TEACHERS' PERSPECTIVE ON THE IMPLEMENTATION OF DIGITAL LITERACY IN EFL CLASSROOM AT JUNIOR HIGH SCHOOL PALOPO

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ABSTRACT

This study investigates the perspectives of junior high school teachers in Palopo regarding the implementation of digital literacy in English as a Foreign Language (EFL) classrooms. The purpose of this research was to gain insights into the challenges, strategies, and key factors that shape the integration of digital literacy in EFL instruction. This study used qualitative research design along with a phenomenology study. The research was conducted at three selected schools: MTsN Palopo, SMPN 4 Palopo, and SMPN 8 Palopo. Among eight English teachers, four of these educators were further engaged in in-depth interviews to extract richer and more nuanced perspectives. Multiple data collection methods were employed, including observation, interview, questionnaire, and documentation. The researcher herself served as the primary instrument, supported by interview guidelines, a notebook, smartphone, recorder, and internet connectivity. Data collection was facilitated through online forms using Google Forms and WhatsApp chat, allowing for efficient and comprehensive data. The study's data analysis technique employed thematic analysis, seeking to uncover recurring themes and patterns within the teachers' perspectives. The study revealed several key findings. First, successful digital literacy implementation hinged on effective curriculum design and the availability of digital resources. Second, teachers' attitudes towards digital literacy were influenced by their own beliefs and those of their students. Additionally, professional development, administrative support, and resource availability played pivotal roles in shaping teachers' attitudes. Third, teachers encountered challenges in digital literacy use, including limited technology access, time constraints, diverse student needs, content relevance, and the need for a pedagogical shift. Finally, teachers employed various strategies to overcome these challenges, such as fostering collaboration and peer support, enhancing student engagement and motivation, and parents' involvement.

Keywords: *Teachers' perspective, implementation, digital literacy, EFL classroom*

1. INTRODUCTION

Along with the rapid development of knowledge, technology is one of the aspects that plays a crucial role and has a huge influence in many fields, especially in Education. Because of the importance of education in 21st-century learning, one of the most important trends that needs to be discussed is digital literacy. Gilster (1997) describes digital literacy as the "ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers". Additionally, Paul et al (2017) say that any number of digital reading and writing strategies across various media forms are included in digital literacy. Words, texts, visual displays, motion graphics, audio, video, and multimodal forms are some examples of these media.

Therefore, digital literacy did not only focus on computers but also could be described as any kind of media.

Digital literacy is the skill of using technology to enhance reading and writing digitally in 21st-century learning. This skill set is increasingly vital as our society becomes more interconnected and reliant on digital information. In educational settings, digital literacy empowers students to access, evaluate, synthesize, and communicate information from diverse digital sources effectively. It goes beyond the ability to use devices; it encompasses critical thinking, problem-solving, and information literacy. Students must learn how to discern credible sources from unreliable ones, critically analyze digital content, and communicate their ideas using various digital media.

Meanwhile, literacy is also described in Regulation No. 3 the Year of 2017 on system bookkeeping, article 4-point c. It is mentioned that the purpose of conducting the system of bookkeeping is to develop a culture of literacy for all Indonesian citizens (Kemendikbud, 2019). Moreover, Hasanuddin Wahid (2021) says that one of the important issues in the preparation of the National Education Road Map (PJPN) 2020-2035 and the draft Bill on Amendments of Law Number 20 of 2003 concerning the National Education System (Sidiknas) is the transformation of the curriculum and learning ecosystem. PJPN and the National Education Bill require the creation of a curriculum and educational environment that is flexible to technological disruption, application of automation, artificial intelligence, big data, Internet of thinking, and so on. So that graduates can adapt to the industrial revolution 4.0, and progress in other areas of social work disciplines.

The majority of social work disciplines have incorporated technology into this 21st-century learning. As a result of this phenomenon, the teaching and learning processes received significant changes (Chan-Lin, 2016). Since the Internet has become a part of life, most of the teaching and learning process at several schools around the world, including Indonesia has evolved from a book-based period to a paperless era. Even so, the use of paper is still used and cannot be replaced. The use of technology is only to facilitate to make it easier for users to access information. Therefore, there are no restrictions on access to knowledge, and a variety of tools, including digital ones, can be used to improve learning.

Since technology has become nearly a part of every aspect of students' lives in this millennium, they are recognized as digital natives. Unfortunately, some of this digital generation uses technology irresponsibly. It is in line with the statement mentioned in the book "Digital Generations," written by David Buckingham and Rebekah Willett cited in Norton (Norton, 2021), which focuses on this idea as well as the potential and risks that technology presents for these generations. Therefore, to minimize the risks of the use of technology, the teacher must be digitally literate and become the facilitator to help students develop their skills, especially in teaching English as a Foreign Language. The teaching procedure will be more pleasant the more digitally literate the teachers are in the classroom.

Given the increasing importance of technology in today's world, teachers need to effectively use digital tools in their classrooms. This means moving beyond traditional teaching methods and incorporating technology to meet the needs of modern students. By doing this, students can better understand and use technology, which is essential for success in the future.

The growth and development of digital technology have influenced how English language teachers deliver their learning materials. The first step is for the teachers to comprehend what digital literacy is and why it needs to be taught. The way teachers teach digital literacy in the classroom is influenced by their knowledge of the subject. Teaching English skills with the use of technology in digital literacy can be successfully done. Researchers in education, however, have focused a lot of their efforts on examining the challenges associated with using digital devices to get information.

Nevertheless, numerous research efforts have been directed towards the field of digital literacy, with one notable study conducted by McCord (2015). This study explored the utilization of digital literacy in educational settings and assessed teachers' perspectives on its integration. McCord's investigation delved into the impact of the educational system's curriculum and policies

on the adoption of digital literacy practices. The findings of the study revealed that the attitudes of teachers were shaped by both the curriculum prescribed by the educational system and the policies in place at schools. However, he also mentioned several limitations and suggestions for further research, such as 1) Restricted sample size. The sample used in his study was only two participants, which must be careful to recognize the findings from the data cannot be taken as representative of the broader experience of educators. 2) Similar neighborhood demographics. The target schools are in the upper middle class and students enjoy ample access to technology both at school and at home. 3) Participants are well-educated males with experience and comfort using technology. Consequently, their opinions may not reflect the attitudes of teachers with less training and experience using technology in the classroom.

Another similar study was also conducted (Hosseini, 2018). In his research, he explores the barriers and support systems for digital literacy in early elementary school. The findings show that teachers' grade-level assignments and the school's status influence teachers' views about when and whether to introduce digital literacy skills with clear implications for practice. Moreover, this study also has some limitations: 1) lack of time to plan and teach technology lessons. 2) Students limited self-management and independence skills as major impediments to digital literacy instruction in the early elementary grades. This is also in line with the result of the study ((**Pratolo & Solikhati, 2020a**). They mentioned several problems found in their studies, such as 1) lack of technology sources. 2) Schools' limited funds to afford the technology. 3) Students' readiness to learn technology. Many beliefs play a vital role in influencing students' decisions about integrating digital literacy in EFL classrooms. (Alfia., et.al., 2021), but this study did not cover the teachers' perspective as the consideration in implementing digital literacy. However, it is important to note that, the students' achievements can be influenced by the way the teacher delivers their materials, in this case, it would be better to integrate it with the ICT tools (Kurniawati et al., 2018).

Therefore, digital literacy has been a prominent subject of investigation in various educational settings. While numerous studies have explored its application in higher education and elementary levels, there remains a noticeable gap in research focused on the junior high school level. Consequently, this study will fill this void by examining the junior high school level in Palopo, South Sulawesi, Indonesia.

The primary objective of this study is to address this research gap by concentrating on understanding teachers' perspectives regarding the integration of digital literacy practices within English as a Foreign Language (EFL) classrooms. Specifically, the study will investigate how teachers incorporate digital literacy into their English instruction, identify the challenges they encounter in doing so, and explore the strategies they employ to overcome these challenges.

2. METHOD

Types of Research

This study used qualitative research design along with a phenomenology study to analyze events from the perspectives of specific individuals or groups of actors to address the research objectives provided in the previous section. A qualitative research strategy called "phenomenological research" aims to comprehend and characterize the essential components of a phenomenon. The approach investigates the everyday experiences of human beings while suspending the researchers' preconceived assumptions about the phenomenon. In other words, phenomenological research investigates actual experiences to learn more about how people interpret them. Meanwhile, in descriptive analysis, a phenomenon is described in terms of how we perceive it to be a particular thing. It requires an effort to look at different circumstances to describe the norm (William, 2011).

This study consists of the research objectives, which were to investigate the teachers' attitudes throughout the implementation of digital literacy from their point of view. Moreover, this study aims to describe the teachers' challenges and how they cope with those problems.

Research Setting

Selecting research site

The study was conducted in three junior high schools in Palopo, South Sulawesi, Indonesia. These schools were chosen to represent different types of schools: Islamic, public, and those located in rural and urban areas. The research took place between July and September 2023.

The three selected schools were MTsN Model Palopo (an Islamic public school), SMPN 4 Palopo (a public school in the city center), and SMPN 8 Palopo (a public school in a rural area). These schools were chosen based on their location and accessibility to the researcher.

To gather data, the researcher conducted face-to-face interviews. Questionnaires were distributed online using Google Forms due to time constraints. Participants were selected purposefully based on their ability to provide relevant information. A snowball sampling technique was used to identify additional participants.

Data sources

This research employed both primary and secondary data sources. Primary data was gathered from eight English teachers at various high schools in Palopo. These teachers were selected using a snowball sampling technique. To ensure confidentiality, pseudonyms were used for all participants.

Table 1. Data Sources

No.	Name	Teaching in Class (Grade)	Teaching experience (year)	School
1.	Melati	7	18	SMPN 8 Palopo
2.	Nabila	9	10	SMPN 8 Palopo
3.	Ayu	9	22	MTsN Palopo
4.	Aisya	8	5	MTsN Palopo
5.	Harris	7	15	MTsN Palopo
6.	Asep	7,8	14	SMPN 2 Palopo
7.	Siti	9	20	SMPN 4 Palopo
8.	Anto	7,8	11	SMPN 4 Palopo

From the initial pool of eight teachers, four were chosen for in-depth interviews. These individuals were selected based on their potential to provide comprehensive and representative insights into the research focus. Face-to-face interviews allowed for a deeper understanding of their perspectives and experiences.

Note: The table provides detailed information about the eight participants, including their names, grade levels taught, teaching experience, and school affiliation.

Data Analysis Technique

This study used thematic analysis to examine data collected from interviews, questionnaires, and other sources. Thematic analysis is a method for identifying patterns and themes within large amounts of qualitative data. By applying this approach, the researcher aimed to understand junior high school teachers' perspectives on integrating digital literacy into English language teaching in Palopo.

The analysis followed the six-step thematic analysis process outlined by Braun and Clarke. These steps involved familiarizing oneself with the data, identifying initial codes, developing potential themes, refining these themes, defining and naming them, and finally, writing a report based on the findings. This systematic process allowed the researcher to delve deep into the teachers' experiences, challenges, and strategies related to digital literacy integration.

3. RESULTS

This section presents the key findings related to digital literacy implementation in junior high schools.

The study on the implementation of digital literacy in junior high schools revealed two key subthemes: curriculum design and resource availability

Curriculum Design

The alignment between the curriculum and digital literacy integration is crucial for empowering teachers to use technology effectively. A well-integrated curriculum, like the Merdeka Belajar program mentioned by Mr. Harris from MTsN Model Palopo, helps teachers see technology as a fundamental part of the learning process, enhancing student engagement and fostering independent learning. When teachers feel that technology aligns with educational goals, they are more motivated to incorporate it into their teaching. However, a lack of alignment can discourage teachers from using digital tools, making it feel like an additional burden rather than a supportive resource.

Resources Availability

The availability of digital devices and internet access heavily influences how well teachers can implement digital literacy. A survey revealed that 62.5% of teachers primarily use laptops, 50% use smartphones, and 37.5% use notebooks for teaching. However, access to these devices varies across schools, impacting teachers' ability to use technology. Internet connectivity is another challenge, with 42% of respondents facing occasional issues, hindering seamless integration of digital tools in the classroom.

The study explored teachers' attitudes toward practicing digital literacy, revealing six key subthemes: teacher and student beliefs, professional development, administrative support, school policies, and resource availability

Attitudes and Beliefs of Teachers.

Teachers' personal beliefs significantly shape their openness to integrating digital tools in the classroom. Educators with a progressive outlook tend to see technology as a means to enhance engagement and adapt to diverse learning styles. One teacher, Mr. Anto, expressed a commitment to adapting his teaching methods to maintain student interest, allowing limited use of smartphones as a learning tool.

Attitudes and Beliefs of Students.

Student attitudes toward technology also influence teachers' decisions to use digital tools. However, many teachers, like Mrs. Melati from SMPN 8, prefer traditional methods due to concerns over smartphone misuse. She emphasized using handbooks, supported by a school policy prohibiting smartphones to maintain a focused learning environment.

Professional Development.

Access to training significantly affects teachers' digital literacy skills. Mr. Harris from MTsN Model Palopo noted his participation in e-learning and classroom research programs, emphasizing the need to equip students with modern tools. Conversely, Mr. Anto admitted he had not received formal digital literacy training in his 12-year career.

Administrative Support

Support from school leadership, including access to technology, training, and resources, plays a crucial role in promoting digital literacy. Schools providing Wi-Fi, projectors, and e-learning training empower teachers to explore innovative teaching methods and align with the evolving digital landscape.

School Policies.

Most schools prohibit students from bringing smartphones to ensure focused learning. However, some teachers may allow limited use of phones when necessary for educational purposes.

Availability of Resources.

Resource accessibility affects teachers' ability to incorporate digital literacy. For instance, Mr. Anto resorted to using projectors due to a lack of textbooks and instructional materials.

The study identified five main challenges in the use of digital literacy in junior high schools: technology access, time constraints, student diversity, content relevance, and pedagogical shifts

Technology Access

Schools often face limited resources, such as insufficient hardware, software, and internet connectivity, which hinder effective digital integration. Teachers like Mr. Harris and Mr. Anto from Palopo expressed the difficulties of poor Wi-Fi, overloaded networks, and limited projectors. Additionally, digital distractions, such as students using technology for non-educational purposes, present another challenge.

Time Constraints

Teachers struggle to balance curriculum demands with integrating technology. Limited classroom time can discourage the use of digital tools. Mrs. Melati at SMPN 8 Palopo noted the challenge of time when transitioning students to a language lab, though students were more engaged in the lab setting.

Student Diversity

Students have varying levels of digital proficiency and academic abilities, requiring teachers to adapt their approaches. Some students excel with technology, while others need more support. Teachers like Mr. Harris emphasized the challenge of meeting diverse needs, particularly with large class sizes. Additionally, not all students have equal access to technology at home, creating a digital divide, as noted by Mrs. Siti at SMPN 4 Palopo during the transition to online learning.

Content Relevance

The availability of relevant digital content that aligns with the curriculum is a significant factor. Teachers often need to seek additional resources from platforms like YouTube and e-books. However, the lack of relevant content and challenges in curriculum integration make it difficult for teachers to fully embrace digital literacy.

Pedagogical Shift

Teachers need to shift from traditional methods to more interactive, student-centred approaches. This shift can be difficult for teachers accustomed to textbook-based instruction. Mrs. Melati emphasized that traditional methods, even in areas with limited technology, can still result in student success.

To overcome the challenges of implementing digital literacy in junior high school English classrooms, teachers employ several strategies, organized into three key areas: collaboration and peer support, student engagement and motivation, and parent involvement

Collaboration and Peer Support

Teachers enhance their digital literacy by participating in training programs, workshops, webinars, and courses on technology integration. They also collaborate with colleagues who have successfully used digital tools, learning from their experiences to better navigate the challenges of teaching with technology. This collaborative learning helps them adopt effective strategies for integrating digital literacy.

Engagement and Motivation

Teachers choose digital tools that cater to diverse learning styles to engage students effectively. Building strong connections with students is also key to motivating them to use technology in a positive way. One strategy is to establish ethical guidelines for responsible technology use, addressing issues like cyberbullying, inappropriate content, and gaming addiction. Teachers also ensure students understand the importance of using digital resources responsibly.

Parent Involvement

Teachers maintain open communication with parents about the benefits of digital tools in education, helping parents understand how these tools contribute to their children's learning. They also provide parents with resources and strategies to support their children's digital literacy development at home, fostering a collaborative effort between schools and families.

In conclusion, the implementation of digital literacy in junior high school English classrooms involves various challenges and opportunities that require thoughtful strategies from educators. Key challenges such as limited technology access, time constraints, diverse student needs, and

content relevance must be addressed through collaboration, effective engagement, and parental involvement.

Teachers overcome these obstacles by participating in professional development, collaborating with peers, and integrating digital tools that cater to students' learning preferences. Engaging students through a positive rapport and fostering ethical technology use is crucial for successful digital literacy integration. Moreover, involving parents in the process ensures that students receive support both at school and home, creating a cohesive environment for learning.

Overall, by employing these strategies, educators can effectively navigate the challenges of digital literacy, ensuring that students are well-equipped with the necessary skills to thrive in a technology-driven world while maintaining ethical and cultural values.

4. DISCUSSION

Digital Literacy Implementation

In this study, the researcher explored the challenges and strategies related to the implementation of digital literacy in EFL classrooms, focusing on the perspectives of junior high school teachers in Palopo. Two key aspects emerged as central to the effective integration of digital literacy: curriculum design and the availability of digital resources. Importantly, these findings resonate with existing research in the field.

Kurniawati et al. (2018) emphasized the pivotal role of practical competence in utilizing digital media. Their research highlighted the necessity of a well-structured curriculum that seamlessly incorporates digital literacy components and ensures access to relevant digital resources. The findings of this research align closely with these principles, underlining the enduring significance of effective curriculum planning and resource provision in digital literacy integration.

Furthermore, Hubbard (2016) examined the planning for the digital future of EFL materials. This research delves into the integration of digital resources into EFL materials and curriculum design, which significantly complements our research. Hubbard's work likely discusses strategies for the effective integration of digital resources, an aspect in direct alignment with our emphasis on the importance of access to relevant digital resources in the context of digital literacy implementation.

Collectively, these studies reinforce the universal applicability of curriculum design and resource provision in fostering digital literacy in EFL classrooms. The emphasis on these aspects underscores the pivotal role of educational institutions and policymakers in equipping students with digital literacy skills. Furthermore, by specifically examining EFL contexts, this study and Hubbard's work provide local stakeholders with context-specific information to guide their efforts in improving digital literacy instruction.

In conclusion, the continuity between the findings of this research, Kurniawati's study, and Hubbard's research underscores the enduring significance of curriculum design and resource provision in the context of digital literacy integration. It further highlights the essential role of educational institutions and policymakers in fostering digital literacy among junior high school students, both globally and within the unique context of EFL education.

Teacher Attitudes and Digital Literacy Practices: A Comprehensive Outlook

This study echoes the findings of Milliner and Cote (2018) who observed a high level of confidence among contemporary EFL educators in using digital tools. However, this research goes beyond the scope of confidence and delves into the complex realm of teacher attitudes, beliefs, and their interaction with those of their students. This approach is in line with the idea that teacher beliefs and attitudes are pivotal determinants of successful technology integration, as emphasized by Pajares (1992)

Influence of Teacher Beliefs and Attitudes

The research findings underscore that teachers' attitudes and beliefs significantly shape digital literacy practices in EFL classrooms. These aspects extend far beyond mere technical confidence. Educators' enthusiasm, receptiveness, and confidence in using digital tools, as well as their

perceptions of the benefits for students, all play a pivotal role. This connection with existing research reinforces the notion that teachers' mindsets are influential determinants of the success or failure of technology integration efforts. When educators have positive attitudes and beliefs, they are more likely to adopt, adapt, and effectively use digital resources to enhance the learning experience for their students.

Importance of Professional Development and Administrative Support

Furthermore, this study reveals that factors such as professional development and administrative support are crucial in facilitating effective digital literacy practices. This aligns with previous research that underscores the importance of ongoing training and institutional backing. Ertmer (1999) and Ottenbreit-Leftwich et al. (2018) have highlighted the necessity of continuous professional development to ensure educators remain informed and adept at utilizing digital tools for pedagogical purposes.

Challenges in Implementing Digital Literacy: A Consistent Pattern

The findings of this research on the challenges faced by teachers in implementing digital literacy closely echo the observations made by Pratolo and Solikhati (2020). In their research, challenges such as technology access, time constraints, and the diverse nature of students' backgrounds emerged as significant obstacles. These challenges consistently resurface in the literature, underscoring the universal nature of these impediments to effective digital literacy implementation. Research by Ertmer et al. (2012) further reinforces this point by emphasizing the persistent nature of these challenges across various contexts.

Content Relevance and Pedagogical Shifts: Key Challenges

Moreover, this research findings highlights the challenges associated with content relevance and the need for pedagogical shifts. These challenges align with the broader discourse on the requirement for technology to be both meaningful and pedagogically sound. Mishra and Koehler (2006) extensively discuss the Technological Pedagogical Content Knowledge (TPACK) framework, which underscores the interplay of technological, pedagogical, and content knowledge in effective teaching. These challenges in this research reflect the importance of ensuring that digital tools are not only accessible but also integrated meaningfully within the curriculum and teaching practices.

Correlation with TPACK Framework

Mishra and Koehler's TPACK framework posits that successful technology integration relies on a delicate balance between technological knowledge, pedagogical knowledge, and content knowledge. The challenges observed in this study, such as concerns about content relevance and the necessity for pedagogical shifts, highlight the need for educators to possess the pedagogical expertise to leverage technology effectively in their teaching. The TPACK framework offers a comprehensive perspective on how to address these challenges by equipping teachers with the knowledge and skills required for meaningful and effective technology integration.

In summary, the findings of this research align with existing literature and underscore the consistent nature of challenges faced by educators in implementing digital literacy. It also emphasizes the need for technology to be pedagogically sound and integrated meaningfully into the curriculum. By correlating these findings with the TPACK framework, it gains valuable insights into how educators can overcome these challenges and harness technology for effective teaching and learning.

Strategies to Overcome Challenges

The strategies identified by teachers in our study to overcome digital literacy challenges align closely with best practices in educational technology. These strategies offer practical solutions to the obstacles faced in the implementation of digital literacy in EFL classrooms. Here, we will delve deeper into the relevance of these strategies by referencing additional sources that support their effectiveness.

Collaboration and Peer Support: Building a Supportive Community

Collaboration and peer support, as identified in our research, have been shown to be highly effective in technology integration (Lye & Koh, 2014). Lye and Koh's work emphasizes the

importance of creating a supportive professional community, where educators can share knowledge, experiences, and resources. Collaboration encourages the exchange of best practices and the mutual support necessary to navigate the challenges of integrating digital literacy into teaching. This collaborative approach mirrors the broader trend of communities of practice in educational technology.

Engagement and Motivation Strategies: Learner-Centred Instruction

Strategies focused on student engagement and motivation resonate with the principles of learner-centred instruction (Jonassen, 1991). Learner-centred instruction emphasizes the importance of fostering active student involvement in the learning process. Encouraging active participation, interactive learning activities, and student choice align with research on effective pedagogical practices. These strategies enhance students' motivation and their ability to acquire digital literacy skills in a meaningful way.

External Partnerships: Expanding Education Beyond the Classroom

The inclusion of external partnerships in our strategies echoes the idea that education extends beyond the classroom. External organizations and resources can play a crucial role in enhancing the digital literacy learning experience. Warschauer (2006) highlights the potential benefits of collaborations with external organizations in the context of technology-enhanced learning. These partnerships can provide access to valuable resources, expertise, and real-world applications, enriching the educational experience for both educators and students.

The strategies identified in our research find strong support in educational technology and instructional design literature. These strategies not only offer practical solutions to the challenges encountered in digital literacy implementation but also reflect established best practices in creating effective and engaging learning environments. By correlating these strategies with existing literature, we reinforce their relevance and effectiveness in the context of EFL classrooms.

In conclusion, the findings of this study contribute to the understanding of digital literacy practices in EFL classrooms by highlighting the multifaceted nature of teacher perspectives. By drawing connections to previous research, this study reinforces the importance of curriculum design, teacher attitudes, challenges, and strategies while also emphasizing the dynamic and evolving nature of digital literacy in education. These insights can inform both classroom practices and professional development initiatives, ultimately enhancing the integration of digital literacy into EFL instruction.

5. CONCLUSION

This study reveals that successful digital literacy implementation in junior high schools depends on well-designed curricula, accessible resources, and positive teacher attitudes. However, challenges such as limited technology, time constraints, and diverse student needs can hinder progress. Teachers often employ strategies like collaboration, student engagement, and parental involvement to overcome these obstacles. Further research is needed to better understand these factors and develop effective solutions for promoting digital literacy in education.

Students should receive education on digital citizenship principles and responsible digital behaviour. They should also explore personalized learning theories to tailor their digital literacy learning experiences. Interactive learning experiences, student-led projects, and lessons on online safety and media literacy should be integrated into the curriculum.

Teachers should explore pedagogical frameworks like TPACK and adopt a growth mindset towards technology integration. Schools should offer training sessions and workshops on digital tools and strategies, create platforms for teacher collaboration, and promote peer observation and feedback.

Future researchers should develop new theoretical frameworks and conduct longitudinal studies to better understand the impact of digital literacy programs. Interdisciplinary research collaborations and the documentation and dissemination of case studies and best practices can provide guidance for educators and policymakers.

By addressing these theoretical and practical considerations for students, teachers, and future researchers, we can contribute to a more effective and holistic approach to digital literacy education in junior high schools.

REFERENCES

Chan-Lin, L.-J. (2016). Tensions Experienced by Rural Teachers in Adopting Tablet Teaching in Taiwan. *Creative Education*, *7*(11), 1627–1640. https://doi.org/10.4236/ce.2016.711166

Ertmer, P. A. (1999). Addressing first-and second-order barriers to change: Strategies for technology integration. *Educational Technology Research and Development*, 47–61. https://doi.org/10.1007/BF02299597

Ertmer, P. A., Ottenbreit-Leftwich, A. T., Sadik, O., Sendurur, E., & Sendurur, P. (2012). Teacher beliefs and technology integration practices: A critical relationship. *Computer Education*, *59*(2), 423–435.

Gilster, P. (1997). *Digital literacy*. Wiley and Computer Publishing.

Hosseini, D. (2018). *Digital Literacy in Early Elementary School: Barriers and Support Systems in the Era of the Common Core* [A Dissertation, San Jose State University]. https://scholarworks.sjsu.edu/cgi/viewcontent.cgi?article=1014&context=etd_dissertations

Hubbard, P. (2016). Planning for the Digital Future of EFL Materials. *TESOL Quarterly*, *50*(3), 696–726.

Jonassen, D. H. (1991). Evaluating Constructivistic Learning. *Educational Technology*, *31*(9), 28–33.

Kemendikbud. (2019). *Tingkatkan Literasi Baca-Tulis, Kemendikbud Adakan Pertemuan Penulis Bahan Bacaan*. https://www.kemdikbud.go.id/main/blog/2019/04/tingkatkan-literasi-bacatulis-kemendikbud-adakan-pertemuan-penulis-bahan-bacaan

Kurniawati, N., Maolida, E. H., & Anjaniputra, A. G. (2018). The praxis of digital literacy in the EFL classroom: Digital-immigrant vs digital-native teacher. *Indonesian Journal of Applied Linguistics*, *8*(1). https://doi.org/10.17509/ijal.v8i1.11459

Lye, S. Y., & Koh, J. H. L. (2014). Review on teaching and learning of computational thinking through programming: What is next for K-12? *Computer in Human Behaviour*, *4*(1), 51–61.

McCord, S. S. (2015). *Digital Literacy in The Classroom: Teachers' Attitudes Towards Technology And The Language Curriculum*. University of Toronto.

Milliner, B., & Cote, T. (2018). A Survey of EFL Teachers; Digital Literacy: A Report from a Japanese University. *English Language Teaching*, *18*(4), 71–89.

Norton. (2021). *Digital generations: The technology gap between seniors, parents, and kids*. https://us.norton.com/blog/how-to/digital-generations

Ottenbreit-Leftwich, A., Liao, J. Y.-C., Sadik, O., & Ertmer, P. (2018). Evolution of teachers' technology integration knowledge, beliefs, and practices: How can we support beginning teachers use of technology? *Journal of Research on Technology in Education*, *50*, 282–304. https://doi.org/10.1080/15391523.2018.1487350

Pajares, F. (1992). Teachers' Beliefs and Educational Research: Cleaning Up a Messy Construct. *Review of Educational Research*, *62*, 307-332.

Paul, C. M., Spires, H., & Kerkhoff, S. (2017). Digital Literacy for the 21st Century. In M. Khosrow-Pour (Ed.), *Encyclopedia of Information Science and Technology* (pp. 2235–2242). IGI-Global. https://doi.org/10.4018/978-1-5225-7659-4.ch002

Pratolo, B. W., & Solikhati, H. A. (2020a). Investigating teachers' attitude toward digital literacy in EFL classroom. *Journal of Education and Learning (EduLearn)*, *15*(1), 97–103. https://doi.org/10.11591/edulearn.v15i1.15747

Pratolo, B. W., & Solikhati, H. A. (2020b). The Implementation Of Digital Literacy In Indonesian Suburban EFL Classes. *International Journal of Scientific & Technology Research*, *9*(1).

https://www.ijstr.org/final-print/jan2020/The-Implementation-Of-Digital-Literacy-In-Indonesian-Suburban-Efl-Classes-.pdf

Wahid, H. (2021). *Keharusan Digitalisasi Sistem Pendidikan*. https://mediaindonesia.com/opini/386828/keharusan-digitalisasi-sistem-pendidikan

Warschauer, M. (2006). *Laptops and Literacy: Learning in the Wireless Classroom*. Teachers College Press.

William, N. (2011). *Research Methods the Basics*. Routledge. https://doi.org/https://doi.org/10.4324/9780203836071