with stronger technology and digital infrastructure. Thus, interviews in this location can illuminate how Japanese elementary schools implement digital literacy initiatives and the obstacles they face. Tokyo has more progressive technology education legislation than other locations in Japan; therefore, data analysis from this region can help implement national digital literacy initiatives. Interviews were conducted to identify the main digital literacy policy implementation tendencies. This analysis employed interview transcripts to identify important themes that indicate policy implementation dynamics, obstacles, and stakeholder support tactics. This report discusses regional policy implementation, teacher digital literacy training, and gaps in school technological infrastructure. Strategic communication variables in digital literacy policy implementation were also examined in this research. The interview results suggest that due to uneven information dissemination, a more structured and systematic communication approach is needed to communicate the policy to all stakeholders. This research shows that inclusive communication between the government, schools, parents, and communities is crucial for digital literacy policy implementation. This research provides a clearer picture of how the digital literacy policy is implemented in Japanese elementary

school education and makes recommendations to improve its effectiveness through better communication strategies and more equitable implementation across Japan.

RESULTS AND DISCUSSION

The Japanese government recognizes the need to teach students critical thinking, ethical awareness, and responsible digital citizenship (Deschênes, 2024; Gu et al., 2023). Digital literacy is a right and skill that promotes equal information access and prepares children for the digital future. As digital literacy becomes more important in education, strategic communication is needed to effectively implement policies in different regions. Strategic communication in Japanese schools attempts to improve stakeholders' understanding to achieve policy adoption at every level of education.

Digital literacy includes information discovery and access, critical evaluation of information sources, ethical information management, and collaboration in knowledge creation and dissemination. It also requires technical skills to access and use technology and a deep understanding of how information is collected, analyzed, managed, and used in various contexts. Information discovery and access require the use of accessible and ethical tools and procedures to find and access information. Comprehensive information searches must use both traditional and digital media. Digital literacy requires a critical evaluation of the authenticity, relevance, and correctness of information sources. This talent allows one to critically analyze material and assess its context and worth.

Next is information management and ethical use, where managing and communicating information requires organizational skills and adherence to legal and ethical guidelines. This includes making accurate citations, respecting intellectual property, and responsibly handling digital content. Collaboration encourages the ability to synthesize and analyze information in a team environment, resulting in new insights and ideas. Presenting findings through various media formats, such as text and audiovisual formats, increases the impact of shared knowledge. Presenting research involves ethical and cultural considerations while evaluating the results for effectiveness and alignment with objectives. Reflecting on this process ensures continuous improvement and learning.

To support this digital literacy, the Japanese government aims to use ICT in Education to create a learning system and schools ready to survive in the 21st century. This system encourages Japanese students to have the necessary skills and information literacy. The Japanese government created policies and initiatives to promote digital and information literacy among its citizens. Japan mandates six hours of annual lessons, with Tokyo taking the lead in its implementation (Haga, 2023). However, Japan does not have a specific policy to promote Digital and Information Literacy

(DIL) at any educational level. However, various policies within the national education framework have contributed to the development of ICT literacy.

In implementing this policy, Japan emphasizes the importance of early digital skills in promoting academic success and future career readiness (Dezuanni, 2016), as early intervention can improve adaptability to digital technologies. ICT in Education Vision outlines a strategic roadmap, while the Basic Plan for Education Promotion aims to bridge the digital divide. A key focus of this plan is strengthening digital and information literacy in Japanese schools. The government seeks to ensure that students have skills that include academic understanding and a broader understanding of the use of information technology in learning and everyday life. This policy covers various aspects of education, from developing a technology-based curriculum and improving the competence of educators to providing an infrastructure that supports digital learning.

Digital literacy has been implemented in Japanese schools in various ways. Some schools have integrated digital literacy into science and Japanese language subjects, whereas others teach it in a dedicated time slot for technology skills. Teaching methods range from using digital tools for research and presentations to introducing typing skills and evaluating the credibility of information. Several key informant interviews revealed that digital literacy policies in Japan have not been uniformly implemented across all elementary schools, with persisting regional disparities, as ICT education is not consistently integrated into subjects such as science and Japanese, leading to uneven skill development (Mitomo, 2020). While there are guidelines from the Ministry of Education, these policies are often optional, and each region can determine whether digital literacy will be a compulsory subject or just part of the supplementary curriculum. The lack of elementary school media literacy, digital technology, and digital safety policies hinders digital literacy. Digital literacy has been introduced since primary school; however, regional policies vary. Tokyo schools must teach ICT. Other regions have more flexible policies that depend on school decisions (Andersen et al., 2024). Digital literacy awareness is strong, but its implementation varies according to local regulations and school preparation (Rodríguez-Martín et al., 2024).

This illustrates that differing regional rules make it difficult to implement digital literacy policies in Japanese schools (Akbari & Pratomo, 2022). Digital literacy information is unevenly distributed, and there is no systematic contact between the central government and local education authorities, resulting in policy implementation discrepancies. Some urban areas require digital literacy. Other rural communities still view it as an optional subject. This suggests a more systematic top-down communication method to standardize literacy policy implementation. (Andersen et al., 2024).

In primary schools, digital literacy is implemented in several ways. Some schools incorporate digital literacy into science and Japanese language classes, whereas others designate technology time. Learning techniques differ from employing digital resources for assignments and presentations to teaching typing and assessing information credibility. This illustrates that while literacy awareness is strong, the strategy varies by location and school willingness to utilize digital technology. (Rodríguez-Martín et al., 2024).

Teachers' digital communication competence is a major factor in determining the effectiveness of policy implementation. Many teachers still face difficulties in integrating digital technology into their learning methods due to the lack of continuous technology training. To overcome this challenge, the first step is to provide facilities and access to technological training. Thus, an efficient communication strategy is needed, including the alignment of messages and the selection of appropriate media to convey the digital literacy policy (Muchtar et al., 2024). Digital tools, such as social media and online learning platforms, have expanded access to information and increased public awareness of the importance of digital literacy (Zein et al., 2024). Digital literacy-related messages and materials cannot be optimally delivered to students without adequate digital communication skills. Therefore, a communication strategy involving regular teacher training and the improvement of digital communication skills is an important step in strengthening the implementation of this policy (Zhao, 2024). Thus, continuous teacher training must be prioritized in the digital literacy policy.

In implementing digital literacy policies in Japan, communication strategies are important in curriculum development and in providing a digital infrastructure that supports learning. One of the main challenges in developing a digital literacy curriculum is ensuring that the material taught covers technical skills in using technology and includes the digital ethics dimension that should be applied in students' daily lives. This aligns with research findings that show that although digital technologies are increasingly used in teaching, digital ethics such as data privacy, digital security, and respect for copyright still receive less attention in teaching practices in Japanese elementary schools. Effective communication strategies are needed to ensure that digital ethics values are integrated into the digital literacy curriculum so that students not only learn to use technology, but also understand how to use it responsibly and ethically. More structured and inclusive communication is needed between the government, schools, and families to ensure that all stakeholders understand the importance of digital ethics.

Technology-based approaches, digital platforms, and social media can spread information about digital ethics, helping students and parents understand the importance

of using technology wisely and using social media and other digital tools to support learning, considering how communication strategies can be tailored to educational needs. Customized communication strategies for digital literacy instruction can enhance students' competencies (Rodríguez-Martín et al., 2024). Digital literacy communication tactics also depend on the capacity to adapt to messages and to communicate properly and consistently. Successful communication demands an integrated approach that aligns messages and ensures information transmission across educational levels. (Cole et al., 2024).

Along with the curriculum, infrastructure has been a major obstacle to executing this digital literacy program. Computers, iPads, and Internet connectivity are scarce in many classrooms. Not all Japanese schools have sufficient technology-based learning materials. Digital literacy requires acceptance, competence, and confidence in utilizing digital devices responsibly (Desmaryani et al., 2024). Teachers' competence in teaching digital literacy skills is also crucial to primary school digital literacy policy implementation. To enhance infrastructure provision, education and technology firms must collaborate in strategic communication. Schools, teachers, parents, and technology businesses may improve digital literacy through collaboration (Sari et al., 2024).

Schoolchildren in urban areas, such as Tokyo, have better access to computers and iPads. However, technology is still scarce in some places. Not all schools have sufficient gadgets for students, and some use obsolete desktop PCs for digital learning (Andersen et al., 2024). Community and commercial sector assistance gives schools access to digital tools, training modules, and teacher professional development programs. Parental support for digital literacy at home is crucial. Through seminars and school information sessions, families can help students grasp digital technology beyond the classroom and in their daily lives (Jung et al., 2025).

The community's attitude towards technology in schooling is another obstacle to implementing this digital literacy strategy. Parents and educators worry about the impact of technology on children's social and emotional development. Thus, communication tactics are used to socialize digital literacy strategies and overcome resistance by highlighting their benefits. Student development in an ever-changing digital world requires mastery of technical skills, critical thinking, and ethical technology use (Kusumalestari et al., 2023)..

Communication must be strengthened in schools to foster critical thinking skills. Digital literacy training emphasizes technical skills and responsible information analysis, evaluation, and use. This communication technique teaches digital literacy and encourages students to critically evaluate the information obtained from digital media and other sources. Students with digital literacy and critical thinking abilities can evaluate the trustworthiness and usefulness of information and make better technological

choices. Digital literacy policies can be better implemented by emphasizing critical thinking communication. Technology education that blends ethics and critical thinking can help students become skilled technology users who are conscious of its social implications.

Digital literacy implementation requires overcoming culture and attitudes, human resource competencies, and infrastructure. Digital transformation will function smoothly if these three problems are overcome (Akbari & Pratomo, 2022). Experts teaching children and parents about online safety and responsible technology use contribute various views to digital literacy (Bulus et al., 2022). We need a more inclusive and systematic communication approach among the government, schools, and communities to guarantee that digital literacy is about understanding tools and using them ethically and responsibly in daily life. Digital literacy policies must optimize stakeholder communication, especially school-family communication, to raise awareness and parental involvement in promoting their children's digital literacy. Schools can improve DIL by working with families to build a more consistent digital literacy approach outside the classroom (Jung et al., 2025). The school standardizes DIL outside the classroom through workshops and information sessions (Suryani et al., 2023). This can improve classroom learning and enable parents to assist children's digital literacy at home, encouraging a well-rounded education. Digital citizenship, which is crucial for responsible digital engagement, can be better understood with this holistic approach..

Some Japanese schools have organized seminars and information sessions for parents to learn about digital literacy and its role in supporting learning at home (Jung et al., 2025). However, digital technology is needed to maximize this digital literacy policy's communication techniques. Information and communication about this policy are spread using social media and other digital channels (Nurfalah et al., 2023). Japanese schools use online platforms to educate digital literacy and connect instructors, students, and parents. Effective communication tactics for digital literacy instruction can enhance students' competencies (Rodríguez-Martín et al., 2024).

Digital literacy policies at various school levels can be successful by using digital tools and social media to maximize message reach and effectiveness (Zein et al., 2024). Japanese schools use digital platforms and exploration projects to encourage pupils to critically analyze information. Japanese students develop digital content with international students through technology-based projects. This method enhances students' digital skills and cross-cultural digital communication knowledge. Digital communication techniques can improve information dissemination and students' digital literacy (Zein et al., 2024). Reflective learning also improves students' communication skills. Reflection-based teaching practices can embed effective communication methods that affect

students' reflective learning (Haile et al., 2024). These tactics help students to comprehend and assess information. This method develops students' practical skills and technological knowledge (Wu, 2019), and prepares them for a digital society (Susanty, 2024)..

Collaboration between these stakeholders is an important factor in the successful implementation of digital literacy policies. Schools, teachers, parents, and technology companies should collaborate to create a supportive environment for digital literacy development (Sari et al., 2024). Through support from the community and private sector, schools can access a wider range of resources, and with parental involvement in supporting digital literacy at home, it can create a more holistic approach to digital literacy, so that students' understanding of technology is not limited to the classroom environment but also to everyday life. An integrated communication strategy that ensures information dissemination is clear, consistent, and adaptable to the needs of specific audiences (Dasruth et al., 2024) can support the maximum implementation of this digital literacy policy.

Through communication strategies in implementing the digital literacy policy, Japanese schools need to adopt a holistic, collaborative, and technology-based approach. Strengthening communication between stakeholders, improving teachers' digital competence, and utilizing technology-based communication tools are steps that must be developed to implement this policy more effectively. In addition, appropriate communication patterns in digital literacy strategies can directly impact students' reflective learning practices. Through a strategic communication approach based on educational needs, digital literacy strategies can improve students' critical thinking competencies and help them navigate the digital environment more responsibly (Haile et al., 2024). Going forward, the main challenge that needs to be addressed is to ensure that all stakeholders distribute and understand policy information equally. Through a systematic and collaborative communication strategy, the implementation of digital literacy policies in Japan can be optimized to build a deep understanding of technology in the global era.

This study shows that strategic communication is an important aspect of the successful implementation of digital literacy policies in Japanese schools. Adaptive, collaborative, and technology-driven communication strategies can help in overcoming these digital literacy implementation challenges, ensuring that policies are implemented well, and strengthening public understanding of the importance of digital literacy in education. With a coordinated and sustainable approach, digital literacy can become an integral part of Japan's education system, creating a generation that is better equipped to face the challenges of the digital age with confidence and responsibility. Strategic communication in the implementation of this literacy policy also aims to build a strong

understanding among stakeholders and ensure that the policy is well adopted at every level of education. The Japanese government has implemented a policy that encourages digital literacy at the elementary school level, but without a clear and uniform communication strategy, the effectiveness of this policy varies across different regions in Japan.

With a well-thought-out communication plan, digital literacy policy messages can be well received and gaps in understanding between the government, schools, and communities can be reduced. Good coordination between the central government and local education authorities and schools is needed to design a comprehensive curriculum that is easily adaptable to educators (Adel, 2024). Therefore, it is crucial to develop clear and structured messages so that all stakeholders can understand digital literacy policy well. A successful communication strategy requires an integrated approach that harmonizes messages and ensures effective information dissemination across educational levels (Cole et al., 2024).

In addition, a structured framework for key digital competencies, such as identity management and content evaluation, is required. National guidelines mainly focus on secondary education, leaving elementary schools without a clear framework (MEXT, 2018). To ensure equitable access to digital literacy, Japan must develop a cohesive national framework that standardizes ICT integration, defines skill benchmarks, and effectively allocates resources. Collaboration among policymakers, educators, and local governments is essential to balance flexibility and consistency. Digital literacy is not just a skill, but also a fundamental right that ensures equitable access to information and prepares students for the digital future (IFLA, 2019).

CONCLUSION

This study indicates that communication strategies play a key role in supporting the effectiveness of the digital literacy policy implementation in elementary schools in Japan. The main findings indicate that implementing the digital literacy policy has not been evenly distributed and is characterized by disparities between regions, limited digital infrastructure, and low readiness among educators to integrate technology into the learning process. While metropolitan areas, such as Tokyo, have made significant progress through the integration of technology as part of the compulsory curriculum, many other places still rely on local policies that are optional and not standardized.

The implications of these findings underscore the importance of systematic, cross-level policy communication planning that targets educational institutions and reaches out to other key actors, such as local governments, school communities, and the private sector. Digital literacy alone cannot be viewed as a technical skill. Nevertheless, it should be considered a multidimensional competency that includes

critical thinking, ethical awareness, and the ability to participate actively and responsibly in digital spaces. Therefore, the success of policy implementation depends on the extent to which the communication strategy can instill these values among all stakeholders.

As a recommendation, it is necessary to strengthen the ecosystem-based communication strategy that includes (1) continuous training for teachers to build digital communication competencies that are responsive to technological developments, (2) development of a school-community communication model to encourage parental involvement in supporting children's digital literacy, and (3) strategic partnerships between the government and the private sector in providing inclusive communication infrastructure and media. Adaptive, collaborative, and evidence-based policy communication is a prerequisite for realizing a modern, resilient, 21st-century-oriented education system.

Acknowledgments: The researcher sincerely appreciates the Royal Golden Jubilee Ph.D. Program for supporting the opportunity to participate in short-term research training in Information Science in Japan.

Data Availability Statement: Data supporting the findings of this study are available upon request from the corresponding author. Owing to privacy and ethical considerations, the data cannot be freely published. Each data access request will be evaluated individually to ensure compliance with applicable policies and regulations.

Conflict of Interest: There are no conflicts of interest to declare.

Funding: No Funding.

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