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Using Digital Media During the COVID-19 Pandemic Era: Good Online Program in Higher Education

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Abstract

This study aims at documenting the experience and perceptions of an Indonesian university professor in regard to teaching using digital media during the coronavirus disease 2019 (COVID-19) pandemic. Ample research has pointed out that the use of digital technologies can raise both potentials and challenges. This study examines the two contrasting perspectives by considering the current health disaster, the COVID-19 pandemic, which can add to the complexities of the virtual education in Indonesia. Research on virtual education in the context of Indonesian higher education during the pandemic is very limited and, thus, this study has gained its significance. We used qualitative methodology to approach this investigation with interview as the data collection technique and thematic analysis as its method of analysis. The results of this study present some key insights into the ways to integrate digital technologies within higher education instruction and what criteria to consider when selecting digital media. We argue that using digital technology helped educators facilitate teaching and learning regardless of the health crisis they were facing. This paper can be of use for educators in higher education to find ways in infusing digital media in their everyday instructions.

Keywords: covid 19 pandemic era, digital media, digital technology, good online programs, online community, virtual education

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1. Introduction

Coronavirus disease 2019 (COVID-19) has infected almost all countries in the world. The World Health Organization (WHO) declared the COVID-19 outbreak firstly identified in Wuhan, China, as a pandemic on March 12, 2020 (*WHO Director-General's Opening Remarks at the Media Briefing on COVID-19 - 11 March 2020*, 2020). Per November 24, 2021, Our World in Data recorded there were about 26 million people infected by the virus and more than 5 million of them died ("Coronavirus (COVID-19)," 2021). The COVID-19 pandemic is considered a biological disaster. According to Kumar (2020), what qualifies biological disasters includes natural scenarios relating to disease, disability, or even death massively due to bacteria, viruses, toxins, or other microorganisms among the earth's creatures (humans, animals, and plants). The COVID-19 has caused devastating medical and socioeconomic problems around the globe. Steinfield (2020) argues that the COVID-19 pandemic is changing the structures, rhythms, and routines of many contexts including education for an

unknown period. As of now, we have witnessed how the world of education has shifted from in-person learning to remote virtual learning so massively.

Indonesia has its own story about the pandemic and education. The country is among those which close schools the longest. Nearly 18 months have passed since schools in Indonesia were closed to reduce the rate of transmission of COVID-19 (*Indonesia: After 18 Months of School Closures, Children Must Safely Resume Face-to-Face Learning as Soon as Possible*, 2021). Millions of Indonesian students have been affected by school and university closures. The Indonesian government has been strongly urged to find a way out of this precarious situation. In this paper, we investigate how a virtual class at one public university was run by documenting a faculty member's perceptions and attitudes when using digital media for teaching and learning. This paper may be of use for educators in universities to inform practices to better integrate digital media in their instructions.

a. The Context: Indonesia

In the 64th anniversary event of Indonesian Padjadjaran University whose theme "Towards a Hybrid University Transformation," Nadiem Anwar Makarim, the Minister of Education, Culture, Research and Technology (MOECRT), said distant learning during the Covid-19 pandemic has been an emergency route. According to him, the route has been taken to prevent a so-called "learning loss" (Siswadi, 2021). The MOECRT minister explained that during the last one and a half years there had been many changes as a result of the COVID-19 pandemic, especially in higher education contexts. One of the biggest reforms in the world of education is the use of technology in learning. "Now technology must change the way students learn, especially to catch up during the pandemic," he said (Siswadi, 2021).

The minister asserts that learning must be meaningful and relevant so that students have sufficient provisions to face the real world. He urges Indonesian universities to establish the hybrid approach in the 21st learning such that the courses are designed in a more creative format using digital technologies (Siswadi, 2021). This spirit of reform can be traced to the ministry's current policies which emphasize education reforms during the pandemic. The government revisits and revises the use of the special fund allocation to be directly transferred to schools for purchasing digital devices (*The 2021 National Education Day Podcast of President Jokowi and Minister Nadiem Makarim*, 2021). The massive use of computers at schools and universities has been widely promoted such that the government bought hundreds of thousands of Chromebooks for student learning and enhanced the hybrid-style learning, combining both in-person and virtually (*The 2021 National Education Day Podcast of President Jokowi and Minister Nadiem Makarim*, 2021).

b. Virtual Learning in Higher Education

According to Carliner (1999), virtual learning is educational resources that are offered on computers. This kind of learning allows both faculty members and students to manage to teach and learn in teleconferencing modes, using, for instance, Zoom, Google Meet, or other digital applications so that they can self-direct their academic activities in a distance. Virtual learning is also defined as a model in which geographical distance separates a tutor and students, and online delivery media are used to bridge that instructional gap (Huang, 2002). However, Ally (2008) asserts that virtual learning encompasses more than just the appearance and conveyance of

materials online, rather it also requires the inclusion of the learner and the learning process. He explains that students use the Internet to access learning resources, such as interacting with contents, instructors, and other students, and attaining support throughout the learning process, and, thus, that they can gain knowledge, construct personal meaning, and grow from that learning experience (Ally, 2008).

When it comes to what digital media for virtual learning to use, Pecay (2017) highlights two criteria of "learning purposes" and "teaching purposes." His study focuses on scrutinizing educators' motives in using YouTube in their classes. The setting of the research was in-person where the digital media was embedded along with teaching and learning practices. Educators used YouTube to explore some understandings of subject matters and, thus, develop their teachings. They considered the contents' pedagogical and psychological aspects to better benefit their students (Pecay, 2017). In addition, studying three different stakeholders of children, parents, and industry, Dias and Brito (2021) explored that the three stakeholders had contrasting views on the criteria of selecting apps. For example, parents leaned on safety issues of digital media; children considered the fun aspects and their interfaces, while the industry highlighted the significance of a good user experience.

This study includes an educator's opinions during the pandemic so it can add to the prolonged discussion of digital media criteria in contemporary virtual learning developments. Digital technology has played and continues to play a crucial role in the growth of virtual learning. It becomes an important long-term strategy for many universities. Given the rapid growth of this non-traditional learning and its importance for tertiary institutions, it is imperative that universities deliver good online programs (Kim & Bonk, 2006). Also, Dumford and Miller (2018) argue that it is critical to discover the current situations and issues with virtual learning at higher education level to facilitate a better context for ways in which the student experience might be improved.

c. Two Faces of Digital Technology Integration in Education

The use of technologies can raise both potentials and challenges. By reviewing some relevant literature including research articles and books, we provide key insights as follows.

1) Positivists' perspectives

We documented the proponents' views of using digital media for learning. First of all, flexibility has become the most favorable theme that many educators and learners consider the online strategy can convey. Awaludin (2016) contends that online platforms can generate flexible learning in ways that students are able to manage their own learning pace. For example, they can slow down or speed up reading an article and pause or rewind a video learning. In addition, a student commuter can conveniently access learning whenever and wherever so he or she can improve their studies (Awaludin, 2016; Oproiu, 2015; Owston et al., 2013). Fearon et al. (2011) give a wider perspective that remote speakers from industry or academia can be able to deliver a seminar event or keynote lecture through teleconferencing. Even when a participant misses the event, for instance, because of illness, he or she still can catch up online.

Second, digital technology tools can facilitate collaborative activities (Oproiu, 2015). Students can do group work, share ideas and even challenge others' opinions via the online platform in, as Loh et al. (2016)

said, much easier ways of learning. According to Fearon et al. (2011), universities can encourage larger collaboration with industry practitioners, for example, to foster and improve the learning itself. Further, they describe that the online environment could facilitate the development of transferable skills for junior accountants and enabled helpful revision aids for both undergraduate and graduate students participating in the study (Fearon et al., 2011). Even as simple as collaboration with peers in doing homework can be carried out online (Oproiu, 2015). We think especially in the time of the pandemic this practice has been commonly implemented by many students and their teachers too.

Third, the virtual mode of learning is capable of motivating students in their studies. A study by Owston et al. (2013) found that students were satisfied with the online strategy as they could understand subject matters very well and, thus, be motivated in their learning to achieve better grades. López-Pérez et al. (2011) clarify that students at the University of Granada had positive attitudes toward learning and gained better achievement, shown in their final scores. Lastly, from an economic point of view, according to Loh et al. (2016), studying in the distance can reduce transport costs. As mentioned earlier, the commuter, distant or ill students can still access learning wherever they are. Other than breaking distance issues and saving travel time, technology also possibly eliminates some transport fares (Loh et al., 2016). Along with these potentials follow some constraints that need to discuss.

2) Sceptics' perspectives

Despite the potentials discussed earlier, technology-based learning is, borrowing Selwyn's (2016a) word, messy and contributing to serious problems that need attention. First and foremost, students often feel bored when dealing with static technological devices. Selwyn (2016a) argues that digital technology neglects humanization acts of learning and teaching because people's relationships and social contexts in which they act and learn vary and, thus, affect their learning. Students like meeting their peers in person and talking to each other. In the digital sphere, these activities can be done very limitedly (Selwyn, 2016a). For example, after a Zoom class is over, the room is ended, no small talks after the class.

Furthermore, the technology could not accommodate student desires to socialize and interact with their peers. Albeit some online platforms provide such mingling spaces for students to connect with each other, Zhang and Kenny (2010) found that students they studied could not make much use of the tools. What normally happened in the virtual model was that most students were passive; there were limited activities that could be done in the online environment. Selwyn (2016) contends that technology increases and worsens obstructive behaviors among students by, for example, not contributing to group activities in a meaningful way.

In addition to the final point in Selwyn's (2016) argument, some studies still problematize the collaboration matter which has been claimed to be facilitated virtually. Students show negative attitudes to learning because they lack opportunities to collaborate with their colleagues (Loh et al., 2016). Loh et al. (2016) add that these negative perceptions can influence the effectiveness of group work, considering that traditional face-to-face meetings are able to spark student creativity. It is important to consider that learning should not just promise 'collaborative works only', but, more importantly, it needs to encourage quality collaboration among students so they can improve their learning.

Another challenge is related to the quality of online materials provided by universities. Specifically, in the research on university students, Weaver et al. (2008) found that student responses elevated main issues, such as: poor quality teaching (e.g., appropriate teaching activities, feedback, and level of interaction), poor use of technology (e.g., inappropriate file types uploaded, little use of available features, large file sizes), and lack of adequate maintenance to online sites (e.g., out-of-date information and broken links).

In this paper, we are going to examine the two perspectives. Moreover, the nature of the COVID-19 pandemic can add to the complexities of the virtual education phenomenon. To my knowledge, studies on virtual education in the context of Indonesian higher education during the pandemic are very limited. What we mean by "studies" is research articles published in peer-reviewed journals. Therefore, this study gains its significance to extend the conversations around the issue in the recent Indonesian context.

We would like to provide important evaluation of the issues of online instruction during the COVID-19 pandemic. This paper aims at addressing two research questions (RQ); they are: (a) RQ1: How does an Indonesian professor perceive the use of digital media for teaching and learning during the pandemic; (b) RQ2: What are the criteria used when selecting digital media.

2. Methods

We used qualitative methodology to approach this study. Hatch (2002) asserts that qualitative studies try "to understand the world from the perspectives of those living in it" (p. 7). In the qualitative approach, investigators seek to capture the perceptions of actors in which they use as a foundation for their activities in a social context. For collecting data, we employed a semi-structured interview with Prabowo (pseudonym). We did the in-person interview in October 2021. Prabowo is an Indonesian professor who had been in the United States as a visiting scholar for three months (August-October 2021) when we interviewed him. While doing the visit and during the Coronavirus disease (COVID-19) pandemic, Prabowo also still carried out his distant instruction duty for his students in Indonesia.

Regarding the data analysis, we used thematic analysis (TA) to process the obtained information from the interview. According to Carliner (1999), TA as a qualitative strategy is mostly defined as a technique for researchers to identify, analyze, and report patterns (themes) in data. To find the themes, we developed five codes as shown in Table 1.

3. Results and Discussion

We would like to present a perspective of Prabowo who conducted online teaching during the COVID-19 pandemic.

a. The Tale of the Professor

The professor reflected on his experience performing the online instructor role in the last one and a half years when we met him. He took the initiative to use digital media since the university where he worked did not provide him with any kinds of learning media subscription and learning management systems at all. Prabowo noted, "The university does not provide [any learning management system tools]. This is a self-initiated [response]."

In this part, two main themes emerge from the data. The first is related to some potentials and challenges of both in-person and virtual learning during the COVID-19 related crisis. The second theme is about the criteria of media selection for helping him carry out the distance instructions.

Table 1. Data Codes

Codes	Definitions	Examples
Potentials	Enabling brought about using a certain mode of instruction	"[With] the in-person mode, [first, I am able to cover] subject matters more maximally."
Challenges	Difficulties faced by the professor when teaching	"In Zoom, it's difficult for us to explain things more concretely."
Intuitive	When digital media are easy to navigate	"Even at the beginning of the pandemic, in 2020 there were still many (faculties) who used WA (WhatsApp) groups [for teaching]."
Widely used	When digital media are commonly used	"They are more familiar with Zoom."
Efficient	When digital media are cost efficient as well as having quality services	"Webex is taking so much data; it is the most expensive … the Microsoft Team sounds like crap."

b. In-Person vs Virtual Instruction

Prabowo provided his views on the potentials and challenges of both virtual and face-to-face modes of instruction. First of all, the professor said that the main strength of the virtual mode lied in its flexibility. "So, there are no rules for this meeting. Because of the pandemic, [the class] has become more open; it's not too rigid … it is more flexible, yes." He explained further that with this flexible nature, he and his team teaching were able to innovate in designing learning as effectively and possible. Prabowo said, "Then, the positive thing is that this virtual [model] makes us more innovative; [we are triggered] to continuously develop [our learning design] again and again in the following semesters."

On the other hand, the professor highlighted the main challenges of the virtual model were related to its practicality, especially, when he wanted to interact with his students. "It's a bit difficult to build interactions … in Zoom. It's difficult for us to explain things more concretely; it's hard to explain abstract theories. There is a gap, isn't it?" The professor also said there was a problem by the Internet connections they had, saying, "The students [sometimes] have problems with the network … there are problems with Internet signal, connections ... because there are some students who live outside the cities [in villages]."

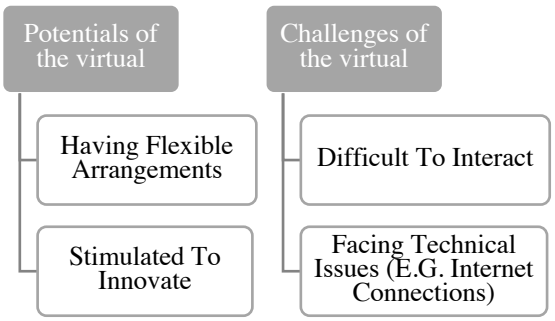

Figure 1. Potentials and Challenges of the Virtual Mode

In terms of the positive side of in-person learning, Prabowo stated that "[With] the in-person mode, [first, I am able to cover] subject matters more maximally. Second, I can explore [when] explaining things and the interaction [between me and students] is maximized … Because my class is a theory course, it needs more depth, [requires] concrete examples; [I usually use] whiteboards to explain the lessons." He pointed out social and practical aspects of delivering subject matters in the conventional classroom settings.

On the other hand, regarding challenges, the professor admitted that in the traditional face-to-face learning, Prabowo felt the structure was rigid and he took the system for granted. "[Because we have] rules and predetermined classroom locations and schedules … it is not that flexible." And the professor said that he could not change that status quo.

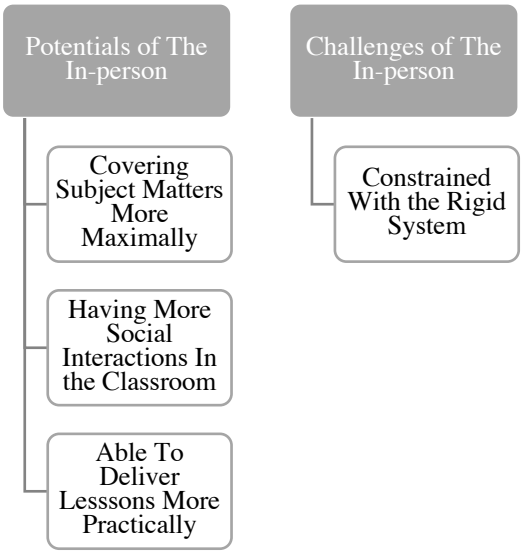

Figure 3. Potentials and Challenges of the in-Person Mode

To summarize, here we create a matrix (see Table 2) listing the potentials and challenges Prabowo encountered when teaching.

c. Learning Media Criteria

Furthermore, we explored the ways the professor picked up the digital media he and his students used to facilitate learning. When it came to choosing certain media or applications for learning, the professor revealed three main criteria; the learning media had to be: widely used, intuitive, and efficient (Sukmawati et al, 2020). This part includes some important excerpts from the interview transcripts that we classified into the three categories of learning media criteria in the case of Prabowo.

Firstly, in the initial phase of his distance teaching during the COVID-19 pandemic, the professor used WhatsApp, a widely used messaging application among faculty members and students, to make learning possible.

"Even at the beginning of the pandemic, in 2020 there were still many (faculties) who used WA (WhatsApp) groups [for teaching]. [We] chat via WA groups," said the professor. In the daily activities, Prabowo used WhatsApp to communicate with his relatives, fellow professors, and students. In Indonesia,

WhatsApp has been a widely used messaging media.

Table 2. The Matrix of Potentials and Challenges for Both In-Person and Virtual Modes

Matrix	Virtual mode	In-person mode
Potentials	• The professor was able to flexibly arrange the class • The professor was stimulated to continuously innovate his teaching	• The professor could cover subject matters more maximally • The professor was able to create more social interactions in the classroom • The professor was able to maximize the use of the classroom facilities when delivering lessons.
Challenges	• The professor found it hard to interact with the students. • The professor usually had problems with technical issues, such as poor internet connections.	• The professor was constrained with the rigid system of the in-person mode.

In doing so, he explained how the teaching happened on WhatsApp, "So, [I and students] chat with each other. You know what I mean. Some students were creative; maybe because they were tired of typing, they used the voice note feature [to respond to my instruction]. Or the lecturer, me, used the voice notes too or used video recorded." Also, they eventually used Zoom to facilitate teleconferencing learning. "Back in 2020, when the COVID-19 was still high, sometimes they also Zoomed with their friends because they couldn't go out to meet people … They are more familiar with Zoom."

Secondly, another key criterion was that when selecting new media, Prabowo perceived that the applications needed to be intuitive. The main reason for using the Zoom application is its easy-to-navigate features. "[Zoom] is more practical, easier, simple, especially for sharing screens," said the professor. He then compared Zoom with another application stating, "Well, many [faculties] are not used to using Google Meet [because] the features are bit different [from other applications], especially regarding its share screen feature. At first, I didn't really know where to share my screen either."

The last criterion was about the efficiency aspects of the learning media. The professor noted that there were some teleconferencing applications that consumed so much data, less efficient for him and his students (Hermita et al, 2022).

"After trying [some applications], some were very wasteful, taking so much data, some didn't have quality sound or visuals. So, I've compared those 5 applications. For example, Webex is taking so much data; it is the most expensive. Then, the Microsoft Team sounds like crap, right?"

Prabowo was concerned about the data usage and qualities of digital media. He also argued that even though using Zoom was not free when compared to Google Meet, for example, but the quality Zoom had was the main reason for the professor placing the application on the first rank. "Google Meet is still pretty good [but] it's the second choice [after Zoom]. At the end of the day, the choice is still to use Zoom."

d. So, What?

This study aims at exploring a university professor's perceptions about teaching using digital media in the time of the COVID-19 pandemic. Since its emergence in 2019, the Coronavirus disease has transformed many aspects of education in the world including Indonesia, especially, regarding the way educators deliver their lessons; virtual education has been a common practice for the last two years. The Indonesian government has enacted several important policies in responses to the situation; distributing Chromebooks to students, enhancing the implementation of hybrid learning in universities, and allocating special funds for purchasing internet data are among the very (if not "the most") critical steps the current administration has taken.

Through a careful investigation, this study presents some key findings of how Prabowo, an Indonesian faculty member, viewed digital technology integration and what criteria he considered when selecting digital media. we argue that using digital technology helped the professor facilitate teaching and learning regardless of the health crisis he experienced (Prayitno et al, 2019). But, some challenges follow the practice, especially regarding technical issues (e.g. the internet connections) and building interactions with students.

The professor emphasized flexibility brought about by the virtual mode for his teaching activities. This resonates with Fearon et al. (2011) and Awaludin (2016) who assert that flexibility has been one of the key strengths of flipping classrooms online. The finding also rejects Selwyn's (2016a) argument which states that the online system is boring because technological tools are considered static. Further, Prabowo explained the compounding effects from having the flexibility in which he was able to improve his teaching more and more. Owston et al. (2013) has pointed out this motivation for learning aspect, but they focus on students only. This finding extends the conversation that even educators are encouraged to learn more in improving their instructions.

However, doing the activity virtually made it the professor difficult to build interactions with his students. This finding contradicts Oproiu (2015) and Loh et al. (2016) who claim that virtual learning can harness collaborations within an online community. Prabowo compared it with the face-to-face class that he was able to communicate with students in person. That real-life condition makes the interactions more fluid, compared to the virtual space which limits the class to facing computer screens. In this case, Selwyn (2016a) critiques the humanization acts of virtual learning. The professor felt that in-person classes can better equip him with physical facilities to help him teach better. Due to the pandemic, he has no other options but to run a virtual mode.

This finding adds to the conversation of digital media users and stakeholders' motives when choosing digital apps, for example, as studied by Pecay (2017) and Dias and Brito (2021). Moreover, because the study was conducted within the timeframe of the COVID-19 pandemic, we are conviced that the results can be of reference for some serious problems brought by the pandemic. For instance, many today's educators are in the situation where they are offered plenty digital media. This research can guide them on what media to choose from their disposals.

4. Conclusion

As the objective of this study is to scrutinize a faculty member's teaching experience during the pandemic, this investigation provides pivotal aspects of how to integrate digital technologies within higher education instruction. With the empirical data, this

research extends some understanding from the previous studies being assessed.

To conclude the discussion, we present three useful recommendations for educators when assessing digital media. These recommendations are based on the criteria mentioned by Prabowo in the interview. With all the limitations the professor had (the pandemic, the lack of support from the university, and his visit to the United States), he believed that these three important criteria can be of significance for other educators as well. (1) Consider selecting digital media widely used by students; (2) Choose intuitive digital tools for ease of delivering learning materials; (3) Use efficient digital media for learning in ways that they can save you and your students some money, but at the same time have quality services.

Finally, we hope this exploration can shed light to educators in higher education, essentially, in utilizing digital media and embracing best practices as well as alleviate some of their burdens during the difficult time.

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