Research Article

Teaching reading in digital era: Exploring Indonesian in-service teachers' perceptions and challenges

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ARTICLE INFO	ABSTRACT
	This illustrative case study investigation was conducted to learn how Indonesian in-service teachers perceived teaching reading in a digital era and the challenges they encountered. The data were submitted by a total of 30 teachers who participated in the subject post for Indonesian junior high schools. Data collection strategies include participatory classroom observation, interviews, and guided written reflection. The data were analyzed using the constant comparative method. The study's findings highlight issues concerning teachers' perceptions and teachers' challenges while teaching reading in a digital setting. As many as 63% of teachers believe that the proportion of time teachers spend to practice reading skills from online sources is 40%–50% of total teaching hours at school. Furthermore, 40% of them believe that the criteria for teacher success in reading is when pupils improve their reading comprehension skills. The analysis also revealed that teachers encountered a number of challenges: (1) lack of knowledge about models and media for learning to read in a digital context, (2) lack of students' ability to read multi-text sources, and (3) lack of motivation and awareness among students in reading. The findings of this study impact the understanding and training requirements of junior high school teachers concerning reading instruction methods in a digital context. Future studies should focus on innovation and the development of learning models to improve the quality of reading comprehension in a digital environment. **Keywords:** digital era, Indonesian in-service teachers, teaching reading, teachers' challenges, teachers' perceptions

INTRODUCTION

Smart technology is fast developing in the current digital era, and it is being widely used in people's life (Foroudi et al., 2018; Immonen & Sintonen, 2015). This also has an impact on changes in the concept of reading comprehension (Kiili et al., 2018; Leu et al., 2013; Mills, 2010) and classroom learning techniques. Most reading comprehension activities are now carried out online using various digital information available on the Internet, which necessitates mastery of particular reading comprehension skills. These skills are necessary to comprehend many scientific disciplines (Kiili et al., 2018). The capacity to read online (inquiry reading) is crucial talent for students to master in today's educational world, given the amount of information that can be obtained online from all-digital sources in every daily activity (Organization for Economic Co-operation and Development [OECD], 2011).

The call for acquiring reading skills in a digital context is also directly associated to the new era of literacy, which modifies people's reading, writing, and communication habits that were formerly conventional but must now be integrated with technology (Lankshear & Knobel, 2006). The new media have emerged as a result of the rapid development of technology (Kist, 2005). This trend causes people who previously read conventionally from transition to digital. Online reading materials, particularly in the academic sphere, are the main reference for learning in the digital age (Azmuddin et al., 2020). This state promotes mastery of various smart technology products to be a prerequisite that must be fulfilled by both teachers and pupils.

Teachers can no longer disregard the role of smart technology in education, particularly in the context of online learning. This occurs thanks to the fact that technology has become an integral component of everyday life (Davis & Tearle, 1999). Additionally, a study provides the reasons for the importance of utilizing technology in the learning process, including:

(1) enhancing student motivation,

(2) enabling students to independently assess their skills and resolve the issues they encounter,

(3) encouraging novel learning processes, such as collaborative learning and problem-based learning processes, and

(4) assisting in boosting educator productivity and students' knowledge construction (Roblyer et al., 2004).

Prensky (2005) asserts that modern students are disinterested in an educational setting that does not reflect their real-world experiences. They bring mobile phones, laptops, and tablets to the class. Through the devices they own, they have constant access to information developments from around the globe that are constantly changing. Students' lives are full of media access, communication, and creative opportunities outside of the classroom. This helps them become acclimated to flexible, autonomous, and controlled learning environment that encourages reflective learning and integrates them into the community in a participatory setting (Abrams & Merchant, 2013). Teachers must incorporate technology into their lessons in order to keep up with this shift. To help students choose and organize the nearly limitless amount of information available to them in their surroundings, educators must also educate them online reading comprehension in digital.

There has previously been on online reading comprehension as a reading practice in the digital era. Numerous studies that concentrate on theoretical aspects include research on online reading theoretical frameworks involving new skills, strategies, dispositions, and social practices of reading from internet sources (Leu et al., 2004), conceptual research that addresses the process of text construction and problem-solving in online reading (Coiro & Dobler, 2007; Leu et al., 2007), research on key dimensions of online reading (Coiro, 2011; Rianto, 2022), and a multidimensional study of online reading and the influence on reading teaching (Catts & Kamhi, 2017; Kingsley & Tancock, 2014).

As for the practical aspect, relevant studies have only targeted the assessment field. These studies include assessments conducted through online reading (Leu et al., 2007, 2013, 2014a, 2014b), assessments conducted through web-based online reading (Caccia et al., 2019), and assessments conducted through online research in online reading that pivots on executive functions related to reading and attention (Kanniainen et al., 2021). These data show that the research concentrating on practical elements of learning has not been produced any outcomes, especially when it comes to learning to read in the Indonesia's new literacy age. Given the reading literacy levels of junior high school pupils, this is significant and merits more investigation; multiple various studies reveal scores that are still far below the average (OECD, 2019; Puslitjakbud, 2019).

This research focuses on the challenges of learning to read in a digital context in Indonesia, drawing on pertinent concerns and other studies. It is believed that the focus of this study differs from the features of earlier research. As a result, the purpose of this study is to address how the research problem was formulated, which is

(1) What attitudes do in-service teachers have regarding teaching reading in a digital age in Indonesia?

(2) What obstacles do Indonesian in-service teachers have when it comes to using technology for online reading instruction?

LITERATURE REVIEW

Teaching Reading in the Context of New Literacy Era

Online reading comprehension is a concept that some people associate with learning abilities in the digital age (Leu & Zawilinski, 2007). This suggests that online reading comprehension is crucial since there is a lot of information coming in from every direction, necessitating the application of judgment. It is anticipated that this feature will expand the amount of particular data that can be read. Furthermore, new abilities are needed to assess and critically evaluate raw resources.

By viewing reading as a problem-solving process (problem-based reading), this viewpoint broadens comprehension and enables novices to utilize the Internet to address problems (Leu et al., 2009). Additionally, because online reading demands a higher level of critical thinking from readers, it is more difficult than offline reading (Coiro & Castek, 2011; Eagleton & Dobler, 2015; Goldman et al., 2012). Despite this, Beers and Probst (2013) and Dwyer (2013) contend that online reading comprehension exercises involve more complex and time-consuming tasks in addition to linear text reading.

There are some stages to practicing online reading comprehension (Castek et al., 2011; Leu & Zawilinski, 2007):

(1) reading to construct useful questions, which involves reading the main points of questions or problems,

(2) reading to locate information, which is used to find specific information as needed,

(3) reading to critically evaluate online information, which calls for readers to criticize and evaluate the information obtained, and

(4) reading to synthesize online information, which requires readers to combine the information found.

Further theory research by Kanniainen et al. (2021) shows that in order to evaluate reading comprehension of online reading activities, several factors, including locating, assessing, synthesizing, and communicating, need to be considered (Leu et al., 2013). The assessment did not include the reading to build relevant questions variable because it was thought that the tasks in the second variable—locating information—represented the reading component of the exam.

Research on Teaching Reading in the Context of New Literacy Era in Indonesia

Several researchers have explored reading instruction in the context of new literacy. Rianto (2021) studied the use of metacognitive online reading strategies among 244 Indonesian English as a foreign language (EFL) students at Borneo Tarakan University before and during the COVID-19 pandemic. Results revealed that before the pandemic, students mainly used support strategies, with global strategies being less common. During the pandemic, support and problem-solving strategies increased, while global strategies remained the least preferred. Although there were differences in strategy use among students, no significant differences in specific strategies were found. Overall, strategy use was moderate before the pandemic and increased to a high level during it, indicating that EFL students require metacognitive awareness to improve their online reading comprehension.

Adanan et al. (2020) propose M-WebQuest to enhance reading comprehension among grade XI students in Pekanbaru, Riau, Indonesia. This web-based instructional media include six components:

(1) introduction to engage students by connecting to their prior knowledge,

(2) task to clarify expectations and final products,

(3) resources to list online materials for tasks,

(4) process to provides step-by-step instructions,

(5) conclusion to summarize the activities, and

(6) evaluation to detail assessment criteria.

The study indicates that M-WebQuest effectively improves learning in the English Reading Comprehension curriculum.

Furthermore, Hayati and Puspitaloka (2022) conducted a research project aimed at identifying the challenges encountered by junior high school students in reading, along with the strategies they employed to overcome these difficulties during the COVID-19 pandemic. Using a qualitative approach with a descriptive framework, the study found that students' difficulties in reading comprehension were primarily affected by a lack of motivation and a restricted vocabulary. Additionally, the Internet acted as a resource for students attempting to address their reading challenges. However, the study did not offer a detailed examination of how the Internet was used in relation to the students' reading practices.

The literature review highlights a significant trend in online reading research, primarily focusing on EFL learners, while neglecting the Bahasa Indonesia. There is a lack of empirical studies on online reading behaviors among Indonesian learners. Additionally, previous research has primarily examined student experiences, overlooking the perspectives of educators playing a vital role in reading instruction in a digital context. Understanding teachers' insights and challenges in adapting to modern literacy is essential, yet this area remains underexplored. This study aims to address this gap by investigating teachers' perceptions of online reading instruction in the Bahasa Indonesia, focusing on their challenges and experiences. The findings will contribute to the broader discourse on literacy education, offering valuable insights for policy and practice in language teaching.

METHODOLOGY

This work serves as an illustrative case study. This kind of research aims to explore knowledge associated with research problems rather than generalize the findings of the study (Merriam & Tisdell, 2016). In order to obtain a clear description of the conditions regarding teacher perceptions and challenges in implementing reading learning in the context of new literacy (online reading comprehension), the stages in this research are designed to address the "how" and "why" questions (Creswell, 2018; Yin, 2018).

In the province of West Java, 30 Indonesian teachers at junior high schools provided the study's data. Participatory classroom observation, interviews, and guided written reflection are some of the techniques used to collect data. In order to understand the overall picture of reading instruction in a digital context that has been occurring in the classroom, guided written reflection was introduced. In addition, this method is employed to ascertain the challenges that educators encounter during the teaching and learning process. Open-ended questions are included in the teacher's assignment so that the instructor can freely answer any question. A personal structured interview was employed in this study (Creswell & Creswell, 2018). Scholars devised methodical inquiries grounded in the Online Reading Comprehension theory (Kanniainen et al., 2021; Leu & Zawilinski, 2007) to investigate educators' perspectives and obstacles when instructing reading inside a digital setting. In order to provide a general understanding of how reading instruction in Bahasa Indonesia is implemented, participant observation was conducted in ten distinct courses. Between October 2023 and March 2024, or around six months, data was gathered.

Due to multiple data sources in the research setting, data analysis was undertaken using the Constant Comparative Method (CCM) (Glaser, 1965; Kolb, 2012). First, data were collected through several techniques, namely participatory classroom observation (i.e., 4 classes from different schools), personal structured interviews with 8 Indonesian in-service teachers, and guided written reflection about teachers' perspectives and obstacles when instructing reading in a digital setting (30 teachers). Second, the data coding process was carried out by comparing the similarities and differences of incoming data according to the research questions. Third, the coded data were organized into categories that characterize the investigation's focus. These categories form the main patterns or themes. Fourth, the categories were compared with each other, and their relevance to the research focus was determined and then recorded as research findings. Fifth, data findings are documented and examined to gain thorough knowledge and provide answers to study questions. The steps of the process' outcomes are listed in the findings section, as follows.
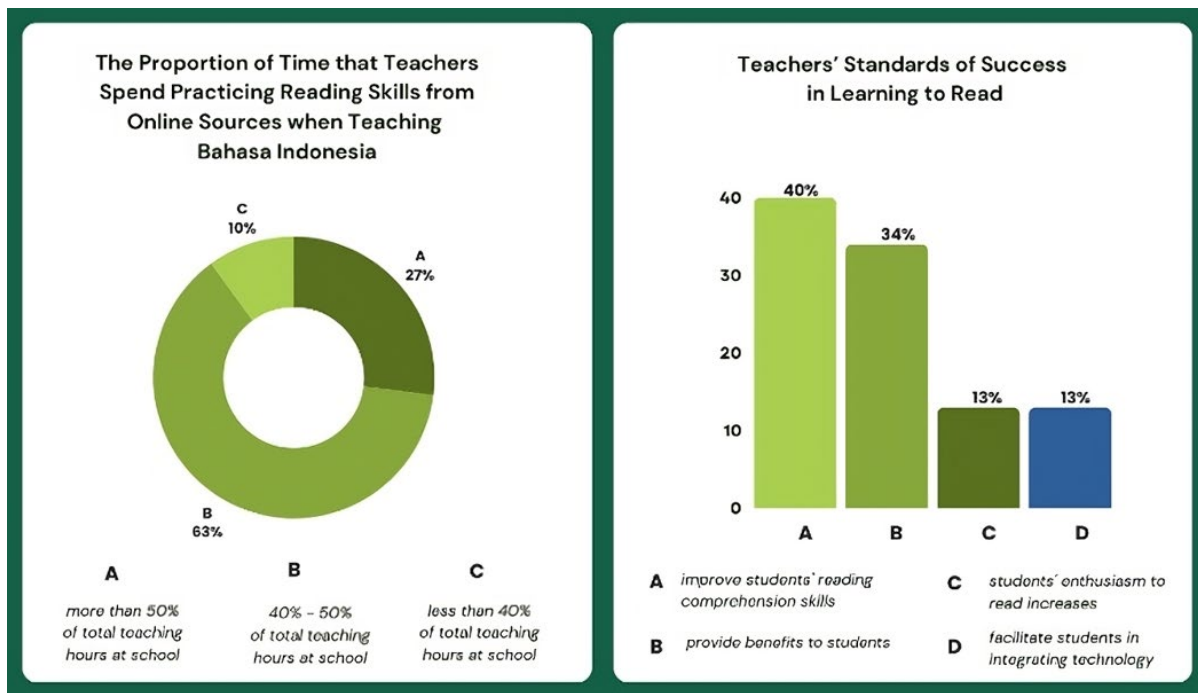
Figure 1. Teachers' perception of learning to read in a digital context (Source: Research project database)

RESULT AND DISCUSSION

Two primary conclusions from the study were made clear by the data analysis results: First, the opinions of Indonesian teachers regarding reading instruction in a digital environment; Second, the difficulties Indonesian teachers have using technology to teach reading in a digital environment.

Teachers' Perceptions of Learning to Read in a Digital Context

Teachers' opinions about how important it is for children to acquire reading abilities will affect how they perceive their students' reading development (Nurkamto et al., 2021). **Figure 1** shows the overall findings from the examination of the teachers' perceptions of the data on learning to read in a digital context by choosing the best response.

Figure 1 indicates that the majority of educators believe that reading skills in digital contexts are important for students to master. Their perspective on how much time should be spent honing reading comprehension abilities from internet sources while studying Bahasa Indonesia makes this clear. This is reflected in the following statement:

> Given the abundance of information available online these days, children need to be proficient readers. Therefore, I typically offer Bahasa Indonesia reading assignments from online sources with weight of roughly 50% relative to other language proficiency. In my opinion, online reading proficiency is the key to students' success in other courses. (R1)

> Students who do not have strong reading skills will fall behind in the modern digital world. Every subject requires the ability to retrieve data from the Internet. As instructors of Bahasa Indonesia, it is our duty to provide students with these reading abilities. One strategy is to give students enough experience in class; I use it for reading assignments from different sources around 40% of the time. (R18)

> I dedicate sixty percent (60%) of my learning time to reading assignments. I normally ask students to report on the outcomes of their information-reading tasks for the day at the start of class. They must also be proficient readers in order to complete project assignments. What I believe is crucial is that these sources should come from both books and the Internet. (R7)

> I devote <u>50%</u> of my class time on reading assignments. It is imperative that educators continue to prepare pupils to read a wide range of materials. To avoid hoaxes, students need to be able to comprehend material accurately rather than just read it. Of course, it is the duty of the Bahasa Indonesia instructor to mentor them (the students). (R10)

According to the findings, educators think that reading comprehension is a critical talent that children should acquire in the contemporary digital age. This motivates them to use more of the class time to practice and advance their reading comprehension through tasks and assignments. It is crucial that educators start with these opinions and convictions in order to provide high-quality instruction in reading. The idea that teachers should work to help children become better readers can make a big difference in whether or not pupils learn to read successfully. This is because teacher beliefs have the potential to impact how well teachers perform in the classroom (Sanger, 2017; Santos & Miguel, 2019). Other data indicates that a teacher's ability to motivate pupils to read is one measure of an effective learning environment. This is what the instructor excerpt that follows says.

> In my opinion, learning Bahasa Indonesia, particularly in reading, is deemed successful by how <u>motivated students</u> are to read and how well they comprehend material from a variety of online and offline sources. (R2)

> When a large number of pupils <u>enjoy reading</u> and do not object when given a reading task, the reading program in Bahasa Indonesia is successful. Students will perform better in reading if they enjoy it. (R17)

According to the teacher's perspective expressed above, the most crucial aspect of learning that requires development is student's motivation. According to R3, a student's motivation to read has an impact on their reading proficiency. This perspective is consistent with other research findings that indicate reading motivation influences reading achievement in a reciprocal manner (McElvany et al., 2008; Miyamoto et al., 2018). In other words, because pupils are highly motivated to read, strong reading motivation among them can also boost reading achievement.

The value of reading activities is another viewpoint connected to the teacher's perspective of reading instruction in the classroom. The instructor feels that if students can comprehend quality literature and get the advantages of it in their daily lives, then reading instruction has been effective. The following passage from the teacher's remark serves as an example of this viewpoint.

> When kids can <u>grasp online reading content with ease</u>, it makes me happy. They are able to <u>distinguish between less reliable sources</u> and those that are accurate and pertinent. This skill can assist them in resolving daily issues. (R5)

> When students are able to <u>correctly comprehend a variety of information sources</u>—both online and offline—I consider my classes to be effective. Their ability to read well makes homework easier for them to complete, in both Bahasa Indonesia and other subjects. (R23)

> Teachers should be able to provide their students with resources and activities related to discourse comprehension so that they can succeed in reading classes. Their reading abilities will improve with more practice. These <u>abilities allow them to survive and deal with issues</u>. (R9)

These results suggest that one major predictor of teachers' success in their students' learning is the value of the reading tasks they assign. One advantage of reading from different online sources is that it helps students solve problems in their daily life and with schoolwork (Kanniainen et al., 2019). According to one of the following educators, information technology, or "smart technology," is another factor that supports students' success in learning to read.

> Successful reading instructors are those <u>who know how to properly incorporate technology into their lessons</u>. Educators can use smart technology to assist pupils in locating reliable online information sources. In today's fully digital world, this is a critical skill for educators to possess. (R20)
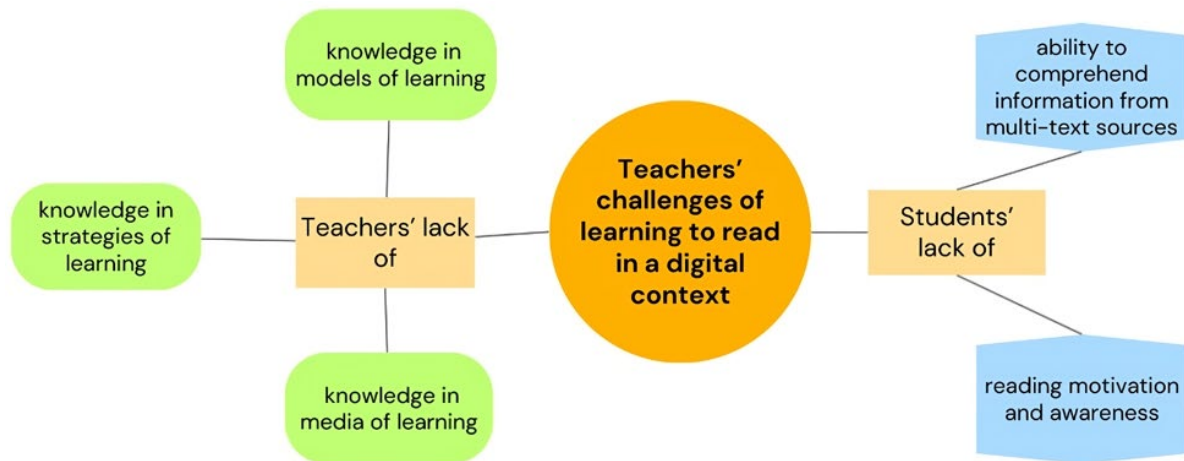
Figure 2. Teachers' challenges of learning to read in a digital context (Source: Research project database)

Reading activities today are inextricably linked to the supporting infrastructure provided by smart and communication technologies. According to a number of studies, kids today are unable to live without technology (Abrams & Merchant, 2013; Prensky, 2005). Therefore, teachers can enhance the caliber of their pupils' education by incorporating information technology or smart technology into the classroom (Simoes & Faustiono, 2019).

Teacher Difficulties in Teaching Students to Read in a Digital Context

An overview of the practice of implementing learning to read and the difficulties instructors experience in the classroom is required to improve the quality of reading instruction. The challenges faced by teachers in this study can be summarized, as follows (see **Figure 2**) based on the findings of the interviews and in-class observations.

Figure 2 shows that there are three main themes related to teachers' challenges in implementing learning to read in a digital context. A complete explanation of the findings is listed in the following description.

Lack of knowledge about models, strategies, and media for learning to read in a digital context

In this study, every teacher admitted that they had no idea what kinds of models, material, or tactics may be employed to help students learn to read online. Teachers typically use assignments that require pupils to read a variety of online sources of information to hone their reading skills. Project-based learning is used to carry out learning; the instructor begins the lesson with perceptions, gives assignments or projects to the students in groups, reads activities from a variety of sources, listens to group presentations, and collaborates with the students to make conclusions.

> Typically, we (teachers) assign students to read information on the Internet in order for them to practice their skills. The learning model used follows government appeals for project-based learning; there is no special model. (R10)

That kind of learning occurs repeatedly, which could lead to boredom. In actuality, unique learning designs based on the desired abilities are required to get the best learning results by competency requirements (Kilbane & Milman, 2014). Learning models that are explicitly used to attain particular abilities can be leveraged by this approach. With the correct learning paradigm, kids can develop new abilities, knowledge, and self-awareness on their own (Joyce et al., 2015).

Lack of students' ability to read multi-text sources

The incapacity of students to read diverse sources is another difficulty for educators in their efforts to assist students in becoming readers. The majority of students find it easy to identify keywords and locate information sources, but they struggle to comprehend a wide range of information from several sources (multi-text).

> The typical student can figure out the answer key and research information online, but when asked what the information they have read actually contains, they still don't know. They still struggle, in my opinion, to comprehend lengthy readings, particularly when they are reading texts from multiple sources. (R12)

> Encouraging students to comprehend literature from a range of sources is my toughest task. Students who read one text may be able to understand it; however, if they read many texts, they will typically become confused. (R18)

The primary issues with learning in Bahasa Indonesia reading classrooms are, in fact, the issues these teachers are facing. According to a different survey, Bahasa Indonesia junior high school students had extremely low text comprehension skills—an average score of only 52.55 (Yasinta et al., 2022). According to the study, students typically had trouble making the connections between one text's context and another. These results suggest that while reading many texts, a unique approach is required.

Lack of motivation and awareness among students in reading

If students possess strong reading awareness and motivation, they can succeed in learning to read in a digital environment. Learning will be hampered if pupils lack motivation for and awareness of reading. The following quotes provide an overview of the conclusions made by many educators regarding this issue.

> One problem I constantly run into is that when students are given the assignment of reading different online sources, they invariably have complaints. It appears that the pupils lack the zeal or drive to look for "serious" and "high-quality" knowledge. (R14)

> The challenge I feel with assigning literature from the Internet to pupils is their lack of interest and knowledge of reading. It feels like a responsibility to the students to complete it. I require some sort of media that can inspire them to read more. (R29)

These study's conclusions suggest that more work needs to be done to boost students' reading motivation. Habits related to reading have a big impact on motivation to read. As a result, it is crucial to start teaching pupils to read at a young age (Cunningham & Stanovich, 1997). Using specialized learning models and online media to enhance students' reading abilities in conjunction with the strategy of cultivating their intrinsic motivation to make reading a "desire" for them is another endeavor that may be undertaken (Hebbecker et al., 2019; Watkins & Coffey, 2004).

The significance of these findings highlights the need for educational strategies and solutions to address the three issues mentioned earlier. Based on a comprehensive review of relevant literature, several recommendations are presented in **Table 1**.

Highlighting these solutions allows teachers to enhance their knowledge and skills in using digital models and media for reading instruction, thereby improving their effectiveness in the classroom and supporting their students' reading skill development.

CONCLUSION

Based on the findings and results of the data analysis, every participant in the study who is a teacher of Bahasa Indonesia has concluded that the ability to search for information on the Internet is a valuable skill. In the long run, though, teacher implementation will have certain advantages. Teachers are still in the process of putting into practice a learning paradigm that is intended to help pupils learn better in a digital environment. By assigning readings, teachers employ a traditional learning paradigm with their students. The instructor is more motivated to become a better teacher as a result of this approach. The findings indicate that the teachers should focus on two aspects during this study:

(1) a deficiency in knowledge of digital learning materials and strategies/models and

(2) a deficiency in students' comprehension of data from interdisciplinary sources.

Table 1. Recommendations for addressing the challenges faced by teachers

Type	Name	Description	Reference
Professional development and training	Workshops and courses	Engaging in professional development programs that focus on digital literacy, educational technology, and contemporary reading models	Continuous professional development (CPD) (Elmore, 2004)
	Online resources	Utilizing online courses, webinars, and tutorials that provide information on effective digital reading strategies and tools	
Collaborative learning	Peer mentoring	Collaborating with colleagues who are experienced in digital literacy to gain valuable insights by observing their practices and discussing strategies	Communities of practice (Wenger et al., 2002).
	Professional learning communities (PLCs)	Joining or forming PLCs focusing on digital literacy and reading instruction to share knowledge and resources	
Leveraging educational technology	Digital tools	Exploring and experimenting with educational technology tools and platforms designed for reading instruction, such as e-readers, educational apps, and online reading programs	Constructivist learning theory (Piaget, 1973; Vygotsky, 1978)
	Adaptation of media	Incorporating multimedia resources like interactive texts, audiobooks, and educational games to support diverse learning styles	
Student-centered approach	Feedback and assessment	Using formative assessments and student feedback to understand how digital tools and strategies are impacting learning. Adjust methods based on this feedback	Responsive teaching (Tomlinson, 2001)
	Engagement strategies	Developing engagement in digital reading activities that cater to students' interests and reading levels, enhancing their motivation and comprehension	

The knowledge and training requirements of junior high school teachers about reading instruction methodologies in a digital context are affected by this research. It is believed that the developing model would help educators enhance their pupils' capacity to access a variety of online resources.

There are a few noteworthy limitations to this study. First, the study primarily emphasizes teachers' perceptions rather than their actual instructional practices or student outcomes; therefore, it may fail to present a comprehensive understanding of the implementation of digital reading instruction in real-world settings. Consequently, insights into the effectiveness of digital reading methodologies and the genuine challenges encountered in the classroom are restricted. Second, the study might involve a relatively small sample size or a specific group of teachers, restricting the applicability of the findings to the broader population of Bahasa Indonesia teachers or to educators in other nations with distinct educational environments. Recognizing these limitations is crucial to offer a nuanced interpretation of the study's results and to identify potential avenues for future research that could fill these gaps. Future research could adopt a mixed-methods approach (e.g., surveys and assessments) with qualitative data (e.g., interviews, focus groups, and classroom observations). This would allow researchers to provide a more comprehensive understanding of how digital reading instruction is implemented and its effectiveness.

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