

Practical Study of Digital Learning and Virtual Laboratory in Post-Pandemic Era

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Abstract. The COVID-19 pandemic has accelerated the adoption of digital technology in educational institutions, with online learning platforms like Google Classroom, Zoom, WhatsApp, and virtual laboratories (VL) becoming the foundation for teaching and learning. Despite facing external challenges, the advantages of digital learning seem to outweigh the drawbacks. This qualitative study uses the technology acceptance model (TAM) to explore the continuous usage of digital learning in educational institutions in the post-pandemic era. Data is collected through semi-structured online interviews with 21 participants including principals, teachers, and students from high schools and broadcasting vocational schools in Jakarta, Tangerang, Central Java, and East Java, Indonesia. The results show that the perceived ease of use (PEU) of digital learning and virtual laboratories offers flexibility and familiarity in usage, while perceived usefulness (PU) offers productivity and effectiveness. Users are able to adapt and exhibit high frequency of usage, resulting in satisfaction. Hybrid or blended learning methods, particularly in broadcasting VL, are preferred to maximize students' learning outcomes in the post-pandemic era.

1 Introduction

Over time, educational technologies are getting more mature, and has been adopted in educational institutions [1]. Now, the world has been impacted by the COVID-19 pandemic for years. It makes humans found themselves facing a unique position and challenges. For the first time, online classroom become more familiar than ever and facilitate students and teachers in learning situation [2]. This situation also happened to Indonesia. In the first year of COVID-19 in Indonesia, The Ministry of Education and Culture states that 68 million students and four million teachers study from home to avoid spreading COVID-19 virus [3]. Starting from 17 March 2020, educational institutions have been using a digital learning method. As an impact, ever since the pandemic hits, the existence of digital technology has been used more often including in educational aspects [4].

. That is why the usage of digital as learning or digital learning method are getting more and more used than it has ever been. Digital learning platforms are developing quickly. However, the commonly used digital learning platforms in Indonesia are like Google Classroom, WhatsApp group, Zoom, and so on [5, 3, 4]. Nowadays, the existence of virtual classes is not made to replace the traditional educational paradigm but more likely as a tool to escalate study methods [6]. [6] also mentioned that this happened by connecting academic knowledge with the real-world situations. These innovative learning tools have different kinds of potential to escalate students' understanding of the

material. Like, the existence of virtual laboratories (VL) has quite a good reputation [6]. VL is an example of blended learning activity to strengthening learning outcomes by hands-on exercise as part of evolution [7]. In broadcasting, laboratory plays an essential role. It is used to reflect the professional broadcasting environment to broadcasting students [8]. Therefore, the appearance of VL has upscaled broadcasting practical study using digital simulation based on the professional broadcasting [9].

Although, COVID-19 era is shortly ending, in the post-pandemic era, digital learning will still be part of normal learning strategies. As mentioned earlier in the previous research, some institutions use this learning concept entirely while others adopt blended learning [10]. The researcher, [10], also mentioned that since this online distance learning concept is mostly being adopted by higher educational institutional levels, it is no wonder societies consider it as a normal thing and swiftly replace their traditional educational paradigms.

1.1 Objectives

In this paper, this research will investigate the continuity of digital learning and virtual laboratory usage as learning method in post-pandemic learning. Regarding virtual laboratory, it will be also connected with broadcasting study. To achieve that, this research will use the TAM framework. This case study will be conducted in four Indonesian high schools and teenage broadcasting vocational schools.

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2 Literature Review

2.1 Digital Content in Media Learning

Learning is a sequenced activity process with the aim to share knowledge, governing competencies, and creating attitude [11]. In more advanced education like today, especially because of COVID-19, many educational institutions find themselves in unique situation which is learning with online modality [2]. To achieve online learning, the need of online learning media must be fulfilled. Learning media can be defined as a tool as a physical or non-physical tools that is used to support learning process so the learning outcomes can be achieved more effectively and efficiently [11, 12]. From the previous research, [12] mentioned that learning media gives a positive influence for student learning outcomes by increasing students learning activities and motivation.

This brings us to the creation digital content. These days, the development of digital technology has the potential to create digital content [4]. Thus, the creation of digital content has penetrated the educational aspect, and it becomes a critical aspect in supporting students' learning [13]. Digital content comes in different formats which are texts, images, videos, audios, or the mix format that are possible to be played by digital machines. These are easy to be consumed and distributed using digital media such as website, e-mail, social media, etc [4]. On the other hand, digital content can be accessed and distributed using various types of online learning media activities such as Zoom, Google Classroom, WhatsApp, and other platforms [14, 12, 15, 16].

2.2 Virtual Laboratory in Education Study

In COVID-19 pandemic era, the popularity of online laboratories is increasing. The existence of virtual laboratory (VL) has created a whole new way for practicing theoretical study to laboratory practice. VL is defined as an example of blended learning activity which are consider as strengthening learning outcomes by combining the practicality of hands-on exercise with digital simulation [7]; [17]. As [18] mentioned, VL is part of the instructional model of study that has built quite a reputation in education among learners of the 21st century. This allows students to understand laboratory kinaesthetically [9]. Thus, [6] mentioned that the ease and ability to use this learning system remotely outside the on-site class surely has created a new way of learning.

Although laboratory is changing slightly, it does not change the fact that the intention for students' interest is still the same. VL has advantages and disadvantages [17]. VL mainly affects students who experience on having hands-on skills and experience unrealistic results [17]. Moreover, it also creates the possibility of decreasing students' collaborative exercise and socialization levels. On the other hand, the advantages offer students to have time and location flexibility, cost reduction for equipment, increasing safety levels from

dangerous experimentation, provides flexible asynchronous students experimentation, and encourages students to participate in and manage individual experiences in order to promote dynamic creativity and media design [17, 6, 19, 20, 18].

2.3 Broadcasting Virtual Laboratory

The existence of broadcasting media is everywhere and easily accessible to connect [21]. In terms of education, the study of broadcasting is no different than any kind of study. It consolidates theoretical and practical studies. Although laboratory practices are more common in STEM education, the existence of laboratories for broadcasting is also essential. Thus, laboratory practices are important in any broadcasting production exercise including journalism which is a highly practical subject [22].

In practice, the broadcasting production laboratory aims to increase effectiveness of the instructional study level by providing broadcasting students with equipment and system that reflect the professional broadcasting industry such as recording and production aspects [8]. Broadcasting students need to be trained in their respective professional pathways [8]. They also added: research practice, experimentation with techniques, and technologies are versatile. In the previous research done by [22] at Dali University, classification of news broadcasting training project: pre-mic state and adjustment, camera and lens adjustment, live training, manuscript broadcast, unscripted broadcast, and live training project are the example of the practice done in laboratory.

The appearance of a VL has upscaled broadcasting practical study. Usually, the technology in the broadcasting laboratory includes hardware (monitors or screens, transmitters, cameras, mixers, satellites, and other else) and software (encoded commands, instructions, and other aspects of information) equipment [21]. Since VL has a variety of advantages, broadcasting students could practice their practical study in form of a virtual lab. Hence, this practice could motivate students in the learning process [23].

2.4 Post-Pandemic Learning Infrastructure in the Indonesian Context

The COVID-19 pandemic makes changed study method from face-to-face to online learning which, for many educational institutions, had not been sufficiently prepared to move online [2]. Like what happened in Indonesia, the Minister of Education and Culture ordered schools and other higher educational institutions to change their learning process from face-to-face to distance learning using online learning to minimize the distribution of COVID-19 [24].

Government letter number 36962/MPK.A/HK/2020 stated that private and public higher educational institutions and every educational levels' institutions need to oblige to this learning method [24]. Because of that reason, starting from 17 March 2020, educational

institutions are forced to adapt to this condition to create equitability and protection for educators and learners.

Online learning requires digital technologies such as simulations, online resources, and tools to improve student performance during COVID-19 [25]. Although this rapid shift from face-to-face to online learning is hard to follow at first, nowadays when transition back to traditional class are allowed, some educational institutions attempted to leverage what they have learned from pandemic era [2]. [2] also mentioned that some institutions prefer to apply distance learning by offering online class as a part of their study option. These situations happened because they find themselves comfortable with e-learning [2].

Indonesia is one of the world's biggest social media and digital content users [4]. [4] said that digital content users in Indonesia have reached 53 million meaning that almost smartphone users are connected to digital content. It is proven that Indonesia has been affected by digital technology. They are familiar with using it for different purposes especially communication.

Ever since the COVID-19 pandemic hit Indonesia, digital technology has experience increase usage for bigger aspects like education [4]. Digital learning method is getting more and more popular and used than before such as the use of digital learning platforms like Google Classroom, WhatsApp group, Zoom, and so on [5, 3, 4]. Despite the familiarity, changing learning method from face-to-face to digital, put schools in a tight place [4, 16]. The challenges appeared to happen because of various causes. For example, government influences on educational institutions regarding technology [26]. Next, funding, influenced the quality of internet infrastructure [26]. This situation could create inequality distribution and limitation on internet access, tools, etc. [16]. [16] also highlighted the need to increase internet network infrastructure condition in terms of quality and cost.

2.5 Technology Acceptance Model (TAM)

Technology acceptance is defined as a process of accepting and utilizing technology that the users intend to handle [27]. According to the previous research, in 1985, Davis developed technology acceptance model (TAM) to analyse how a system is used [28]. Therefore, to understand acceptance of technology, TAM is preferred [1]. This acceptance is crucial for information and technologies study since this study has been used in many study fields. Thus, it can be concluded that TAM examines users' motivation by two main factors: Perceived Ease of Use (PEU) and Perceived Usefulness (PU) [1, 27, 29]. The attitude toward using (A) is the result of the direct influence of PEU and PU [27].

External factors influenced these behaviours [27]. PU is defined as the perception of the use of a certain technological system that the user believes could enhance work performance [29, 1]. PU has six indicators to measure usability: faster in job completion, increase job performance, increase productivity, increase effectiveness in work, and making work feel easier and more useful. [28]. While PEU is defined as a user's belief in using the technological system without extra

effort or in other words, the user's belief the using of this system could reduce effort [29, 27]. PEU has six indicators which are: easy to learn system, controllable system, clear and understandable interaction, flexible, and system are easy to be use [28]. Thus, attitude toward using (A) is defined as an attitude towards using technology [27]. As for the record, PEU is directly influenced by PU. Last but not the least, actual system use of actual usage discusses using the actual discussion object in real terms because it brings the user to benefit [28]. [28] mentioned that there are three indicators to measure the use of technology which are: actual use, actual frequency, and user satisfaction.

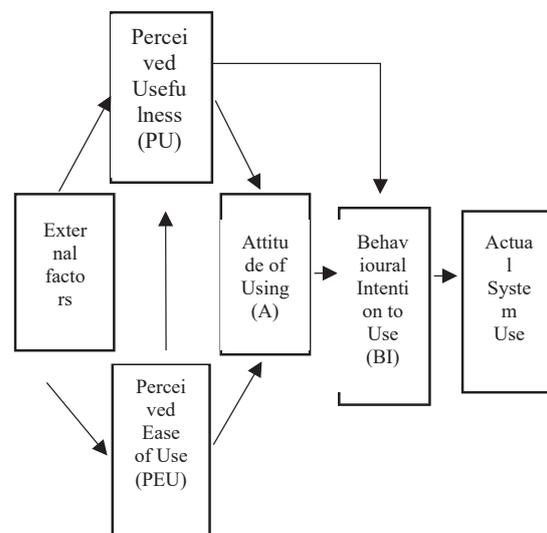


Fig. 1. TAM Framework

In the research, BI is the intention of realizing the behaviour which users feel could bring positive results [27]. BI is influenced by the user's attitude towards the system and user's perception of usefulness (PU) [27]. Thus, the connection between users' attitudes and BI is because users tend to realize the behaviour that they feel positive [27]. While the connection between BI and PU is based on the idea of the result of an action that the user believes will be improving their performance regardless of their positive and negative feeling toward the actions [27].

3 Methods

This research developed out of need to better understand the digital learning in post-pandemic era among users. The data collection will be conducted in four schools in Indonesia. Research is conducted using qualitative research specifically in qualitative online data collection through online interview. Online interviewing method for data collection are chosen due to the current situation where online platform have the potential to save information, record conversation, and reduce interview's pressure better than face-to-face interview [30].

This semi-structured interview based on TAM method as the focus of the questions. The semi-

structured interview format was chosen because it allows for detailed understanding of topics and yet provides a flexibility for the interviewees to control their anxiety and more open about sharing their experiences [31]. Thus, this interview focuses on users who are familiar with digital learning. Because of those reasons, users inside high schools and teenage broadcasting vocational schools such as one principal, teachers, and students were chosen to be the interviewees as they fulfilled the above criteria.

4 Data Collection

In this study, findings are based on analysis of 21 interviewees which were chosen with purposive sampling as this allows both teacher-student perspectives to be considered. However, this qualitative research faces limitation of resources which causing only four high schools and teenage broadcasting vocational schools that can be researched. This makes this research unable to generalise digital learning situation in all schools in Indonesia. This is because the students in this level are more critical and mature enough to give critical responses compare to younger students and teachers of these students are most relevant to this student. Regarding that number, the interviewees consist of principal, teachers, and students from several high school and teenage broadcasting vocational school in four schools in Indonesia which are in Jakarta, Tangerang, Central Java, and East Java. However, there are some limitations of interviewee numbers due to limited of research time. The interview consists of eight questions in open answer questions, but options are provided based on the instrument mentioned in the previous chapter. Each interview lasted between 30-60 minutes. For data analysis, researcher did the analysis based on the transcript that have been made. Then the transcripts then quotes were extracted as illustration for the finding and interpretation related this research question [31]. In addition, all interviews are conducted in Bahasa Indonesia then translated in English for quote's extractions.

5 Result and Discussion

In this section, findings based on online interview using Zoom with 21 interviewees regarding their experience and opinion teaching and learning using digital learning through the digital platform. Thus, discussion about their opinion about digital learning method and the ability to continuity in post-pandemic era. Therefore, this discussion is divided into several sections. First, discussion about the external factors that effected the usage of digital learning in Indonesia. Second, discussion about questions related to TAM such as PU and PEU. Third, discussion about the attitude toward using which represent the post-pandemic learning strategies and the connection with digital learning in Indonesia's school institutions. Last, the usage of virtual laboratory and broadcasting VL as digital learning.

Table 1. Interviewees List

No	Interviewees' Name	Occupation	School
1	Indra Jaya	Principal	Vocational school, Bangil, East Java, Indonesia
2	Kromo	Teacher	Vocational school, Bangil, East Java, Indonesia
3	Agung	Teacher	Vocational school, Sragen, Central Java, Indonesia
4	Hera	Teacher	Private high School in Jakarta, West Java, Indonesia
5	Sofi	Teacher	Private high School in Jakarta, West Java, Indonesia
6	Suhartoyo	Teacher	Private high School in Jakarta, West Java, Indonesia
7	Arda	Teacher	Private high School in Tangerang, West Java, Indonesia
8	Robin	Teacher	Private high School in Tangerang, West Java, Indonesia
9	Shiana	Student	Private high School in Tangerang, West Java, Indonesia
10	Jennifer	Student	Private high School in Tangerang, West Java, Indonesia
11	Nadhalla	Student	Private high School in Tangerang, West Java, Indonesia
12	Samuel	Student	Private high School in Tangerang, West Java, Indonesia
13	Ryan	Student	Private high School in Tangerang, West Java, Indonesia
14	Shiary	Student	Private high School in Tangerang, West Java, Indonesia
15	Jesse Robinson	Student	Private high School in Tangerang, West Java, Indonesia
16	Marilyn	Student	Private high School in Tangerang, West Java, Indonesia
17	Ignatius Harry	Student	Private high School in Tangerang, West Java, Indonesia
18	Janice Grace	Student	Private high School in Tangerang, West Java, Indonesia
19	Aprelia Susanti	Student	Vocational school, Bangil, East Java, Indonesia
20	Kamila Amalia	Student	Vocational school, Bangil, East Java, Indonesia
21	Nurin Nadifah	Student	Vocational school, Bangil, East Java, Indonesia

5.1 External Factors

The effect of COVID-19 pandemic causes changes in the whole learning situation such as in Indonesia. As mentioned above, the Indonesian government ordered schools to adopt digital learning method to minimize distribution of COVID-19 virus [24]. All interviewees concluded that digital learning has a meaning as usage of technologies and digital technologies aspects as part of learning tools which could offer flexibility and other positive advantages in exchange. Like mentioned by one of the students mentioned that digital learning has a meaning as learning with the help of gadgets and technology that appeared in these days. Moreover, one of the teachers has a different way in express it. He mentioned that digital learning will transform the purpose of education itself and bring it to the next level. He also mentioned that digital learning acts as an educational support system.

Majority of the teachers and a principal from the interviewees' list mentioned that teaching with digital devices already started in pre-pandemic era. Digital tools like Power Point have been adopted for years due to the practicality materials to students. However, they mentioned that during COVID-19, it creates a new creative ways of digital learning method. In other words, it is accelerating usage and implementation of various kinds of digital platform in educational aspect. Therefore, the appearance of pandemic situation acts as an accelerator and elevator among schools to use digital learning platforms new creative way.

Digital learning in Indonesia has challenges. One of the challenges is the lack of technological infrastructure especially in some areas in Indonesia. All teachers discussed these issues one of which mentioned that in rural areas of Indonesia facing internet issues that cause difficulty in accessing classes. Even though government in early 2020, provided budget to subsidies monthly internet for students and educators, it seems it doesn't go too well because the availability of budget is limited [32]. Although the internet infrastructure is better for the interviewees' school located, internet instability still an issue. One of the teachers mentioned that she feels stressed if the Wi-Fi fails.

5.2 Implementation of TAM

Technology acceptance method (TAM) is the theory that is used to analyse users' experience with digital learning. In this part, the result will be separated into two

parts: Perceived Ease of Use (PEU) and Perceived Usefulness (PU). As explained in the previous chapter, PEU and PU are the result that appeared because of the external factors influence. Additionally, PEU influenced the appearance of PU. Also, TAM in this research is used to see the impact of PEU and PU as the result of actual system use.

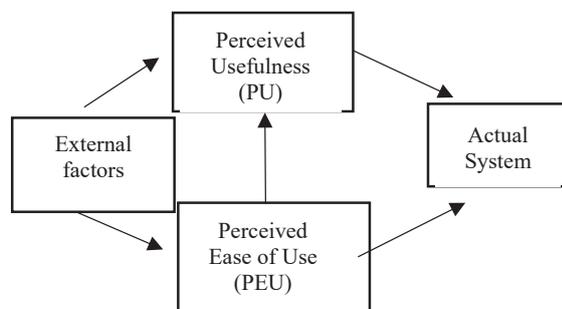


Fig. 2. Implementation of TAM

5.2.1 Perceived Ease of Use (PEU)

In this part of interview, the question asked about the possible reasons how digital learning can make interviewees feel comfortable in using it all the PEU of digital learning. The provided options are: familiarity of using digital platform as communication so it easier to learn new platforms, give better interaction options, and offer flexibility on learning.

The students and teachers' interviewees experience similar advantages. 95.2% interviewees tend to choose flexibility as their preference regarding PEU digital learning. It is chosen because digital learning creates the possibility to do learning in places outside school like users' home, or other places. Thus, interviewees don't need to give extra effort in spare extra time in the morning to wake up early or even to pay transportation fees to go to school.

"... it is time saving and cost saving for me to go to school since my house is quite far from the school.", said one of the teachers, during the interview.

"... for some people digital learning is flexible because it is the beauty aspect of digital learning and it is the best option.", said one of the teachers, during the interview.

However, there are also contradicting opinion regarding flexibility like mentioned by one of the students in the interview.

"I think the flexibility that digital learning offered just decreases student' ability in learning because, if everything is getting easier, the challenges will reduce..."

Some interviewees also chose familiarity. Result indicates that 66.7% interviewees being familiar builds confidence in learning with new technologies. One of the causes of that is the influence of various kinds of

communication digital platforms such as WhatsApp, Instagram, etc. Also, like mentioned earlier, the usage of several digital teaching platform e.g., Power Point for learning has become one of the factors for teachers to enjoy using it and have basic knowledge for digital learning. It indicates that familiarity could escalate users to be more capable in digital learning.

"... because in terms of school area, teachers are forced to teach that digital way. Like, we've been using Power Point for teaching years before pandemic hits. And now, it forces us to use different platforms...", said one of the teachers.

5.2.2 Perceived Usefulness (PU)

In the questions about PU, the question asked about the possible advantages interviewees received from digital learning. The provided options are increasing work result and quality, increasing work productivity, increase work effectiveness. In the interviews, teachers are impacted with similar advantages. All teachers chose productivity and effectiveness as their preference regarding PU on digital learning. However, the reason behind them differs. One teacher explained he feel productive and effective because the same materials prepared for one class can be shared and sent to other classes with same class subject which increasing work and quality result and easier for them. While other the teachers said it makes them more productive because without the challenge that appeared while learning new things, productivity has no meaning.

"... having a good quality work is back again up to the individual. If at the beginning the person had good working quality, then no matter the situation, the person can adapt. So, if we are productive in work but don't want to learn more and expand our knowledge in digital learning, it will be worthless..."

On another hand, all student interviewees, they chose productivity and effectiveness as the result of digital learning. The most common reason behind it is because the provided class materials are more focus during the digital class compared to face-to-face learning. Since class materials are shared via screen through digital learning platforms, students do not need to make handwritten notes. They can take screenshots or recordings as note replacements. Therefore, whenever they need to review the materials, it becomes easier and effortless because can be recalled anytime.

5.2.3 Actual of Use

In actual of use discussion, the question asked about the interviewees overall evaluation after using digital learning. Thus, the question asked about their opinion in using digital learning (indicator: actual use), frequency of use (indicator: actual frequency), and satisfaction regarding topic (indicator: user satisfaction). First,

regarding actual use, all interviewees felt they can adapt with this new method of learning. However, at first, 23.8% of the interviewees mentioned that they face difficulties because of the struggle they faced regarding the platform itself, the instable internet, and other challenges. Second, regarding frequency of using digital learning, the result indicate that all interviewees have high frequency in using it. Although by the time this research is finished, digital learning most probably has officially changed back to face-to-face, all the interviewees claim that they will still actively use digital learning tools and technologies. Like mentioned by one of the teachers, subject materials are still going to be shared digitally and combining both methods to have better result. Lastly, regarding users' satisfaction, interviewees' scale of satisfactions slightly differs. From one to ten, answers between six to nine. Like one of the students however, he chose 7½ out of 10. This is because students take full control of their future because of this learning method. However, in the bright side, he could have more personal time, and focus teaching make him easier to get the main points of each class subjects. In another hand, one of the teachers gave eight out of ten because he doesn't know if the student has good feedback regarding the class materials or not. However, he claims to continue in mastering this new teaching method. Therefore, result indicates all interviews are quite satisfied with this learning method as seen as the average satisfaction level are 7.6 out of 10.

5.3 Virtual Laboratory and Broadcasting Virtual Laboratory for Digital Learning Laboratory

Virtual laboratory (VL) is a good alternative as a new form of laboratory. However, the differences are located on the learning method. VL is used in digital classes thus, face-to-face laboratory located in physical classes. Like mentioned in previous chapter, VL do provide advantages for students' practical study. In this discussion, interviewees shared their perspective about usage of virtual laboratory and the implementation of broadcasting virtual laboratory.

In interview discussion about VL, the interviewees shared their perspective about their interest in using it. Even though they shared it in different way, VL was considered as a good tool to educate students regarding theoretical implementation. However, the good of hands-on practice is still missed.

Regarding broadcasting VL, the example showed an interactive broadcasting laboratory including the crew members or men behind the content production. In the interview discussion about broadcasting VL, interviewees shared similar opinions although, the way they explain it was diverse. All interviewees mentioned that seeing and learning in a virtual lab is interesting. The possibility for learners to explore about the subjects are high because in the lab shows videos about each job description of the crew members. During the COVID-19 era, this laboratory is helpful because it gives laboratory experience. However, like VL study, one teacher explained that broadcasting VL only offered experience and not practical aspects. Another teacher mentioned that in this time nearing post-pandemic,

where school method is about to change again, VL still possible to be used. It also brings to the consensus conclusion, the need of hands-on practice in laboratory still needed to have real life experience. One of the teachers said:

“... this is interesting. However, it is limited to equipping students. Because the experience requires vision and hands-on practice. Physical experience is still necessary cause the feeling is different”

5.4 Post-Pandemic Learning Strategies

Moving to the post pandemic era, overall, the interviewees said the impact of the digital learning during COVID-19 pandemic in education aspects is positive. In this part, discussion will be about interviewees' opinion and preference regarding the learning method for post-pandemic era. All students and teachers, have the same preference to put school back to face-to-face. However, the latest learning method should not be forgotten because it has some potential.

Regarding the learning method, all interviewees chose to do hybrid school especially compared to online learning. Hybrid learning in this case is defined as a combination of several learning methods and instruments [33]; [34]. Hybrid or blended learning could be done by synchronous (same time) or asynchronous (different times) virtual learning collaboration [33]. For example, like some theoretical subjects are more effectively done by digital learning, it is better done that way. Students still can have the opportunity to do practical study like physical laboratory especially for broadcasting laboratory. Therefore, it could increase and balance their study and interaction. In addition, all learning method have advantages and disadvantages by itself so, the better way is to embrace all learning methods, as some of the interviewees said:

“...still, digital learning must be developed continuously even though we have entered the conventional learning again, but this digital learning still be developed because it is very helpful”, said one of the teachers, during interview.

“Online learning is actually full of potential and good outcomes, but it will only happen if all students and educators work together to maximize the potential offered”, said one of the students, during interview.

“... so, it is better to do hybrid learning to maintain the humanitarian side for example in terms of socialisation and interaction aspect...”, said one of the teachers, during interview.

6 Conclusion

In this study, the unique effects of COVID-19 influences transformation and progressive usage of school learning methods from face-to-face to digital learning.

Discussions are conducted using semi-structured online interviews to gather qualitative data from four schools in Indonesia that located in Jakarta, Tangerang, Central Java, and East Java. Interviews were done to 21 interviewees consisting of one principal, teachers, and students as the users of digital learning. Study is based on technology acceptance model (TAM) framework. This research found that digital learning in Indonesia is not a new thing because in some schools, usage of several digital tools for increasing learning has been used prior to the pandemic. The COVID-19 situation accelerated and elevated the use of digital technology as learning method and digital platforms in new creative way. The result indicates that Perceived Ease of Use (PEU) of digital learning and virtual laboratory in four schools offer flexibility and familiarity in usage. While results indicate that the Perceived Usefulness (PU) offer productivity and effectiveness in usage. Results also indicates that digital learning and virtual laboratory make users able to adapt which create a high intensity in frequency of using and feeling satisfied. Hybrid or blended learning method is preferred to maximize students' learning outcomes in the post-pandemic era especially for broadcasting VL. Considering this, this research faces limitation of resources causing only four high school and teenage broadcasting vocational school that can be researched. That is why, this research is unable to generalise digital learning situation in all schools in Indonesia. Therefore, this study recommends research with wider sample to understand more about the big picture of Indonesian schools in post-pandemic learning.

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