PPSDP International Journal of Education
Volume 4 (2) 2025, 538-552
E-ISSN 2829-5196, P-ISSN 2830-3229

The Role of Teachers in the Development of Digital Literacy

Desniyanti[1]
[1]SMA Negeri 15 Palembang, South Sumatra, Indonesia

Corresponding author e-mail: d35n1yant1@gmail.com

Article History: Received on 6 January 2025, Revised on 27 February 2025, Published on 29 March 2025

Abstract: This study aims to identify the role of teachers in developing students' digital literacy at the secondary school level. Digital literacy is an important skill in this technological era, which includes not only technical skills in using devices but also critical skills to sort information and apply ethical values in the use of technology. This study uses a qualitative approach with in-depth interview methods, classroom observations, and document analysis to explore the roles, challenges, and needs of collaboration in developing digital literacy. The results of the study show that teachers have three main roles in digital literacy: as facilitators who support students' technical and critical abilities, as digital ethics guides who instill a responsible attitude, and as technology mediators who help students with limited access or skills. However, teachers face various challenges, including limited digital literacy training, minimal technology infrastructure in schools, and a lack of supportive education policies. These challenges require stronger collaboration between teachers, schools, parents, and the government. Greater support from all parties is needed to create a conducive and adequate learning environment for the development of students' digital literacy. In conclusion, effective digital literacy development requires continuous and collaborative support so that students are ready to face the challenges of the digital world wisely and productively.

Keywords: Digital Ethics, Digital Literacy, Digital Skills, Learning Challenges, Teacher Role

A. Introduction

Amid the rapid development of digital technology, digital literacy has become an essential skill that every individual must have, especially the younger generation (Sutrisna, 2020). Digital literacy is not only related to the ability to use technological devices but also includes critical skills to analyze, evaluate, and use digital information wisely and responsibly (Rahim & Indah, 2024). In the context of education, mastery of digital literacy is becoming increasingly important, especially because of the many digital-based educational resources and the need for students to participate in learning environments that are increasingly integrated with technology (Lesasunanda & Malik, 2024). In this case, teachers have a crucial role as facilitators in

equipping students with digital literacy skills (Thana & Hanipah, 2023). The role of teachers is not only limited to teaching curriculum materials but also includes assistance in understanding how to use technology effectively and ethically in everyday life (Dalimunthe, 2023). While many schools have adopted technology as part of the learning process, the implementation of digital literacy among students still faces several challenges (Zahra et al., 2024). One of the main challenges is the knowledge gap between teachers and students in terms of technology (Isti'ana, 2024). Students who grow up in the digital era tend to be more familiar with digital devices, but this does not always mean that they have adequate digital literacy (Sihombing et al., 2024). Teachers, on the other hand, often still need to adjust to the ever-evolving technological advances (Gusteti et al., 2023). Some teachers may find it difficult to keep up with rapid technological changes, and this can affect their ability to teach relevant and up-to-date digital literacy skills (Subni et al., 2024). Therefore, an active role is needed from teachers to not only understand technology but also to master digital literacy strategies in order to guide students properly.

The importance of digital literacy in education is not only because of the need for technological skills in this era, but also because of the challenges in the rapid and widespread dissemination of information. Students are faced with a very large flow of information, including valid information and hoaxes, as well as various forms of data manipulation spread on social media and other digital platforms. Without good digital literacy skills, students are vulnerable to misleading information. In this case, teachers act as filters and facilitators who can help students develop critical skills to sort information and use digital media responsibly. Through teacher guidance, students are expected to be able to understand how to recognize and counter misleading information, as well as understand the ethics of using technology. In addition, digital literacy also opens up opportunities for students to develop creativity and collaboration in learning. With good digital literacy, students are not only consumers of information but can also become positive and productive content creators (Cynthia & Sihotang, 2023). Teachers have a responsibility to encourage students to use technology as a tool for learning, creating, and collaborating. Through the application of digital literacy, students can learn how to produce original work, share ideas, and collaborate on technology-based projects (Dede & Sudarti, 2024). This collaborative learning provides space for students to build 21st-century skills, such as critical thinking, problem solving, and effective communication. With proper guidance from teachers, students not only master technology but can also use it for positive educational purposes.

However, the role of teachers in developing students' digital literacy is not always easy. Challenges such as lack of special training, minimal support for technological infrastructure, and differences in the level of understanding of technology between teachers and students are often obstacles. Several studies have shown that even though technology is available in schools, not all teachers feel ready or able to

integrate digital literacy into their teaching (Aditya et al., 2023). In situations like this, support from schools and the government is very important to provide digital literacy training to teachers (Suryaningsih & Purnomo, 2023). With adequate training, teachers can understand the concept of digital literacy in depth and develop effective teaching methods to be applied in the classroom. In addition, policies that encourage the development of digital literacy in schools can also help reduce the knowledge gap between teachers and students. The role of teachers in developing digital literacy ultimately not only impacts students but also the overall quality of education.

In this digital era, digital literacy is an important indicator in assessing the success of education because digital literacy includes aspects of cognitive, social, and emotional skills (Prema Swandewi et al., 2024). In the process of teaching digital literacy, teachers not only teach technical skills but also ethical values, responsibility, and empathy (Sugiarto & Farid, 2023). For example, teachers can provide students with an understanding of the negative impacts of the spread of false information, the importance of maintaining online privacy, and how to interact with others in the digital world safely and responsibly. This shows that digital literacy is not just technical skills but also social skills that can help students play a positive role in society. On the other hand, the development of digital literacy in schools also requires collaboration between teachers, parents, and students. Teachers cannot work alone in guiding students to develop digital literacy (Aifalesasunanda et al., 2024). Parents need to be involved so that they can support digital literacy learning at home, while students also need to be given responsible freedom to apply digital literacy in their lives (Permatananda PANK, 2022).

In this supportive environment, students will feel motivated to learn more about digital literacy and apply it independently. Collaboration between teachers, parents, and students creates a conducive learning environment to develop comprehensive digital literacy skills. Overall, the role of teachers in developing digital literacy is very important in equipping the younger generation with relevant skills in this technological era. Despite the many challenges faced, teachers are in a strategic position to guide students in understanding and using technology wisely. With the right support from schools, government, and parents, teachers can facilitate effective and impactful digital literacy learning. Through good digital literacy education, students can grow into individuals who not only master technology but also have social responsibility in using that technology. Digital literacy that is applied holistically will contribute to the creation of a generation that is smart, critical, and able to adapt to the challenges of the digital world in the future.

B. Methods

This study uses a qualitative approach to deeply understand the role of teachers in developing digital literacy among students. This approach was chosen because it

allows researchers to explore the experiences, views, and strategies applied by teachers in digital literacy learning, thus producing a comprehensive understanding. The main focus of this study is to identify the roles played by teachers, the challenges they face, and effective strategies in guiding students to become digitally literate. A qualitative approach is considered appropriate because this study not only wants to find out facts but also understand the context and dynamics in the process of teaching digital literacy in the school environment.

The research subjects consisted of teachers who had a teaching background at the secondary school level, both in public and private schools. The research subjects were selected using a purposive sampling technique to ensure that the teachers involved had direct experience in teaching or guiding students related to digital literacy. In addition, they were selected based on their abilities and active involvement in integrating technology into learning activities. This technique allows researchers to obtain relevant and specific data regarding the role of teachers in developing digital literacy because the research subjects already had an adequate basic understanding of the challenges and skills needed in the context of digital literacy. Data were collected through several techniques, namely in-depth interviews, classroom observations, and document analysis. In-depth interviews were conducted to explore teachers' views, understandings, and experiences in teaching digital literacy.

These interviews were conducted in a semi-structured manner so that researchers could explore the answers from research subjects flexibly and allow for spontaneous responses from teachers. In addition, classroom observations were conducted to see directly how teachers implement digital literacy in learning activities. These observations include aspects such as the teaching methods used, how teachers interact with students in technology-based learning, and the form of support given to students in accessing and using digital information. These field observations help researchers to see the real role of teachers and understand the digital literacy practices that occur in the classroom. In addition to interviews and observations, this study also uses document analysis as an additional technique. The documents analyzed include lesson implementation plans (RPP), syllabuses, and teaching materials used by teachers in teaching digital literacy. This document analysis is useful for seeing how digital literacy is designed and integrated into the curriculum and teaching planning by teachers. By using these three data collection techniques, researchers hope to obtain a more complete and in-depth picture of the role of teachers in the context of digital literacy in schools. The data obtained were analyzed using thematic analysis techniques to identify key themes related to the role of teachers in developing digital literacy. The analysis process was carried out by selecting relevant data, grouping data based on themes, and compiling interpretations that connect the findings with the research objectives.

This thematic analysis makes it easier for researchers to compile systematic results and identify important patterns in the roles, challenges, and strategies implemented by teachers. To ensure data validity, researchers used triangulation techniques, namely by comparing data from various sources, such as interview results, observations, and documents. Triangulation was carried out to minimize bias and ensure that the findings produced are an accurate picture of the role of teachers in digital literacy. The entire process of data collection and analysis was carried out with attention to research ethics, such as maintaining the confidentiality of the research subjects' identities and asking for voluntary consent for participation. This method is designed to produce a deep understanding of the contribution of teachers in facilitating students' digital literacy in the school environment, as well as providing relevant recommendations for the development of digital literacy in educational institutions.

C. Results and Discussion

This study revealed several important findings that show the significant role of teachers in developing digital literacy among students. Digital literacy, which includes the ability to access, analyze, evaluate, and use digital information wisely, has become an essential skill in the modern era. In the school environment, teachers not only play a role in delivering academic materials but also have the responsibility to prepare students to be able to face the challenges and opportunities of the digital world. Based on the results of interviews, observations, and document analysis, the role of teachers in developing digital literacy can be seen in three main aspects: as digital literacy facilitators, digital ethics guides, and mediators between students and technology. The first role, as a digital literacy facilitator, shows how teachers help students develop skills in searching, evaluating, and utilizing information from digital sources. Teachers play a role in directing students to become active and critical users of technology, not just consumers of information. In addition, this role includes learning strategies implemented by teachers to equip students with critical and analytical thinking skills towards digital content.

On the other hand, teachers also act as digital ethics guides. This role involves teaching about ethical values and responsibilities in the digital world. Teachers provide students with an understanding of the importance of maintaining privacy, respecting copyright, and distinguishing between true and misleading information. This is important because students are often exposed to various types of information on the internet, and without proper guidance, they are vulnerable to the negative impacts of technology misuse. In addition, teachers act as mediators between students and technology, especially for students who are less familiar or less confident in using digital devices. Teachers act as a liaison who helps students overcome the technology gap, both through practical support in using devices and teaching about basic

technology functions that are relevant to learning. This role is very important to create an inclusive learning environment where all students, regardless of their level of technological mastery, can participate in digital-based learning. These findings also show that teachers face various challenges in carrying out this role, such as limited special training on digital literacy and inadequate technology infrastructure in schools. Nevertheless, the results of this study provide a clear picture that teachers have a very strategic role in equipping students with adequate digital literacy. This chapter will further discuss the findings related to the roles, strategies, and challenges faced by teachers in developing digital literacy among students, which will ultimately provide valuable insights for the development of educational policies and better support for teachers.

The Role of Teachers as Digital Literacy Facilitators

As digital literacy facilitators, teachers play a central role in guiding students to understand and utilize digital technology effectively. Teachers not only teach how to use technological devices but also develop students' skills in searching, evaluating, and using digital information critically. Good digital literacy requires students to not only rely on available information but also to be able to sort out information that is relevant, valid, and appropriate to their needs. In this study, it was found that teachers often use project-based learning methods and group discussions as the main strategies to improve students' digital literacy skills. One concrete example of this facilitator role is seen when teachers encourage students to search for information from various digital sources and present it in front of the class. In this activity, students are taught to choose credible sources of information, assess the validity of the data they collect, and organize the information into a logical and accountable presentation. Teachers provide direct guidance on how to access trusted websites, use search engines effectively, and understand the importance of checking the accuracy of information.

Through this guidance, students not only get the information they need but also learn to understand and appreciate the process of collecting correct information. In addition, many teachers involved in this study encouraged students to use digital-based applications and software as part of their learning tasks. Applications such as presentation software, project management tools, and online collaboration platforms were used to facilitate group projects, discussions, and even report writing. Teachers ensured that students understood how to use these tools properly and provided opportunities for students to explore features that could improve their productivity. In this way, teachers taught students to utilize technology not only as consumers but also as active and innovative content creators. Field observations also showed that teachers played a role in introducing basic concepts of digital security and privacy to students. Effective digital literacy includes an understanding of how to protect personal data and avoid risks in the digital world.

Teachers often provided briefings on account security, the use of strong passwords, and the risks of sharing personal information openly on the internet. In class discussion sessions, teachers also facilitated conversations about the ethics of using technology, such as the impact of spreading hoaxes and the importance of ethics in digital communication. With this guidance, students were taught to use technology more responsibly. Through this facilitator role, teachers are able to create a conducive learning environment for the development of digital literacy among students. Students are given the freedom to explore digital tools but are still guided in choosing information and behaving in the digital world critically and ethically. Teachers also ensure that digital literacy learning is not just about technical skills but also includes a deep understanding of digital responsibility. This role allows students to develop the critical thinking skills needed to face challenges in the digital era while preparing them to become wise users of technology and contribute positively to the digital society (Ariastika, 2022).

The Role of Teachers as Digital Ethics Mentors

As digital ethics mentors, teachers have an important role in instilling ethical values and responsibility in the use of technology among students. In this era of vast and rapid information, students not only need technical skills to access and use digital information but also a strong understanding of ethics in the digital world. Teachers play a role in teaching values related to privacy, responsibility, copyright, and how to interact positively in cyberspace. In this study, it was found that teachers often integrated discussions about digital ethics into learning activities, especially through class discussions, case studies, and real examples that are relevant to students' daily lives. Teachers taught the importance of maintaining privacy, especially on social media and other digital platforms. For example, teachers discussed how personal information that is spread online can be used by others in unwanted ways, so it is important for students to be careful in sharing information. In class, teachers often gave concrete examples of the risks that could arise if students did not maintain their privacy properly, such as identity theft or fraud. This discussion also included the use of strong passwords, privacy settings on social media accounts, and being careful in interacting with strangers on the internet.

In addition to maintaining privacy, teachers also emphasize the importance of respecting copyright. In the digital world, information and creative works are very easy to access and distribute, so it is important for students to understand the ownership rights of such works. Teachers teach students not to simply copy or use other people's work without permission, but also to provide proper attribution when they use images, music, or writing that is not their own. In this lesson, students are encouraged to appreciate the work of others and understand the consequences of copyright infringement, both legally and ethically. Teachers also guide students in recognizing and countering false information or hoaxes that are widely circulated on

the internet. Teachers explain how hoaxes can have a negative impact on individuals and society as a whole. Through class discussions, teachers teach students to identify the characteristics of false information, such as unclear sources, provocative language, or lack of valid evidence. Students are encouraged not to just accept information at face value but to always question the validity and source of information before sharing it. Teachers also provide an understanding of the social impact of the spread of hoaxes, including harm to others and damage to a person's reputation due to misinformation.

In addition, teachers guide students to interact in a positive and respectful way in the digital world. Teachers teach the importance of respect in online communication, as well as the risks of unethical behavior, such as bullying or trolling. Students are encouraged to understand that every action in the digital world has a real impact, both on themselves and others. Through this approach, teachers emphasize the importance of personal responsibility and ethics in communicating so that students can build a positive digital identity and respect the existence of others in cyberspace. Through their role as digital ethics mentors, teachers not only help students become smart technology users but also socially responsible ones. Teachers act as role models who demonstrate ethical values in the use of technology, which ultimately helps students to behave positively and wisely in the digital world (Husna et al., 2023). This guidance is expected to form students who are not only digitally literate but also have awareness and empathy in interacting in the digital space and are able to face ethical challenges that arise along with the rapid development of technology.

The Role of Teachers as Technology Mediators

As technology mediators, teachers play an important role in bridging the gap between students and digital devices, especially for students who are less familiar or confident in using technology. Not all students have the same access to or understanding of technology, and this is where teachers come in to help address this gap. Teachers not only teach technical skills but also provide practical support and guidance so that all students can fully participate in technology-based learning. In this study, it was found that the role of teachers as technology mediators includes three main aspects: facilitating access to technology, providing personal guidance, and creating an inclusive learning environment. First, teachers play a role in facilitating students' access to technology devices. In many schools, limited resources such as computers or tablets can be a barrier to implementing digital learning. Several teachers in this study revealed that they often have to find creative solutions to ensure that all students have equal opportunities to access technology. For example, teachers create a schedule of turns to use devices, allow the use of personal devices with special permission, or even rely on limited school-owned devices to the maximum.

Through these steps, teachers strive to create a learning environment where students do not feel left behind simply because of limited access. In addition to providing

access, teachers also provide personal guidance for students who have difficulty understanding technology. Observations show that some students feel awkward or lack confidence when first dealing with digital devices. Teachers here act as companions who guide students directly in using the devices and applications needed for learning. This personal guidance often involves basic teaching, such as how to open applications, operate software, or search for information online. Teachers help students feel more comfortable with technology and develop basic skills that are important in the digital learning process. Furthermore, teachers also create an inclusive learning environment by ensuring that technology does not become a barrier for students in understanding the subject matter. Teachers develop teaching methods that allow students to learn gradually according to their respective abilities so that students who have different levels of understanding can still follow the lesson. In this case, teachers often adopt a differentiated learning approach, namely providing materials and activities that are tailored to the needs and abilities of students. Teachers provide additional support for students who take longer to adapt to technology while still encouraging them to explore and try new things in using digital devices.

As technology mediators, teachers play an important role in bridging the gap between students and digital devices, especially for students who are less familiar or confident in using technology. Not all students have the same access to or understanding of technology, and this is where teachers come in to help address this gap. Teachers not only teach technical skills but also provide practical support and guidance so that all students can fully participate in technology-based learning. In this study, it was found that the role of teachers as technology mediators includes three main aspects: facilitating access to technology, providing personal guidance, and creating an inclusive learning environment. First, teachers play a role in facilitating students' access to technology devices. In many schools, limited resources such as computers or tablets can be a barrier to implementing digital learning. Several teachers in this study revealed that they often have to find creative solutions to ensure that all students have equal opportunities to access technology. For example, teachers create a schedule of turns to use devices, allow the use of personal devices with special permission, or even rely on limited school-owned devices to the maximum.

Through these steps, teachers strive to create a learning environment where students do not feel left behind simply because of limited access. In addition to providing access, teachers also provide personal guidance for students who have difficulty understanding technology. Observations show that some students feel awkward or lack confidence when first dealing with digital devices. Teachers here act as companions who guide students directly in using the devices and applications needed for learning. This personal guidance often involves basic teaching, such as how to open applications, operate software, or search for information online. Teachers help students feel more comfortable with technology and develop basic skills that are important in the digital learning process. Furthermore, teachers also create an

inclusive learning environment by ensuring that technology does not become a barrier for students in understanding the subject matter. Teachers develop teaching methods that allow students to learn gradually according to their respective abilities so that students who have different levels of understanding can still follow the lesson. In this case, teachers often adopt a differentiated learning approach, namely providing materials and activities that are tailored to the needs and abilities of students. Teachers provide additional support for students who take longer to adapt to technology while still encouraging them to explore and try new things in using digital devices.

Challenges Faced by Teachers in Developing Digital Literacy

The development of digital literacy in schools is inseparable from the various challenges faced by teachers. As the vanguard in digital education, teachers need to have adequate knowledge and skills to guide students in digital literacy. However, this study found that many teachers face significant obstacles, especially related to limited training, technological infrastructure, and limited policy support. These challenges not only impact the effectiveness of digital literacy teaching but also students' readiness to face the ever-evolving digital world. One of the main challenges faced by teachers is the limited digital literacy training. Many teachers have not received adequate training in digital literacy, especially related to relevant technical and pedagogical skills. Most teachers in this study expressed that they felt less confident in teaching complex digital skills or updating their knowledge as technology advances so rapidly. They felt the need for more structured and ongoing training to improve their competence so that they can teach digital literacy more effectively. This minimal training makes it difficult for teachers to integrate technology with appropriate teaching methods so that students' digital literacy cannot be developed optimally.

The next challenge is the lack of adequate technological infrastructure in schools. Many schools, especially in remote areas or with limited resources, face obstacles in accessing technological devices, stable internet connections, and other supporting devices. Observations from this study show that some schools still lack adequate computers, tablets, or projectors to support digital learning. Teachers often have to find creative solutions, such as using personal devices or sharing devices between students, to continue implementing technology-based learning. This condition causes digital literacy learning to be limited and uneven among students, thus hindering effective learning processes. In addition, limited policy support is also a significant challenge. Education policies in many schools do not fully support the development of digital literacy as an integral part of the curriculum. Most teachers feel that the current curriculum is not flexible enough and does not emphasize digital literacy as an essential skill enough. Without supportive policies, teachers find it difficult to allocate sufficient time and resources for digital literacy learning. In some cases, digital literacy is considered an additional activity and not a main part of the curriculum, so

that digital learning does not receive adequate attention in the school learning structure.

Another challenge is the level of diversity in students' abilities in mastering technology. In one class, there are students who are very proficient in using technology, while other students may have very limited access or mastery. This condition makes it difficult for teachers to adjust teaching materials and methods to suit the abilities of all students. Teachers need to balance the needs of students who are already proficient with those who are still beginners in technology, and this requires adaptive teaching strategies. For teachers who do not have enough time and resources, this challenge often becomes an obstacle to the development of digital literacy that is evenly distributed among students (Alfiyanto & Hidayati, 2022). These challenges show that the role of teachers in developing digital literacy is not easy. To overcome these obstacles, greater support is needed from the government, schools, and education policymakers in the form of ongoing training, infrastructure improvements, and more flexible curriculum policies. With adequate support, teachers can be more effective in developing students' digital literacy, which will ultimately prepare them to participate wisely and productively in the digital world.

The Need for Better Collaboration in Digital Literacy Development

Effective digital literacy development in schools requires stronger collaboration between various parties, including teachers, schools, parents, and communities. Digital literacy is not only the responsibility of teachers as the main facilitators but also requires support and involvement from all stakeholders to create a conducive environment for sustainable digital learning. This collaboration is important to overcome the challenges faced in developing digital literacy, such as limited infrastructure, the need for ongoing training, and the formation of positive student attitudes towards the responsible use of technology. The role of parents in this collaboration is crucial, especially in supervising and supporting the use of technology at home. Teachers in this study revealed that parental support in regulating their children's access to digital devices and the internet greatly influences the development of students' digital literacy. When parents are involved in their children's digital learning, they can help strengthen the understanding gained at school and provide appropriate guidance in the use of technological devices outside of school.

In addition, good communication between teachers and parents allows for consistent monitoring of students' digital behavior so that they can learn to use technology safely and responsibly. At the school level, collaboration between teachers, administrative staff, and school management is essential to ensure adequate resources and facilities. School management can play a role by allocating a budget for the procurement of adequate technological devices, as well as ensuring stable internet access throughout the school environment. In addition, policies that support ongoing training for

teachers in digital literacy are also essential to strengthen teacher competence in teaching these skills to students. Collaboration between schools and teachers will allow for a more conducive learning environment, where digital literacy can be integrated as an integral part of the curriculum. Collaboration also needs to be extended to the community level. Partnerships between schools and community organizations, government agencies, or technology companies can make a significant contribution to the development of digital literacy. Several teachers in this study mentioned that community programs, such as digital literacy seminars or technology training for students and teachers, were very helpful in improving digital literacy in schools. With community involvement, schools can leverage additional resources, such as technology training, that may be difficult to obtain from the school budget. Collaboration with the community can also expand students' and teachers' access to information and tools relevant to digital literacy needs.

Government support also plays an important role in developing digital literacy broadly. The government can help by providing inclusive education policies, training programs, and funding to improve technology facilities in schools, especially in remote areas. With policies that prioritize digital literacy in the national curriculum, schools will be more encouraged to integrate technology into daily learning. In addition, the government can bridge collaboration between schools, the technology industry, and social organizations to create sustainable and inclusive digital literacy programs for all students. Overall, optimal digital literacy development requires close collaboration between teachers, schools, parents, communities, and the government. This collaboration will create the ongoing support needed by teachers and students to develop digital skills effectively. With good cooperation between all parties, digital literacy can be instilled holistically, which will ultimately prepare students to participate positively and wisely in the digital world.

The results of this study indicate that the role of teachers in developing students' digital literacy is very important and includes several aspects, namely as digital literacy facilitators, digital ethics mentors, and technology mediators. Teachers not only teach technical skills in the use of technology but also guide students to understand and apply digital ethical values and help students who have limitations in accessing or understanding technology. These three roles show that teachers function as companions and primary guides in students' journey to become smart, critical, and responsible technology users. However, this study also reveals various challenges faced by teachers, such as limited digital literacy training, minimal technology infrastructure in schools, and the lack of policies that support the integration of digital literacy into the curriculum. These challenges not only impact the effectiveness of digital literacy teaching but also on teacher motivation and readiness in implementing technology-based learning.

Furthermore, this study highlights the importance of better collaboration between teachers, schools, parents, communities, and the government in supporting the development of digital literacy. This collaboration is needed to overcome infrastructure limitations, increase access to technology training and resources, and create an environment that supports the teaching of digital literacy on an ongoing basis. Support from all stakeholders will create a more conducive learning environment, where teachers and students have equal opportunities to develop essential digital literacy skills in this digital era. The findings of this study emphasize the strategic role of teachers in developing digital literacy and the importance of stronger support from various parties. With more attention to training, infrastructure, and supportive collaboration, digital literacy can become an integral part of education, preparing students to face the challenges and opportunities of the digital world wisely and responsibly.

D. Conclusions

This study confirms that teachers have a very strategic role in developing students' digital literacy, including the role as facilitators, digital ethics guides, and technology mediators. Through these three roles, teachers not only equip students with technical skills in using technology but also instill digital ethics values and provide support for students who are less familiar with digital devices. This role of teachers is very important to help students become smart, critical, and responsible users of technology in the digital era. However, various challenges are faced by teachers in the process of developing digital literacy, including limited training, lack of technology infrastructure, and minimal policy support in schools. These challenges hinder the effectiveness of digital literacy teaching, so special attention is needed from schools, governments, and communities to provide better support. The results of this study also emphasize the importance of collaboration between teachers, parents, communities, and governments in creating a learning environment that supports the development of digital literacy. Continuous support from all stakeholders will strengthen teachers' efforts in guiding students towards a more holistic understanding of digital literacy. This study concludes that digital literacy is not just technical skills but also includes an understanding of ethics and a responsible attitude. With adequate support, teachers can play an optimal role in shaping a generation that is ready to face the challenges of the digital world wisely and productively.

E. Acknowledgement

I acknowledge the editorial team and reviewer of PPSDP International Journal of Education.

References

Aditya, E. P., Rohman, T., Linawati, L., & Hidayat, N. (2023). The Influence of Digital Literacy on Teachers' Pedagogical Competence. *Murhum : Jurnal Pendidikan Anak Usia Dini*, *4*(1), 201–211. https://doi.org/10.37985/murhum.v4i1.185

Aifalesasunanda, R., Citriadin, Y., & Maujud, F. (2024). Human Resource Development Strategy through Digital Literacy at MTs Nurul Yasin Buer Sumbawa. *Ascent: Al-Bahjah Journal of Islamic Education Management*, *2*(1), 42–58. https://doi.org/10.61553/ascent.v2i1.153

Alfiyanto, A., & Hidayati, F. (2022). Educators and Digital Literacy: Learning Challenges in the Industrial Era 4.0. *Ikhtisar: Jurnal Pengetahuan Islam*, *2*(1), 72. https://doi.org/10.55062//ijpi.2022.v2i1.45

Ariastika, D. (2022). Implementation of Digital Literacy in Science Learning in Facing Educational Readiness in the Society 5.0 Era. *Fordetak: Seminar Nasional Pendidikan: Inovasi Pendidikan di Era Society 5.0*, 132–142.

Cynthia, R. E., & Sihotang, H. (2023). Stepping Together in the Digital Era: The Importance of Digital Literacy to Improve Students' Critical Thinking and Problem-Solving Skills. *Jurnal Pendidikan Tambusai*, *7*, 31712–31723.

Dalimunthe, D. S. (2023). Transformation of Islamic Religious Education: Strengthening Spiritual Values, Ethics, and Islamic Understanding in a Modern Context. *Al-Murabbi: Jurnal Pendidikan Islam*, *1*(1), 75–96. https://doi.org/10.62086/al-murabbi.v1i1.426

Dede, I. wayan, & Sudarti, N. W. (2024). The Role of Digital Literacy in Strengthening the Profile of Pancasila Students in the Dimensions of Independence, Critical Thinking, and Creativity. *International Journal of Multilingual Education and Applied Linguistics*, *1*(3), 42–52. https://doi.org/10.61132/ijmeal.v1i3.58

Gusteti, M. U., Jamna, J., & Marsidin, S. (2023). Digitalism Thinking and Its Implications for Leading Teachers in the Metaverse Era. *Jurnal Basicedu*, *7*(1), 317–325. https://doi.org/10.31004/basicedu.v7i1.4417

Husna, K., Fadhilah, F., Ulfa Hayana Sari Harahap, Muhammad Arby Fahrezi, Khalid Samahangga Manik, M. Yasir Ardiansyah, & Inom Nasution. (2023). Transformation of Teacher Roles in the Digital Era: Challenges and Opportunities. *Perspektif : Jurnal Pendidikan dan Ilmu Bahasa*, *1*(4), 154–167. https://doi.org/10.59059/perspektif.v1i4.694

Isti'ana, A. (2024). Integration of Technology in Islamic Education Learning. *Indonesian Research Journal on Education*, *4*(1), 302–310. https://doi.org/10.31004/irje.v4i1.493

Lesasunanda, R. A., & Malik, A. (2024). Improving Teacher Quality through Digital Literacy at MAN 1 West Sumbawa. *Jurnal Ilmiah Profesi Pendidikan*, *9*(3), 1904–1915. https://doi.org/10.29303/jipp.v9i3.2365

Permatananda, P. (2022). Building the Character of Medical Students at Warmadewa University through the "Sapta Bayu" Spirit of Sri Kesari Warmadewa. *Jurnal Education and Development*, *10*(2), 1–5.

Prema Swandewi, N. P., Wisna Ariawan, I. P., & Gede Erni Sulindawati, N. L. (2024). The Influence of Instructional Leadership, Digital Literacy, Emotional Intelligence, Intellectual Intelligence on Teacher Performance. *Jurnal Sosial Teknologi*, *4*(1), 1–16. https://doi.org/10.59188/jurnalsostech.v4i1.1094

Rahim, A., & Indah, M. (2024). The Importance of Digital Literacy Education Among Teenagers. *Jurnal Pengabdian Masyarakat*, *2*(2), 52.

Sihombing, A. S., Rahardjo, R. S., & Ichsan Fauzi Rachman. (2024). The Role of Teachers and Educators in Promoting Digital Literacy for Sustainable Development. *Merdeka: Jurnal Ilmiah*, *1*(3), 360–370.

Subni, M., Warman, & Yahya, M. (2024). Increasing Digital Data Security Awareness Among Teachers: Roles and Challenges. *Jurnal Pengabdian Kreativitas Pendidikan Mahakam (JPPKM)*, *4*(1), 38–46.

Sugiarto, & Farid, A. (2023). Digital Literacy as a Path to Strengthening Character Education in the Era of Society 5.0. *Cetta: Jurnal Ilmu Pendidikan*, *6*(3), 580–597. https://doi.org/10.37329/cetta.v6i3.2603

Suryaningsih, H. A., & Purnomo, H. (2023). Teacher Readiness for Digital Literacy in the Implementation of the Independent Curriculum at Sembungan State Elementary School. *Renjana Pendidikan Dasar*, *3*(4), 247.

Sutrisna, I. P. G. (2020). Digital Literacy Movement during the Covid-19 Pandemic. *Stilistika: Jurnal Pendidikan Bahasa dan Seni*, *8*(2), 269–283. https://doi.org/10.5281/zenodo.3884420

Thana, P. M., & Hanipah, S. (2023). Independent Curriculum: Transforming Elementary School Education to Face the Challenges of the 21st Century. *Prosiding Konferensi Ilmiah Dasar*, *4*, 281–288.

Zahra, A., Afiyatni, N., Lie, A. Y., Rachman, I. F., & Siliwangi, U. (2024). Literacy Strategy in Instilling Character Education to Overcome the Challenges of Information and Communication Technology in the Era of Disruption. *Jurnal Penelitian Pendidikan Indonesia*, *1*(3), 435–442.