DIGITAL READING DURING THE PANDEMIC: EXPLORING VOCATIONAL STUDENTS' PERCEPTIONS

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Abstract

This study was aimed at exploring vocational school students' perceptions of their digital reading during the pandemic and their utilization of various digital media. The participants were eight students from three public vocational schools in Semarang, Central Java. This study adopted a qualitative descriptive method to explore vocational students' perceptions of digital reading in times of COVID-19 pandemic. Data were gathered through an online semi-structured interview, in which the recording was transcribed and analyzed from the lens of multimodality. The study revealed that during the pandemic, vocational school students reported their difficulties in reading vocational materials in digital files, especially in the portable document format (pdf). The major influencing factors were the rigidity of learning materials in the pdf, the lack of peer interactions after digital reading, and the teachers' pedagogical moves that might obstruct the development of digital reading skills. In contrast, this study reported that students utilized a plethora of digital media, websites, and applications, including Tiktok, Instagram, Wattpad, and Webtoon to read a wide variety of topics that capture their interests, from social, politics, economics, and romance. This study underlines the importance of enhancing student skills in digital reading in vocational subjects by utilizing various digital media.

Keywords: *digital reading; pandemic; vocational school students*

1. Introduction

With rapid technological advancement in today's era, research has documented a surge in uptake of digital reading practices on a wide variety of media including, computers, mobile devices, and the internet (Baron, 2020). Despite that increasing interest, research on vocational school students is scarce since the majority of the literature has focused on primary grades and other educational levels (Kucirkova & Flewitt, 2019; Simpson, et al., 2013). More empirical studies are necessary to explore the vocational school context considering the importance of digital reading for acquiring knowledge, vocational, and employability skills in the globalized world (Patmanthara & Hidayat, 2018). To date, the scarce literature on the perceptions of vocational school students has focused on online

learning in general (Aydin, et al., 2015, Erliana, et al., 2021, Syauqi, et al., 2020) but research on vocational school students' perception of digital reading is scarce. Pahamzah and Juniardi (2020) investigated perceptions of vocational school students on reading comprehension but the study was limited to the use of one learning media, hence failing to capture the intricacies of digital reading.

During the COVID-19 pandemic, empirical studies exploring digital reading are crucial since students' learning has shifted from onsite to online learning where students utilize digital devices, including mobile phones and laptops, during school closures. Existing literature has reported unprecedented and adverse impacts of the pandemic on students' academic achievement (Bailey, et al., 2021, Hammerstein, et al., 2021; Kuhfeld, et al., 2022). Regarding students' reading in the pandemic, in a research review, (Goudeau, et al., 2021) reported that students relied more on resources available at home, and they predominantly utilized digital resources. That review, however, predominantly focused on elementary and high school students in the European, American, and African contexts whereas the vocational school contexts in Asian countries are still underexplored. To fill the literature gap, the current study will focus on vocational school students in Indonesia.

The primary objective of this study is to explore the perceptions of vocational school students on digital reading and their utilization of digital media. Two research questions guide this study: what were the perceptions of vocational school students on digital reading during the pandemic era? What were the digital media utilized by vocational school students for digital reading? To answer the research questions, the following section will present an in-depth exploration of two concepts driving this article, i.e. digital reading of vocational school students, and the utilization of digital media for reading through the lens of multimodality.

2. Literature Review

2.1 Digital Reading of Vocational School Students

In this study, digital reading is defined as "a range of multifaceted meaning-making experiences whereby readers engage with multiple texts for particular purposes that are situated in diverse contexts". This study views digital reading within a broader theoretical framework of digital literacy that involves meaning-making and meaning integration process. According to Singer and Alexander (2017) in their systematic literature review, digital reading is similar to other terms, such as reading digitally, reading online, computer-reading and e-reading. Singer and Alexander further point out that students in today's digital age utilize a plethora of digital devices, including computers, iPads, Kindles, and mobile phones. Additionally, with the widespread use of the Internet, students have frequently accessed social media tools, such as Instagram, Twitter (Loh & Sun, 2018), and Tiktok (Jerasa & Boffone, 2021). Therefore, this study considers students' utilization of those aforementioned media.

Researchers have examined the effects of digital reading on a variety of outcomes, including student preferences (Singer & Alexander, 2016) and ELL extensive reading on Wattpad (Permatasari, et al, 2020). In Indonesia, Ganie, et al. (2021) investigated university students' attitudes toward reading online on Wattpad and its benefits for their vocabulary

and 50% of the students reported positive attitudes toward reading from that medium. More empirical studies are required to examine other educational contexts.

Sustained investigations in the vocational school context have been scarce despite the importance of vocational education in today's society. As noted by Fuller (2015), vocational education is important for philosophical and practical reasons. Philosophically, the values of learning for occupational skills and expertise benefit not only the individual but also the wider society. Practically, people who master occupational skills and expertise are able to perform a variety of tasks that support modern life, such as nursing sick people, repairing equipment, and creating information technology innovations.

As noted by Suharno, et al. (2020), vocational education is a type of education with an emphasis on the mastery of skills that prepare students for work and employment. Vocational school in Indonesia is a part of formal education carried out at the secondary level and it offers a wide range of programs, such as Accounting, Animation, Engineering, Multimedia, and Office Administration. Recent studies have explored vocational school students in Indonesia during pandemics, including English in vocational schools (Fadlia, et al., 2020) and vocational students' writing (Risnawaty, et al., 2021), but there is a scarcity of research examining vocational school students' perceptions of digital reading in the times of COVID-19 pandemic.

In response to rapid technological development, researchers have agreed on the importance of integrating digital literacy and technology literacy into vocational education (Patmanthara & Hidayat, 2018; Rosina, et al., 2021). As highlighted by da Costa and Araujo (2016), in comparison to general education students, vocational students had fewer ICT resources at home and low achievers in digital reading were higher than vocational students. However, that study was limited to European countries, and more empirical studies in other regions are needed to capture the complexities of digital reading among vocational school students.

2.2 Utilization of Digital Media for Reading using the Lens of Multimodality

In exploring the perceptions of vocational high school students, we view digital reading through the lens of multimodality that comprises different modes of communication including written texts, images, graphic elements, videos, audio, and other modes of representation (Rowsell & Burke, 2009). Over the past decades, researchers have made distinctions between printed and digital reading in that multimodality governs the practices of digital reading (Kress, 2013; Kress & Van Leeuwen, 2020). As noted by Kammerer, et al. (2018), the world wide web has stored large numbers of materials with multimodality, which includes visual displays, audios, and videos, and adolescents often utilize those multimodal materials, such as Youtube as a free video-sharing website, in order to complete school tasks.

Within this perspective, digital reading involves multifaceted practices that include three dimensions: the consumption and making sense of digital content, the creation of digital content, and the usage of digital content (Heitin, 2016). Regarding the first dimension, students engage in more potentially challenging practices when reading from digital texts, such as finding information in search engines, following hyperlinks, and understanding digital images (Leu, et al., 2013). Then, Heitin (2016) explains that students not only consume

digital information but also apply their knowledge to create content and critical media literacy. The third dimension is the usage of digital content that allows the participation, collaboration, and facilitation of online communities. In relation to the communities, Coiro (2020) further argues that readers, texts, and activities in digital reading are situated in the sociocultural contexts of the readers' home, school, and community contexts, and those contexts support readers to interpret digital texts and make personal meaning.

3. Research Method

This study was carried out through an online video-conference meeting. The online medium was selected due to the restriction of individual mobility during the pandemic and the availability of information technology tools that could reach out to schools in Central Java, Indonesia. The study was initially a part of a two-day digital literacy workshop aimed at improving students' knowledge and ability to evaluate online information. In order to increase the number of participants, the workshop information was shared with general education and vocational schools via a messaging application and social media. The schools then informed students from grades 10 to 12 of this workshop. In total, 83 participants registered for the two-day workshop. On the first day of the workshop, we administered a quick survey asking whether students were willing to participate in a study exploring digital reading. Those students then took part in the online interview session on the last day of the workshop.

The interview session was divided into two main parts: the first one asked about the vocational school students' personal data, including name, grade, parent's educational background, and their use of digital media, such as laptops and mobile phones. The next part consisted of a list of prepared questions and follow-up questions to gauge students' responses to digital reading. Students shared their opinions via audio of the online meeting. Since video conferencing requires a higher speed of internet access, students may turn off their cameras during the interview session to overcome connectivity issues.

Of the 83 participants registering for the aforementioned digital literacy workshop, 8 vocational school students from three institutions were willing to participate in the interview session for this study. After we informed the research, its objectives, and procedures, they agreed to participate in the semi-structured interview. The interview was carried out on the second day via an online conference meeting. Since students come from a variety of vocational schools, they did not know each other prior to the interview session. The students' opinions were elicited through a semi-structured interview. The method was selected as it allowed the modification or addition of the questions during the interview process so that we could immediately follow up on interesting points presented by students. Students were informed that the interview session was recorded, and they showed their agreement with that process.

The eight vocational school students were identified as Vania, Hilman, Fico, Alanda, Aeni, Ronan, Prilly, and Endah. All participant names were pseudonyms. They came from three different vocational schools: X, Y, Z. In terms of the vocational field of study, there were 4 clusters: (1) Accounting as Vania and Endah's major, (2) software engineering as Hilman and Alanda's major, (3) multimedia as Ronan and Prilly's major, and (4) Building construction, sanitation, and maintenance as Aisha and Fico's major. Four students were in

the 10th grade, three students in the 11th grade and one student in the 12th grade. The participants' demographic information is illustrated in Table 1.

Participants	Grade	Sex	Vocational school	Major field of study in vocational school
Vania	10	Female	Vocational School X	Accounting
Hilman	10	Male	Vocational School X	Software Engineering
Fico	10	Male	Vocational School Y	Building construction, sanitation and maintenance
Alanda	10	Female	Vocational School X	Software Engineering
Aisha	11	Female	Vocational School Y	Building construction, sanitation and maintenance
Ronan	11	Male	Vocational School Z	Multimedia
Prilly	11	Female	Vocational School Z	Multimedia
Endah	12	Female	Vocational School X	Accounting

Table 1. The Participants' Demographic information

The interview lasted for 75 minutes and then the recording was transcribed into texts. Transcription involves reflection and a representational process in which researchers make choices related to the theoretical underpinnings of the study (Davidson, 2009). The transcription process in this study followed a six-step procedure proposed by Azevedo and colleagues (2017), i.e. prepare, know, write, edit, review, and finish. In the preparation process, we stored the review recording in an online cloud service that was only accessible by the research team. Next, we gathered materials and information related to the interview, including a list of questions presented in the PowerPoint slides during the interview.

The transcription was carried out by a research assistant and the recording was repeated numerous times to increase familiarity with the content. After that, in the process of transcribing, the research assistant translated the recording into texts and ensured that the content of the participants' opinions was correctly presented with no change. The next step was editing which included adding punctuation and omitting speech errors. In the review process, the transcription text was compared to the interview recording to ensure its accuracy. Lastly, the recording was kept for the duration of the research and later deleted, while the transcripts were made in an original version and a working file that omitted irrelevant information.

Next, the working version of the transcript was coded using content analysis (Crano, et al., 2014). We read the transcript numerous times to understand the data, capture the complexities of the phenomena and code the data into underlying themes. The coding units were themes related to the theoretical underpinnings of this study. Then, the transcript

interpretation was classified into specific categories, such as digital reading, pandemic, and multimodality.

4. Results and Discussion

The objective of this study is to examine vocational school students' perceptions of digital reading and the utilization of digital media for their reading. We present the findings in the following sections.

4.1 Vocational Students' Perceptions of Digital Reading During the Pandemic

In terms of reading practices, students revealed that during the pandemic, their reading practices decreased compared to pre-pandemic, especially in terms of reading materials related to the content area subjects, such as mathematics, and vocational subjects. Based on the content analysis, three points emerged: (1) students struggled to understand learning materials in pdfs, (2) the lack of social interaction after reading tended to reduce students' interest in reading, and (3) the teachers' pedagogical moves might hinder students' interest and reading comprehension.

First, in terms of the reading formats, the majority of the vocational learning materials shared by the schools and teachers were in the pdfs. As students mostly used their mobile phones to read the learning materials, they were often distracted by other applications, such as Whattsapp or game notifications. Besides that, even though they could zoom in their phone screen, they still thought that the text fonts in the pdfs were too small or difficult to read.

> *I used to read textbooks, read novels, and read wattpad, but now I'm lazy. The current textbooks are in pdf. I rarely open them, because when reading pdf in my phone, I am easily distracted by group chats. [Ronan]*

> *It's more difficult to read digitally on my cellphone because of game notification, it's so annoying. [Hilman]*

> *I don't like reading pdfs on my cellphone, but I don't have any choice. I have to read on my cellphone. [Endah]*

> *Yes, it's more difficult in pdf, because the writing is small, and I can't focus when there are Whatsapp messages. [Farid]*

Second, regarding the social interaction after reading, students revealed that before the pandemic, the schools encouraged students to read and make a summary of their reading, then students directly shared their reading tasks to their peers through face-to-face meetings. Unfortunately, due to the human mobility restriction during the lockdown, students were unable to discuss their reading with their friends in person. They reported their lack of interest in reading during pandemic due to the lack of direct peer interaction.

> *Before the pandemic, at school, the teachers asked us to make a summary of novels that we read every morning. The novels were up to us (the*

students). Before Covid, I read very diligently, but after Covid, I was too lazy to read because during the pandemic, I read the learning material alone. I didn't like it. It's better if I can share it to my friends after reading. [Vania]

When I was still in junior high school (before the pandemic), I read and summarized every day. Now it's gone downhill. [Farid]

Third, students revealed teachers' pedagogical moves influenced reading comprehension in digital texts. When teachers were supportive, students could understand the learning materials. In contrast, when some teachers only provided the materials in the pdf with no explanation, students struggled to learn.

I like reading in general administration, banking, simulation and digital communication subjects because of the teachers. So, it really depends on the teachers. When we (students) don't understand, and the teachers explain the lessons slowly and clearly, we like it. Those 3 subjects are my favorites. But, in other subjects, there are also teachers who would leave us behind. I don't like math because I rarely read in math. It's just full of math formulas from textbooks and I often don't understand them (Vania)

I struggle in some vocational subjects, since they focus more on the practical sides but some teachers sometimes just give pdf files without any explanation. [Aisha]

I like mechanics and engineering lessons, because in those lessons the teachers are really asking questions. The teachers give us books in the pdf formats. Later if students can answer the questions, they will get good scores. (Farid)

In summary, students revealed that they struggled to understand learning materials in the pdf files. The lack of face-to-face peer interaction after reading also influenced vocational school students' perceptions of digital reading. Additionally, teachers' pedagogical moves, or lack of support for enhancing digital reading skills contributed to students' perceptions of the digital reading.

4.2. The Utilization of Digital Media for Reading from the Lens of Multimodality
Findings of the interview showed that students employed a wide range of media in their digital reading during the pandemic. The majority of the students made use of their mobile phones when reading digital texts. Only one student Ronan expressed his preference for a laptop because he attended an internship program that required drawing applications. In regards to the multimodality, students accessed a plethora of websites and applications online, including WhatsApp, Google, Wattpad, Webtoon, Twitter, Instagram, Tiktok, and online news platforms.
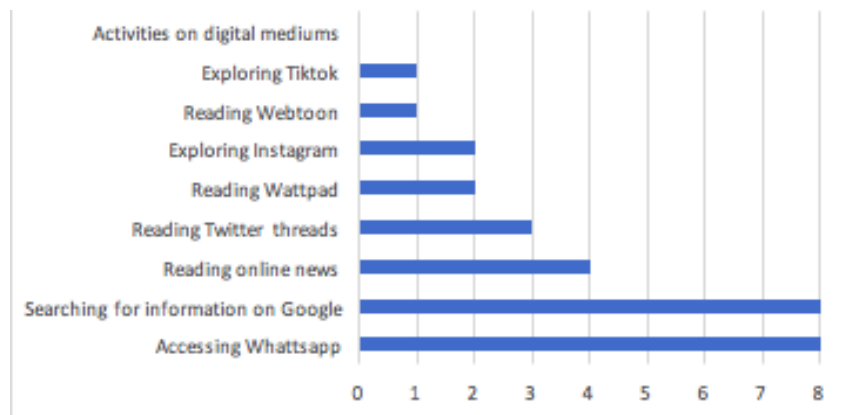
Figure 1. Activities on digital media

One student Aisha expressed that she liked to use Tiktok because it offered videos that captured her interest in fashion, while Alanda liked to read Webtoon because it presented romance novels as her favorite genre. Two students, Alanda and Prilly liked to explored Instagram that had interesting photos and videos. Besides, Alanda and Vania often accessed Wattpad because they liked to read fiction stories.

Three students, i.e. Vania, Alanda and Prilly liked to access Twitter to know trending news. Additionally, four students, i.e. Vania, Hilman, Ronan, Fico liked to read online news that capture their interests. Some local and international news outlets that they were Kompas Central Java, Kompas national news and CNN Indonesia. For instance, Ronan read Non Fungible Token (NFT) subjects on online news because he thought that topic was interesting. Notably, one student Hilman revealed that his parents influenced his digital reading on various topics.

> I read about news on oil, corrupt corporations and the ministry. I really like reading online news. My parents will encourage further discussions. Sometimes they tell me to watch TV, watch the news or read something. [Hilman]

Google and WhatsApp were two media preferred by all students. They used WhatsApp as their daily communication messaging tools with their peers. As for Google, they used the website to search for information that was new or difficult to understand.

> If I stumble upon a word I don't understand, I can directly search on Google, so I can immediately know its meaning. For example, when reading, if there is a slang word or a new term, I can directly search on Google. [Aisha]

> Yes, it's the same, if there are words that I don't understand, I just look it up on Google. [Prilly]

In summary, students utilized a variety of websites, applications and tools when they read digital texts. All students used Google and WhatsApp for reading or searching for online information. Four students preferred to read online news to gather current information that attracted their interests. Websites or applications utilized by vocational students included Twitter, Instagram, Tiktok, Wattpad and Webtoon.

5. Conclusion

This study investigated vocational school students' perceptions of digital reading during pandemic. Findings revealed that students had difficulties in reading digital texts related to their content areas and vocational subjects. Three factors that influenced their perceptions were the rigidity of pdf materials, the lack of peer interactions and the teachers' pedagogical moves that might hinder reading comprehension in digital texts. For the pdf texts, the majority of the students utilized their mobile phones to read learning materials in the pdf formats and they thought that the text fonts were too small or difficult to understand. Next, in terms of peer interactions, before pandemic the students were able to share their reading to their peers in person, but during the pandemic they were unable to practice so that they often felt alone and discouraged to read. Finally, in regards to the teachers' pedagogical moves, students reported that when teachers explained the materials clearly and encouraged discussions after reading pdfs, they could understand the learning materials better. However, when some teachers only distributed the learning materials in the pdfs without any further explanation, or sometimes followed by assignments, students struggled to comprehend the digital texts.

On the other hand, students revealed that they practiced digital reading by utilizing a variety of media, websites and applications, to access information that captured their interests on a wide range of topics, from social, politics, economics, and romance. Applications, such as Tiktok and Instagram were selected by students because they could explore the latest trends in videos. Webtoon, Wattpad and Twitter were selected because some students preferred to read fictions or trending stories. Then, four students often accessed online news that were appealing to them. One student notably revealed that his parents influenced his interest in digital reading of online news. All students agreed that they accessed WhatsApp for daily communications and Google to search for new or difficult information.

This study was based on the perceptions of vocational students who attended schools in Semarang, Central Java, so that it might be unfeasible to obtain generalization of the vocational population in Indonesia or other countries. Future studies should include larger sample sizes to capture generalizable data. Despite that limitation, this study has presented perceptions of vocational school students when reading digital texts and utilizing various media to access information that was appealing to students. Peers, parents and teachers influenced student perceptions in varying extents, so that future empirical studies should consider those social aspects when investigating vocational school students' digital reading.

Acknowledgements

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