



# Teacher's Digital Literacy to Improve Quality in Learning

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## ABSTRACT

### Keywords:

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The post-covid-19 pandemic is a new era that affects several sectors in Indonesia, one of which is education. Education has changed from conventional learning to online learning. The use of technology in education is still needed to improve the quality of education. Therefore, digital literacy is the main key and foundation that must be owned. This study aims to describe teachers' digital literacy to improve the quality of learning. This study uses a qualitative descriptive method to explore the level of teacher ability, driving and constraining factors, efforts of teachers and schools as well as teacher challenges in improving teacher digital literacy to improve quality in learning with a total of 5 informants, namely homeroom teachers for grade 7, homeroom teachers for grade 8, 9th-grade homeroom teacher, physical education teacher, Craft subject teacher. The instruments used in this study are interviews, observations and documentation. The study results show that teacher digital literacy is very influential in improving the quality of learning. So teachers must have digital literacy skills.



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## A. INTRODUCTION

Indonesia is entering the post-Covid-19 pandemic, which is often called the "new normal," a new habit to continue to carry out normal activities but still according to health protocols to prevent transmission of Covid-19 (Stevens et al., 2021) (Anggrasari, 2020). Post-pandemic is a new era that affects several sectors in Indonesia, one of which is education. Education is an important thing in improving human resources. In the new normal era, there will still be restrictions on conventional learning models (Fredlina et al., 2021) and still integrated with online learning.

The use of technology in education is still needed to improve the quality of education. In the face of very rapid technological developments, especially in education, digital literacy is the main key and the main foundation that must be possessed (Akbar & Anggraeni, 2017). In online learning, teachers, students, and parents must understand digital literacy. This situation requires students to learn and teachers to carry out learning with educational attainment and goals that remain quality.

Online learning is learning that is developed as a learning medium that connects teachers

and students online by looking at the screen via mobile phones or laptops with internet access without meeting in person (Moore et al., 2011)(Nahdi & Jatisunda, 2020). Online learning is a learning experience with the asynchronous model or asynchronous model using different devices with internet access (Zhu & Liu, 2020)(Laili & Nashir, 2021). Synchronous model learning allows teachers and students to participate, learn and discuss together even though they do not meet face to face, while asynchronous model learning is learning that is carried out at different times, students can access material more flexibly and can carry out learning and complete it within the time specified by the teacher (Rehman & Fatima, 2021) (Amadea & Ayuningtyas, 2020). Therefore, teachers and students can learn and interact anywhere and anytime with online learning or online learning.

Although online learning has been implemented for quite a long time, this is still a problem because teachers, students, and parents still lack an understanding of digital literacy. This was stated by several parents who complained about their children having difficulty doing assignments, teachers who found it difficult to use digital platforms, and so on. Teachers are required to make online learning interesting so that students can show an optimal learning spirit like when studying in class. Teachers, students, and parents must have skills in using a set of digital tools and technology so that when online learning, there are no obstacles and distractions, so like it or not, teachers (Rifai, 2021).

Teachers must have high digital literacy to understand and use information in various sources accessed through computers/laptops or mobile phones. With digital literacy, teachers can improve the quality of learning. The quality of learning is considered quality if it succeeds in changing students' attitudes, behavior, and skills in relation to their educational goals. Quality learning in question is effective and efficient learning that involves teachers' ability in the learning process in class and online learning. The learning carried out by the teacher will determine the quality of the learning outcomes that will be obtained by the students (Andriasari, 2020)(Sánchez-Cruzado et al., 2021). To improve the quality of learning, teachers must be equipped with a capable and sustainable understanding of digital literacy. The inability of teachers to understand digital literacy will impact the learning process and learning success as determined by the school curriculum.

Currently, with limited face-to-face learning by combining conventional and online learning, the challenges of teachers and students are increasing to achieve quality educational goals. This study aims to describe teachers' digital literacy to improve the quality of learning. To guide the direction of the research, the research questions are as follows: how is the digital literacy of teachers improving the quality of learning both online and during face-to-face learning

## **B. METHODS**

This research method is descriptive research with a qualitative approach, research that begins with a process and, in the end, can be generalized to produce conclusions from the process (Yuliani, 2018). This research focuses more on teachers' digital literacy skills in using technology to improve the quality of learning. Data were collected through observation, documentation, and interviews with five research informants: one teacher homeroom 7<sup>th</sup> grader, one teacher homeroom 8<sup>th</sup> grader, one teacher homeroom 9<sup>th</sup> grader, one physical education teacher, and one crafts subject teachers. Data analysis in this study is more focused during the process in the field, along with data collection (Sugiyono, 2018). The credibility test was carried out by triangulation data collection techniques between observation, interviews, and documentation.

## C. RESULT AND DISCUSSION

Based on the results of interviews, observations, and documentation, it is known that teacher digital literacy to improve quality in learning is as follows:

### 1. Digital Literacy

The development of the world has entered the era of the industrial revolution 4.0. All activities are based on digital information. And after the COVID-19 pandemic, teachers experienced a change from conventional learning methods to learning methods using digital platforms. Several teachers said that teachers are required to have digital literacy skills, namely the ability to use digital technology. These abilities must be developed because entering face-to-face learning after the pandemic, the learning process continues to use digital media. In addition, developing digital literacy can reduce one of the impacts of technology, namely hoax news (Asari et al., 2019). Digital literacy should be the ability to effectively use various forms of digital resources and the mindset of digital users (Khasanah & Herina, 2019). Digital literacy can also be used to overcome hoaxes, overcome cyberbullying, prevent radicalism, and so on (Tsaniyah & Juliana, 2019). Therefore, teacher digital literacy is very important to be developed from basic to sustainable levels to improve the quality of learning (Stevens et al., 2021)(Sánchez-Cruzado et al., 2021).

### 2. Teacher's Level Of Digital Literacy

According to Afifah (2021), learning integrated with digital technology is closely related to the level of digital literacy and teacher confidence in using digital technology to teach. Teachers who have below-average digital literacy skills tend to have difficulty adapting to digital technology to have less variation in the learning process. The informant said that literacy was very limited in the past, but nowadays, there are many references from many sources on the internet. Finding information can work well if the teacher is willing to do digital literacy. The teacher's level of digital literacy ability is, on average enough, for basic digital mastery the teachers have mastered the platform, namely MS Word, MS Excel, PowerPoint, Google Classroom, Google Meet, Google Form, and Zoom. For advanced digital literacy skills, such as making digital learning media, teachers have not mastered it, and teachers still use other people's YouTube for learning media. A theoretical study of teacher digital literacy skills can be done with ongoing training to overcome problems in the digital era (Wayan Widana, 2020)(Asari et al., 2019). If the teacher lacks or cannot master digital literacy, the teacher will feel embarrassed and left behind by his friend, who has more control (Simarmata et al., 2021).

### 3. The driving factors and obstacles in increasing teacher digital literacy

The factors that encourage teachers to improve their digital literacy are themselves and the work environment. The informant said that teachers could improve their digital literacy skills. It all starts with themselves. If their own will is strong, the teacher will continue to master digital techniques that can be used in the learning process. The work environment factor also encourages teachers to improve their digital literacy. When other teachers are proficient in digital literacy, it will encourage teachers who are still less proficient to practice improving their digital literacy. This does not necessarily indicate that teachers are fluent in improving their digital literacy. The teacher's obstacles when they have difficulty using the platform, cannot make online quizzes, unable to make interesting digital learning media is a picture of self-directed learning skills. From a theoretical point of view, *Self-directed learning* (Louws et al., 2017) is a person's skill to determine for himself and choose the goals he wants to achieve by

planning strategies to be carried out, solving problems, managing himself, and evaluating thoughts and performance that has been done (Gibbons, 2003). If the teacher has *self-directed learning*, the teacher will have his initiative to seek, find and choose what the teacher needs to improve the quality of learning. In addition, the factors that encourage the improvement of teacher literacy skills are situational/environmental factors, communication between groups and the risks involved, attitudes towards life and the environment, and their experiences (Tarumasely, 2020).

#### **4. Efforts by teachers and schools to improve teacher digital literacy**

The informant said that the school had fulfilled its digital facilities such as computers, LCDs, and internet networks to make it easier for teachers to improve digital literacy. The hope is that complete facilities and infrastructure can improve teacher digital literacy so that quality in learning is achieved. In addition, schools create shared drives that are used to collect workbooks, teacher assessment sheets, collaborate in making PTS/PAS questions, and schools holding Google Workspace for Education training for teachers. This is followed by the teacher's efforts to improve their digital literacy by utilizing digital facilities and infrastructure to learn to create digital learning media, attending seminars/webinars on digital literacy or the use of digital technology, using the blended learning method in the learning process and collaborating with cognate teachers in making digital learning media (Müller & Mildemberger, 2021) (Dziuban et al., 2018). Concerning learning, the use of digital technology with e-learning requires teacher skills in packaging and making teaching materials and designing learning so that it can be carried out effectively. Dinata's study (2020) leaders must make efforts in schools related to developing digital literacy skills for teachers, namely the cultivation of a digital literacy culture in schools, digital literacy training, forming a team to drive school digital literacy. Utilization of facilities and infrastructure, applications available on the internet network, or android applications that will be used to access information on teaching materials packaged in e-learning are expected to improve student learning outcomes and quality (Masitoh, 2018). The use of Google classroom and Google meet in the learning process is presented in the following Figure 1, Figure 2 and Figure 3.

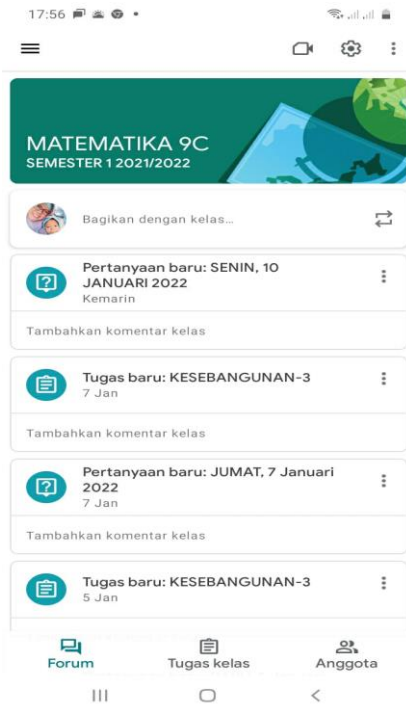


Figure 1. Google classroom teacher

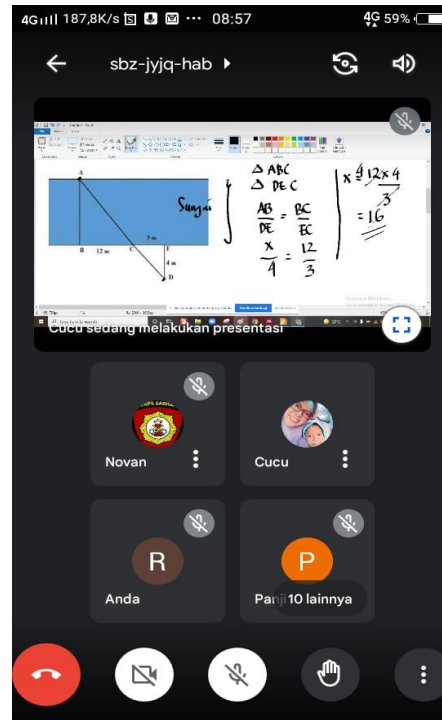


Figure 2. Learning using Google meet and jamboard

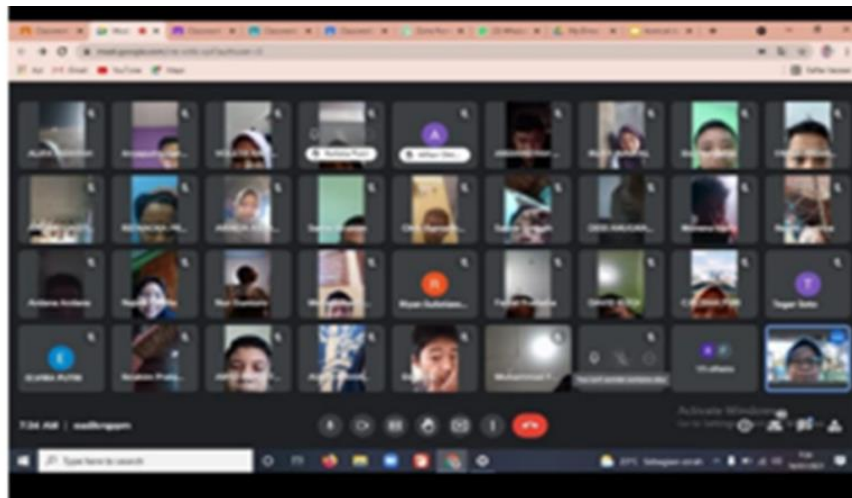
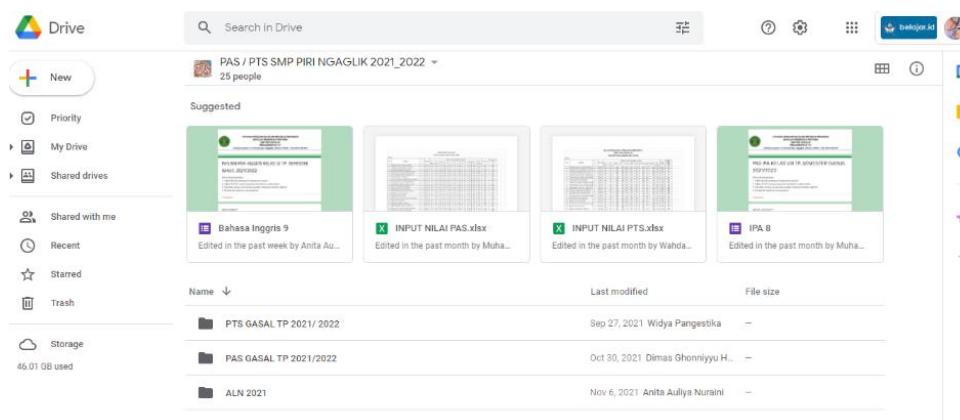


Figure 3. Google meet

Figure 1 is an example of a teacher using Google classroom in the learning process. Google classroom is an application that can create classrooms online so that it can be a medium of delivering materials, distributing and collecting tasks, and assessing tasks that have been collected by students. In addition, Google Classroom provides a feature to upload videos or link videos from YouTube and there is a discussion forum so that lecturers can open a class discussion such as on Facebook that can be responded to and commented on. Figures 2 and Figure 3 teachers use Google meet to communicate directly with students. Google meet can present classes virtually so that teachers and learners can meet face to face virtually, carry out the learning process in two directions and have the same effectiveness as face-to-face learning in person. As shown in Figure 4.



**Figure 4.** Shared drives

Figure 4 teachers use shared drives to collaborate with other teachers in the creation of learning administration. As shown in Figure 5.



**Figure 5.** Blended Learning

## 5. Teacher challenges in increasing digital literacy

According to the informant, the challenge for teachers in improving teacher digital literacy is that teachers can use digital platforms in the learning process, utilize the Google meet platform combined with face-to-face learning into a blended learning model, use digital platforms to create simple games that attract students such as Quiziz and design a fun learning model so that it can improve the quality of learning. If viewed theoretically, the skills of teachers in digital and information literacy are very important to be improved in several aspects, namely accessing information effectively and efficiently, evaluating information critically, using information accurately and creatively (Fernanda et al., 2020). Teachers must be able to mix various components of learning that are possible, interesting, and fun for students. Teachers are the main actors in learning activities. Teachers must be able to master digital technology before teaching it to students. The use of information and communication technology during online learning during the COVID-19 pandemic will encourage increased digital literacy, which results in new habits in improving the quality of learning. (Wardhana, 2020)(Jang et al., 2021).

## D. CONCLUSION AND SUGGESTIONS

The development of the industrial revolution 4.0 and after the COVID-19 pandemic, the world of education underwent significant changes. Conventional learning models have been replaced with digital literacy-based learning models. Therefore, teacher digital literacy is very important in the learning process. Teacher digital literacy is an activity that teachers must have

in using digital technology in the learning process. The availability of complete digital facilities and infrastructure in schools, training to strengthen teacher digital literacy, the use of the internet as an innovative learning medium will further strengthen teachers' digital literacy to improve the quality of learning.

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