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PROFILE OF STUDENT'S AND TEACHER'S ABILITY TO UTILIZE DIGITAL DEVICE IN THE LEARNING OF IPAS AT SDN BUNULREJO 1 MALANG

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Abstract. Recent developments in digital technology have occurred massively. This research aims to describe the ability of teachers and students to utilize technological devices for learning. This research uses a qualitative method with a descriptive approach. The tool used in the research was a closed questionnaire complemented by structured interviews. The research subjects were teachers and students of class IV-C, SDN Bunulrejo 1 Malang. To check the validity of the data, triangulation was carried out on the information that had been obtained. The research results show that teachers and students have a good ability to use technology. Teachers are accustomed to learning models that utilize digital technology. Some applications that teachers often access are Canva, Quizzizz, Zoom Meeting, Google Meet, Edmodo, and Google Classroom. Meanwhile, students are used to using technology such as smartphones and tablets. They have these facilities in their respective homes. They are familiar with digital devices from an early age. Students are used to playing games and watching videos via their gadgets. These findings provide opportunities for the development of science and technology learning that is integrated with technology. This research has become the initial part of the intended learning development.

Keywords: *Student and Teacher Skills; Digital Devices; Science Learning*

A. INTRODUCTION

Technology has developed rapidly all over the world (Danuri, 2019). Various types of technology-based activities have emerged, including the field of education. Utilization of technology in education includes the use of e-learning, e-library, e-mail, e-laboratory, and others (Arridho et al., 2022). The use of technology in learning has resulted in changes, one of which is social interaction. Nowadays, people can interact at any time via email, telephone, chat, Facebook, Twitter, Yahoo! Messenger, and Internet Relay Chatting, as well as various other modern technologies (Ngafifi, 2014). This provides opportunities for open two-way communication between teachers and students.

The existence of Technological developments means that students and teachers are in a global learning environment that is connected via a network (Akbar, 2019). Some of the roles of

technology in learning are infrastructure, source of teaching materials, learning facility aids, research information sources, consultation media, and online learning media (Cholik, 2021). Current technology can store information and data very efficiently; we can access it anywhere and anytime, can present material in a variety of different media formats, and can respond to what is needed based on existing data (Popescu, 2020). With the rapid development of technology, teachers and students must be able to adapt to utilize it in learning (Aspi & Syahrani, 2022).

One form of digital technology that is currently being used massively is gadgets. Gadget usage has increased over time to reach 45 million users. Initially, gadgets were only used by office workers, business people, and officials. However, as time goes by, the use of gadgets has become a habit and trend followed by everyone, including students (Hudaya, 2018). Gadgets are usually given to children by their parents as entertainment. Initially, gadgets were only filled with music so children would not get bored. However, gradually, they feel bored and free from parental supervision (Nikmawati et al., 2021). Children use gadgets to communicate, access social media, play games, watch YouTube videos, etc. The intensity of children's use of gadgets is quite high and at various times, such as when they wake up, before and after studying, and even the whole day during school holidays (Nizar & Hajaroh, 2019).

The massive use of gadgets certainly provides challenges and opportunities in developing learning. Teachers can't prohibit students from using gadgets. Teachers should utilize existing potential. With gadgets, teachers and students can easily connect to the internet network, learning can be accessed anytime and anywhere. Learning models can develop more innovatively, such as blended learning, online learning, and e-learning (Ohlin, 2019; Singh dkk., 2021).

SDN Bunulrejo 1 Malang is a school that implements the use and development of technology in learning. The school supports all teachers in designing technology-based learning. The school is equipped with a computer laboratory. Schools have 48 tablets that teachers and students can use. Both teachers and students have good technology use skills. All teachers have personal devices such as gadgets and laptops. Meanwhile, all students have gadget facilities in their respective homes.

One use of technology is in the learning of IPAS (Ilmu Pengetahuan Alam dan Sosial). IPAS contains learning material about science and social matters, such as lessons about nature, the environment, technology, history, and culture. The aim of combining these two fields of science is to create education that is more comprehensive, multidisciplinary, and contextual. In this combination, science and science are not studied separately but are also connected so that students can understand the relationship between natural and social aspects of everyday life (Suhelayanti et al., 2023). This is where technology plays an important role in learning.

The problem in learning science and science is the need for more understanding of students in understanding the concept, and also the boredom felt during the learning process. Therefore, contributions from technological developments are needed to create an active learning atmosphere to help students understand learning and be innovative to overcome student boredom during the learning process (Andani, 2022). To create innovative learning, adequate teacher capabilities are needed for utilizing technology. The appropriate use of technology in learning can help teachers and students to achieve learning goals together. This paper will explain the profile of the abilities of teachers and students at SDN Bunulrejo 1 Malang in utilizing technology for learning. . This research aims to determine the ability of teachers and students to utilize technology in learning, determine the availability of digital devices, and analyze opportunities for developing digital-based media in science and science learning at SDN Bunulrejo 1 Malang.

B. METHODS

This research uses a qualitative method with a descriptive approach. According to (Sugiyono, 2019), a descriptive research approach is research that describes the research object based on facts. This research aims to determine the ability of teachers and students to utilize technology in learning, determine the availability of digital devices, and analyze opportunities for developing digital-based media in science and science learning at SDN Bunulrejo 1 Malang. Data collection in this research was carried out by direct observation of the research object and interviews with science subject teachers through a closed questionnaire that had been prepared. The research subjects other than teachers were students from class IV-C, 22 people. To check the validity of the data, triangulation was carried out on the information that had been obtained.

C. RESULTS AND DISCUSSION

1. Digital Device Availability Profile at SDN Bunulrejo 1 Malang

Based on the initial observations, data was obtained that SDN Bunulrejo 1 Malang had adequate availability of digital devices. This is proven by a computer laboratory that can be used interchangeably. Each teacher has a gadget connected to the internet. Students also have access to gadgets at home. The school also has 48 tablets. The tablet can also be used interchangeably by both teachers and students. The existing tablet optimizes the school operational assistance (BOS) budget.

The next finding was that every class in the school was equipped with a projector and a large screen. This condition makes it easier for teachers to convey material. However, the problem is that several teachers have needed help connecting the laptop to the existing projector. However, this condition is a small problem in implementing learning.

The availability of sufficient digital devices has provided opportunities for schools to develop more innovative learning. One innovative step that can be optimized is the development of digital-based learning media. The availability of learning media is very important in the learning process because it functions as a tool to help students' learning progress (Arianti, 2018).

Increasing the use of digital devices in schools can benefit students and teachers. Digital devices have prepared them to face a world where people can always be connected wherever and whenever, so learning will be easier. However, Digital devices cannot guarantee student learning success (Raja & Nagasubramani, 2018). The role of digital devices is only to assist the learning process.

2. Profile of Teacher Ability in Using Technology in Learning

The teacher is the most important component in learning. Teacher competency is a measure of student learning participation. To achieve these goals, it is natural for teachers in schools to try to improve the quality of their professionalism (Asmarani, 2014). Several things can be done to improve a teacher's professional competence. These include reading educational books, studying and recording current events from the media, participating in class activities, joining Teacher Working Groups (KKG), conducting classroom action research, and actively participating in professional organizations (Wardinur & Mutawally, 2019).

If we refer to the previous description, the ability profile of teachers at SDN Bunulrejo 1 Malang to utilize technology is likely good. Teachers are used to digital-based teaching materials. Some teaching materials that are often used are e-books, e-modules, e-learning, and e-reports. Some digital platforms that are frequently accessed are Zoom Meeting, Google Meet, Google Classroom, and Edmodo.

In carrying out learning, almost all teachers use a projector in the classroom to present presentation material. The most frequently used presentation materials are Microsoft PowerPoint and Canva. The following statement from the source supports this:

> *"Disini itu paling sering pakai power point. Kalau guru muda biasanya lebih kreatif, ada yang menggunakan canva, quizizz, wordwall, dan beberapa aplikasi gratis di internet. Kalau medianya variatif seperti itu, biasanya siswa juga senang dan semangat untuk belajar."*
>
> *in English…..*
>
> "Here, we most often use Power Point. Young teachers are usually more creative, some use Canva, Quizizz, Wordwall, and several free applications on the internet. If the media is varied like that, students are usually happy and enthusiastic about learning"

The interview results show that the teacher has very capable technology utilization skills. The various types of applications that are often used are known from academic forums that are often followed. Teachers always take part in activities organized by the Teacher Working Group in their respective regions. Apart from that, several teachers are often delegated to attend workshops or seminars on developing innovative learning that utilizes technology. There are also experienced teachers who are resource persons in workshops on developing innovative teaching materials.

Some of these activities certainly have a positive impact on teacher professionalism. This profile highlights for schools how important it is to have teachers who are not only experienced in using technology but also have a thorough understanding of how to integrate it effectively into learning. Teachers' ability to use technology effectively can provide better learning outcomes for students (Hasyim et al., 2022).

3. Student Ability Profile in Utilizing Technology in Learning

The existence of digital technology has entered the world of students. One important aspect of modern education is students' ability to use technology effectively in learning. A student with skills like these can learn, collaborate, and prepare for the future (Syamsuar & Reflianto, 2019).

SDN Bunulrejo 1 Malang has a great opportunity to prepare students who are competent in using technology. This refers to the results of observations that show that students are familiar with digital technology. Teachers must allow students to access existing digital devices. The teacher only acts as a guide so students can use digital devices appropriately for positive activities.

The research results show that the digital devices most frequently accessed are personal gadgets (cell phones, tablets, and computers). These devices are easy to access because they are available at home, whether they belong to parents, older siblings, or personal property. Students have been exposed to some of these devices from an early age. They are used to existing devices because their parents deliberately introduced them.

Some of the activities that students often do with existing digital devices vary. Starting from watching videos playing games, to taking part in lessons. For female students, watching videos on gadgets is the most frequent activity. They are familiar with various applications such as YouTube, Instagram, TikTok, and Facebook. Meanwhile, for male students, playing games is the main priority in using gadgets. These activities are, of course, carried out when they are at

home and under parental supervision. Several game applications often played include Free Fire, Mobile Legend, and PUBG. They like games that have an adventure and challenge theme.

In the learning process, several students stated that they preferred learning by using gadgets. They feel they have gained new experiences from technology-based learning models. They are happy when the material is presented in video animations and there are games for learning. This supports teachers' opportunities to develop innovative learning. Teachers have the competence to design learning with several applications such as Quizizz, canva, worldwall, and so on. With students' good ability to use technology, it is believed that learning will be more enjoyable. So, learning goals can be achieved together.

4. Opportunities for Digital-Based Media Development in Science and Technology Learning at SDN Bunulrejo 1 Malang

The availability of digital device support at SDN Bunulrejo 1 Malang opens up opportunities to develop more interesting learning media. In this case, digital-based media is the right choice. Digital-based media in teaching science and science in elementary schools is not only able to improve the quality of learning but also prepares students to become people who are better prepared for change (Sari & Atmojo, 2021).

One of the opportunities for developing digital media in science education at SDN Bunulrejo 1 Malang is using augmented reality animated videos. Animated videos are a form of media with entertaining images. Animated videos can present objects with varying shapes, sizes, and colors (Agustin & Yuliastuti, 2018). This media is believed to increase students' curiosity about new things. When the desire to learn arises, students are believed to become more enthusiastic about seeing and understanding the content of the video (Sunami & Aslam, 2021).

Augmented reality animated video is a type of video that combines digital visual elements, such as images, 3D objects, or animation, with real-world images or text. These videos can be viewed with AR-enabled devices, such as smartphones and tablets. In other words, an augmented reality animated video will create a visual experience that connects the real world and the digital world so that users can see and interact with digital elements as part of their visual experience.

The development of augmented reality animated videos is a follow-up to this research. After knowing the profile of teachers and students in utilizing technology very well, researchers believe that developing augmented reality animated videos is easy. Teachers and students alike will gain new experiences in learning.

D. CONCLUSION

The occurrence of very massive technological developments cannot be avoided. In this case, educational institutions are also required to adapt quickly. All components of education, both teachers and students, must be equally able to recognize the changes that occur. This research has shown that teachers and students at SDN Bunulrejo 1 Malang have a very good ability to use technology. This can be seen from the teacher's experience in designing digital-based learning. Students have also become accustomed to utilizing digital devices because they can access them at home. All students are well-facilitated. Seeing these conditions, further development of learning media design that utilizes technology is needed. With digital technology-based learning media, it is believed that students' learning experiences will be more memorable, learning motivation will increase, and learning goals can be achieved together.

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