



## Leadership Literacy in the Digital Era : A Study of Teacher and Student Understanding

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**Abstract:** This research aims to analyze the understanding of technology-based leadership literacy in elementary schools. The research used a descriptive method with a qualitative approach, involving elementary school teachers and students in West Jawa as subjects. Primary data was gathered through interviews, observations, surveys, and documentation, while secondary data was sourced from previous studies by other researchers. Nvivo12 software was utilized for data analysis. The research findings revealed that literacy in the digital era is very important to teach students from an early age to build superior student character. Literacy skills in the digital era will encourage students to have competence in solving problems, broad insight, and be critical and creative in carrying out their activities.

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## Introduction

In the year 2045, which marks 100 years of Indonesia's independence, the country envisions itself as a prosperous nation with a strong economy and equal well-being for its people, as laid out in the Constitution. One crucial factor influencing this vision is the ability to harness and utilize information and communication technology, including digital technology and various artificial intelligence applications (Holmes et al., 2019). The rapid advancement of digital technology has become a significant topic of change in various sectors, including education. These changes need to be carefully understood and analyzed. Every decade brings new transformations, proving that nothing remains static, and humans must continually adapt to the pace of change (Fadel, 2010; Fadel et al., 2015; Teare, 2002).

Literacy is crucial to change, especially in today's digital era. It refers to the ability to understand and influence information, which every individual should possess. Being literate means having the power to inspire and guide others toward achieving a shared goal, particularly as an innovative and well-informed leader (Demina & Fitria, 2018). To nurture literate leaders, we need to ensure that our human resources are well-equipped and highly competitive. They should have essential future-oriented skills, such as effective communication, critical thinking, global awareness, problem-solving abilities, and creativity, that align with their talents and interests (Herlinda, 2019; Sofralda et al., 2020). Indonesia has a golden opportunity to leverage the Fourth Industrial Revolution and Society 5.0, tapping into its vast creative potential and fostering innovation. By doing so, the country can compete globally and achieve progress for the nation's benefit. However, this ongoing phenomenon



brings about changes and consequences that we must be ready to face (Setiawan & lenawati, 2020; Sutiyoso et al., 2021; Suyitno, 2020).

In today's world, literacy has become an essential skill that every individual needs to develop. The 21st-century projections emphasize three key competencies: literacy, 4C Competence (Critical et al.), and character (Zakaria, 2021). UNESCO defines *literacy* as the ability to discover, understand, interpret, create, communicate, calculate, and use written and printed materials to enhance knowledge (Naufal, 2021; Nugraha & Octavianah, 2020). Other research explains that literacy involves skills to unlock potential, manage and understand information while engaging in activities like reading, writing, math, and problem-solving (Ginting, 2020). As technology rapidly advances, being literate becomes even more crucial to thriving in a knowledge-driven society and achieving Indonesia's vision for 2045 (Nurwahidah & Iskandar, 2022). However, in Indonesia, there are challenges related to literacy comprehension, especially in education. These challenges include a shortage of technologically adept educators, the spread of misinformation, and low literacy skills in language, math, and science, as highlighted by the Programme for International Student Assessment (PISA) survey in 2018 (Utami, 2021). These issues significantly impact the overall quality of education in the country.

Indonesia is expected to experience a demographic bonus between 2030 and 2040, with 64% of its population in the productive age range, totaling around 297 million people. To keep up with this growth, it becomes crucial to focus on improving the quality of education, enhancing skills, increasing workforce competitiveness, and aligning with the demands of the 4.0 era (Achmad Nur Sutikno, 2020; Mukri, 2018). We are currently in the midst of the Fourth Industrial Revolution, where technology and information have become integral to human life (Martiany, 2019). In this context, technological and information literacy are essential skills encompassing knowledge, critical thinking, and decision-making abilities, especially in education. Educational institutions must adapt and prepare to cater to millennial students with digital education, digital skills, basic literacy, technological literacy, humanistic literacy, character education, and life skills. By doing so, individuals will develop into excellent human resources ready to compete with other nations.

As technology advances rapidly, it is essential to nurture students with leadership qualities and the ability to spot future opportunities. Teaching leadership from a young age to adulthood will help Indonesia produce exceptional young leaders who excel in various fields as the country prepares for its demographic bonus. These individuals will possess crucial skills, such as processing and comprehending information while developing leadership traits like innovation, creative thinking, decision-making, and problem-solving. These abilities align perfectly with the essential skills needed in the 21st century, including critical thinking and problem-solving, effective communication, creativity and innovation, and collaboration (Ahmad & Wibawa, 2021; Sumarno, 2019).

In the face of these challenges, the future of education calls for teachers to be more creative, innovative, and inspiring in designing high-quality learning activities to prepare for Indonesia's Golden Generation in the year 2045. Teachers hold the key to success in developing human resources, which are not only productive but also excellent and religious (Darman, 2017; Kemendikbud, 2017). One vital aspect of achieving this is creative and innovative teaching methods catering to students' needs and characteristics. These methods should be delivered engagingly and enjoyably (Domingo & Garganté, 2016). However, some instructional approaches do not align with the planned methods and strategies (Leasa et al., 2020; Syahroni et al., 2020; Tarigan & Siagian, 2015). This discrepancy can be due to difficulty finding suitable teaching resources, teachers' lack of technological knowledge,



limited preparation time, and inadequate financial resources (Kadarisma & Ahmadi F, 2019; Rulviana, 2019).

Based on the explanation above, leadership literacy is essential from a young age. It helps prepare students to envision the future, implement their ideas, and inspire others to follow. Leadership literacy is evident in various personal abilities, such as cognitive flexibility for adaptability and creativity for fresh perspectives. Moreover, it includes the skills to tackle complex problems affecting the future, make well-informed and swift decisions, and communicate effectively with others. These abilities empower students to share ideas, motivate others, and mobilize resources while upholding integrity. This study aims to analyze the understanding of technology-based leadership literacy in elementary schools. *Literacy skills* are an essential part that every individual must have in today's digital era. With their literacy skills, they will be able to develop potential, process information, and solve problems in their activities.

### Research Method

The research method used in this study is descriptive with a qualitative approach. The study involved teachers and students from elementary schools in West Java. The researchers conducted interviews, observations, surveys, and documentation to gather data. Additionally, they also utilized secondary data from previous research by other scholars. The data analysis was carried out using Nvivo12 software. The research employed Milles and Huberman's data analysis model in three steps:

- 1) Data Reduction: The researchers carefully examined, wrote, and summarized the data collected through observations, interviews, focused discussions, and documentation. This data reduction process occurred throughout the research, helping identify relevant themes and crucial information.
- 2) Data Display: The researchers presented the data using analytical graphs and concise narrative texts once the data was reduced. By presenting the acquired data in this manner, the researchers gained better insights into what needed further exploration and analysis, which facilitated making informed decisions and planning subsequent steps.
- 3) Verification: In the final stage, the researchers drew conclusions based on the data collected from observations, focused discussions, and documentation. This step aims to clarify any unclear information and provide a comprehensive understanding of the research findings.

### Results and Discussion

#### Understanding Leadership Literacy Among Teachers

In today's rapidly changing world driven by globalization and technology, literacy has become vital as Indonesia aims for its golden era in 2045. The swift progress of technology has had a significant impact (Mathewson, 2016). However, amidst this wave of globalization and technological advancement, the importance of literacy culture has been somewhat overlooked. It is crucial, therefore, to balance this by nurturing literacy skills in every individual (Jatnika, 2019). The culture of literacy plays a pivotal role in nurturing competent and exceptional leaders for the future (Hasibuan & Prastowo, 2019). P Literate leaders are well-versed in technology, possess creativity, innovative thinking, critical analysis, and a thirst for lifelong learning (Pinto & Nzau, 2017). Considering these perspectives, leadership literacy is the ability and competence of an individual to process information effectively in their everyday activities. To gain a deeper understanding of leadership literacy, the analysis





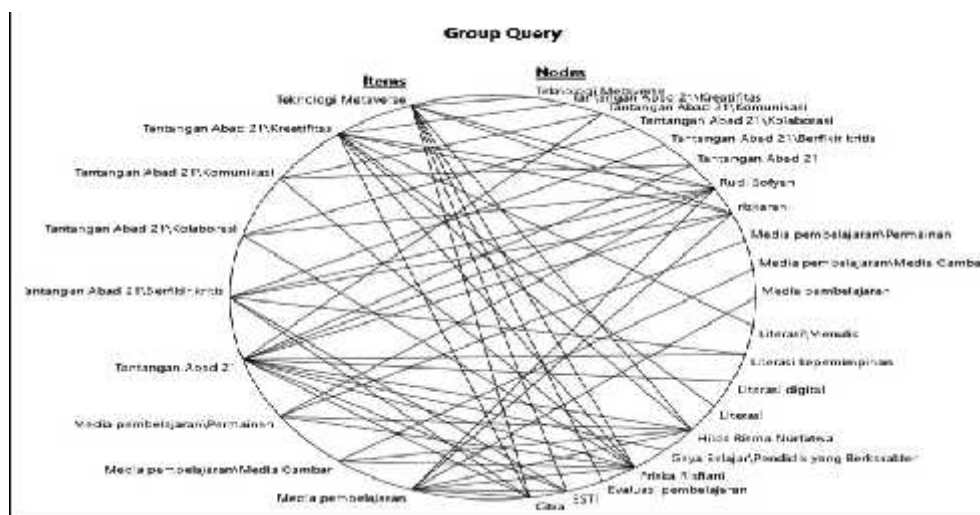
and digital literacy. The 4C competencies (critical thinking, creative thinking, collaboration, and communication) and character traits are also essential. This holistic approach aims to nurture outstanding young leaders ready to compete with other nations amidst the advancements of digitalization (Angga et al., 2022; Jufriadi et al., 2022).

In the digital era, leadership literacy skills allow individuals to utilize information for the organization's future benefit, making well-informed decisions crucial for the organization's sustainability through digital information analysis. Moreover, emphasizing the importance of leadership literacy, it extends beyond merely reading. It involves comparing, contrasting, and juxtaposing and can even serve as a tool for engaging in debates, exchanging ideas, opinions, and concepts, and nurturing a continuously developing critical mindset. Considering these perspectives, it becomes evident that teaching leadership literacy from an early age is essential. With solid leadership literacy in the digital era, individuals will acquire the abilities and skills to solve problems, adopt a global perspective, and think critically and creatively in their day-to-day activities.

### Implementation of Leadership Literacy in Elementary Schools

The era of digitalization has become a significant concern for educators, as they fulfill their tasks and responsibilities. In the context of the 21st century, it is emphasized that three essential aspects need to be mastered: Character, 4C competencies (Critical Thinking, Communication, Collaboration, and Creativity), and literacy. The following are the interconnected skills required based on the results of interviews.

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**Figure 2. Connectivity Challenges of the 21st Century**

The analysis results show that in the 21st century, both teachers and students need to have excellent communication skills. It allows them to express ideas systematically (Ilyas, 2018). Moreover, 21st-century skills also require developing critical thinking, problem-solving, social, self-directed learning, and knowledge acquisition abilities. To meet the challenges of the modern era, using media becomes essential for teachers to facilitate the learning process in schools. Media aids in delivering clear messages and engaging students effectively (Mulyono & Ampo, 2021). These skills align with the 21st-century requirements,



where students should have competencies in thinking and learning (Laksana, 2021). These competencies include communication, collaboration, critical thinking, problem-solving, creativity, and innovation skills (Arsanti et al., 2021; Fajri et al., 2021; Kawuryan, 2019). However, based on informant interviews, not all school media are optimally facilitated regarding resources, space, and competent personnel. Various media forms, such as laptops, speakers, projectors, and infocus devices, are employed. Laptops are used for creating videos, presentations, and animations, while other forms include text materials, print materials, musical instruments, sports equipment, science and math kits, and Chromebooks. As a result, teachers are expected to devise effective, efficient, and enjoyable strategies and methods for students. They should create a comfortable classroom environment, design engaging learning media, plan structured lessons, utilize diverse media, actively involve students in learning, and provide motivation and feedback to foster a conducive learning experience.

Based on the analysis study results, literacy skills in the digital era are an important part that must be possessed as competencies by each individual. This ability is not only reading, writing, and arithmetic but also the ability to have global, creative, and innovative knowledge in developing its potential, and good digital literacy skills will give birth to literate individuals who can understand and interpret various information to be able to solve problems in every activity. The results of this research are important for education in Indonesia to improve literacy skills in the digital era. In fostering the spirit of student literacy, creativity and innovation are needed by parents, teachers, and the community. So that further research needs to be carried out to develop a digital literacy model that can accommodate the needs of students in learning.

### **Conclusion**

The research findings revealed that literacy in the digital era is very important to teach students from an early age to build superior student character. Literacy skills in the digital era will encourage students to have competence in solving problems, broad insight, and be critical and creative in carrying out their activities.

### **Recommendation**

This research needs to be carried out further to develop literacy models that suit the needs of technology-based students. In improving literacy skills, teachers must foster the spirit of literacy with creativity and innovation in extracurricular, co-curricular, and extracurricular activities. In addition, it is also necessary to carry out the principal's policy in implementing literacy activities by adjusting the school culture to reflect the characteristics of the school's vision.

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### **References**

- Achmad Nur Sutikno. (2020). BONUS DEMOGRAFI DI INDONESIA. *VISIONER: Jurnal Pemerintahan Daerah Di Indonesia*, 12(2). <https://doi.org/10.54783/jv.v12i2.285>
- Ahmad, J., & Wibawa, F. A. (2021). Peran Literasi Teknologi Dalam Pembelajaran Daring. *Jurnal Lentera Pendidikan Pusat Penelitian Lppm Um Metro*, 6(2).



- Angga, A., Abidin, Y., & Iskandar, S. (2022). Penerapan Pendidikan Karakter dengan Model Pembelajaran Berbasis Keterampilan Abad 21. *Jurnal Basicedu*, 6(1). <https://doi.org/10.31004/basicedu.v6i1.2084>
- Arsanti, M., Zulaeha, I., Subiyantoro, S., & S, N. H. (2021). Tuntutan Kompetensi 4C Abad 21 dalam Pendidikan di Perguruan Tinggi untuk Menghadapi Era Society 5.0. *Prosiding Seminar Nasional Pascasarjana (PROSNAMPAS)*, 4(1).
- Darman, R. A. (2017). MEMPERSIAPKAN GENERASI EMAS INDONESIA TAHUN 2045 MELALUI PENDIDIKAN BERKUALITAS. *Edik Informatika*, 3(2). <https://doi.org/10.22202/ei.2017.v3i2.1320>
- Demina, & Fitria, R. (2018). Literasi dan inovasi dalam meningkatkan kompetensi kepemimpinan pendidikan. *3rd International Conference on Education 2018 Teachers in the Digital Age*.
- Domingo, M. G., & Garganté, A. B. (2016). Exploring the use of educational technology in primary education: Teachers' perception of mobile technology learning impacts and applications' use in the classroom. *Computers in Human Behavior*, 56. <https://doi.org/10.1016/j.chb.2015.11.023>
- Fadel, C. (2010). 21st Century Skills: How can you students for the new prepare Global Economy? *Nsf Ate, May*.
- Fadel, C., Bialik, M., & Trilling, B. (2015). Redesigning education for a transforming world. *Four-Dimensional Education*.
- Fajri, I., Yusuf, R., & Yusoff, M. Z. M. (2021). Model Pembelajaran Project Citizen Sebagai Inovasi Pembelajaran Dalam Meningkatkan Keterampilan Abad 21. *JURNAL HURRIAH: Jurnal Evaluasi Pendidikan Dan Penelitian*, 2(3).
- Ginting, E. S. (2020). Penguatan literasi di era digital. *Prosiding Seminar Nasional PBSI-III Tahun 2020*.
- Hasibuan, A. T., & Prastowo, A. (2019). KONSEP PENDIDIKAN ABAD 21: KEPEMIMPINAN DAN PENGEMBANGAN SUMBER DAYA MANUSIA SD/MI. *MAGISTRA: Media Pengembangan Ilmu Pendidikan Dasar Dan Keislaman*, 10(1). <https://doi.org/10.31942/mgs.v10i1.2714>
- Herlinda. (2019). KOMPETENSI KEPEMIMPINAN GLOBAL DALAM KONTEKS KOMUNIKASI ORGANISASI. *Mediakom: Jurnal Ilmu Komunikasi*, 3(1). <https://doi.org/10.35760/mkm.2019.v3i1.1981>
- Holmes, W., Bialik, M., & Fadel, C. (2019). Artificial intelligence in education: Promises and Implications for Teaching and Learning. In *Center for Curriculum Redesign* (Vol. 14, Issue 4).
- Ilyas, M. (2018). The Influence of CLL on EFL Learners' Speaking Skill. *J-SHMIC : Journal of English for Academic*, 5(2). [https://doi.org/10.25299/jshmic.2018.vol5\(2\).1987](https://doi.org/10.25299/jshmic.2018.vol5(2).1987)
- Jatnika, S. A. (2019). Indonesian Journal of Primary Education Budaya Literasi untuk Menumbuhkan Minat Membaca dan Menulis. © 2019-*Indonesian Journal of Primary Education*, 3(2).
- Jufriadi, A., Huda, C., Aji, S. D., Pratiwi, H. Y., & Ayu, H. D. (2022). ANALISIS KETERAMPILAN ABAD 21 MELALUI IMPLEMENTASI KURIKULUM MERDEKA BELAJAR KAMPUS MERDEKA. *Jurnal Pendidikan Dan Kebudayaan*, 7(1). <https://doi.org/10.24832/jpnk.v7i1.2482>
- Kadarisma, G., & Ahmadi F, Y. (2019). Pelatihan Penggunaan Media Pembelajaran Berbasis ICT Kepada Guru Sekolah Dasar. *Amal Ilmiah: Jurnal Pengabdian Kepada Masyarakat*, 1(1). <https://doi.org/10.36709/amalilmiah.v1i1.9710>
- Kailani, R., Susilana, R., & Rusman, R. (2021). Digital Literacy Curriculum in Elementary



- School. *Teknodika*, 19(2). <https://doi.org/10.20961/teknodika.v19i2.51784>
- Kawuryan, S. P. (2019). Relevansi konsep pemikiran pendidikan dan kebudayaan George S. Counts dan Ki Hajar Dewantara dengan kompetensi peserta didik abad 21. *Jurnal Civics: Media Kajian Kewarganegaraan*, 16(2). <https://doi.org/10.21831/jc.v16i2.22045>
- Kemendikbud. (2017). Peta Jalan Generasi Emas Indonesia 2045. *Kementerian Pendidikan Dan Kebudayaan Republik Indonesia*.
- Laksana, S. D. (2021). Pentingnya Pendidikan Karakter Dalam Menghadapi Education Technology The 21st Century. *Jurnal Teknologi Pembelajaran (JTeP)*, 1(01).
- Leasa, M., Syam, F. A., Sayyadi, M., & Batlolona, J. R. (2020). Inovasi Pembelajaran Bagi Guru Sekolah Dasar Dalam Mendesain Video Pembelajaran. *Publikasi Pendidikan*, 10(1). <https://doi.org/10.26858/publikan.v10i1.10454>
- Marmoah, S., & Poerwanti, Suharno, J. I. S. (2022). Literacy culture management of elementary school in Indonesia. *Heliyon*, 8(4). <https://doi.org/10.1016/j.heliyon.2022.e09315>
- Martiany, D. (2019). Tantangan dan Peluang. *Pusat Penelitian Badan Keahlian DPR RI*, XI(5).
- Mathewson, A. (2016). Information Literacy in the Digital Age. *School of Information Student Research Journal*, 5(2). <https://doi.org/10.31979/2575-2499.050201>
- Mukri, S. G. (2018). Menyongsong Bonus Demografi Indonesia. *'ADALAH*, 2(6). <https://doi.org/10.15408/adalah.v2i6.8223>
- Mulyono, & Ampo, I. (2021). PEMANFAATAN MEDIA DAN SUMBER BELAJAR ABAD 21. *Paedagogia: Jurnal Pendidikan*, 9(2). <https://doi.org/10.24239/pdg.vol9.iss2.72>
- Naufal, H. A. (2021). LITERASI DIGITAL. *Perspektif*, 1(2). <https://doi.org/10.53947/perspekt.v1i2.32>
- Nugraha, D., & Octavianah, D. (2020). Diskursus Literasi Abad 21 di Indonesia. *Jurnal Pendidikan Edutama*, 7(1). <https://doi.org/10.30734/jpe.v7i1.789>
- Nurwahidah, I., & Iskandar, S. (2022). Kepemimpinan Kepala Sekolah Meningkatkan Kecakapan Multiliterasi di Sekolah Dasar. *Jurnal Basicedu*, 6(4). <https://doi.org/10.31004/basicedu.v6i4.3093>
- Oktovianny, L. (2020). Budaya Literasi (Baca-Tulis) dan Hoaks di Era Disrupsi. *Humaniora Dan Era Disrupsi*, 1(1).
- Pinto, A., & Nzau, D. K. (2017). Training teachers how to plan for teaching science and technology. In *Teaching Science: Contributions of Research for Planning, Practice and Professional Development*.
- Rulviana, V. (2019). Pemanfaatan Media Pembelajaran Berbasis ICT. *Prosiding Seminar Nasional PBSI UPY 2019*.
- Salsabila, U. H., Ilmi, M. U., Aisyah, S., Nurfadila, N., & Saputra, R. (2021). Peran Teknologi Pendidikan dalam Meningkatkan Kualitas Pendidikan di Era Disrupsi. *Journal on Education*, 3(01). <https://doi.org/10.31004/joe.v3i01.348>
- Setiawan, D., & Lenawati, M. (2020). Peran dan Strategi Perguruan Tinggi dalam Menghadapi Era Society 5.0. *RESEARCH: Computer, Information System & Technology Management*, 3(1). <https://doi.org/10.25273/research.v3i1.4728>
- Sofralda, S., Halimatus Sa'diah, H., & Aulia Rahmayanti, A. (2020). KOMPETENSI KEPEMIMPINAN KOMUNIKASI ERA 4.0. *Al-Mubin; Islamic Scientific Journal*, 3(2). <https://doi.org/10.51192/almubin.v3i2.77>
- Sumarno, S. (2019). Pembelajaran kompetensi abad 21 menghadapi era society 5.0.





*SEMDIKJAR 3.*

- Sutiyoso, B. U., Prihantika, I., Saputra, P. R., Fitriani, Y., & Destrilia, I. (2021). Peran Mahasiswa dalam Pembangunan Politik di Era Society 5.0 dan Revolusi Industri 4.0. *Seminar Nasional Pengabdian Masyarakat Teknologi Dan Inovasi (SENAPATI)*.
- Suyitno, S. (2020). Kebutuhan Keterampilan Pada Revolusi Industri 4.0 Dan Era Society 5.0. *Seminar Nasional Pendidikan Dasar*.
- Syahroni, M., Dianastiti, F. E., & Firmadani, F. (2020). Pelatihan Media Pembelajaran Berbasis Teknologi Informasi untuk Meningkatkan Keterampilan Guru dalam Pembelajaran Jarak Jauh. *International Journal of Community Service Learning*, 4(3).
- Tarigan, D., & Siagian, S. (2015). PENGEMBANGAN MEDIA PEMBELAJARAN INTERAKTIF PADA PEMBELAJARAN EKONOMI. *JURNAL TEKNOLOGI INFORMASI & KOMUNIKASI DALAM PENDIDIKAN*, 2(2).  
<https://doi.org/10.24114/jtikp.v2i2.3295>
- Teare, R. (2002). Futurewise – Six Faces of Global Change. *International Journal of Contemporary Hospitality Management*, 14(7).
- Utami, L. (2021). Tingkat Literasi Indonesia di Dunia Rendah, Ranking 62 Dari 70 Negara. *Perpustakaan Kemendagri*.
- Zakaria. (2021). Kecakapan Abad 21 Dalam Pembelajaran Pendidikan Dasar Masa Pandemi Covid-19. *Jurnal Dirasah*, 4(2).