

Challenges for Educational Institutions in Facing Digital-Based Learning (Case Study of SMA Negeri 1 Masbagik)

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Abstract

The development of information technology has driven the transformation of educational systems toward digital-based learning. This study aims to analyze the challenges faced by educational institutions in implementing digital-based learning and to identify the adaptation strategies carried out at SMA Negeri 1 Masbagik. This research employs a descriptive qualitative approach, with data collection techniques including observation, interviews, and documentation. The results indicate that several key challenges exist in the implementation of digital-based learning, including limited supporting facilities and infrastructure, low levels of understanding among teachers and students in using digital learning media, teachers' difficulties in monitoring students' use of technology, unstable internet connectivity, and low student learning interest. The adaptation strategies implemented by the institution include optimizing the use of available facilities and infrastructure, enhancing teachers' competencies through digital learning training, scheduling the use of information technology devices and internet access in rotation, and allowing students to bring gadgets for learning purposes under the supervision of teachers and homeroom advisors.

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1. INTRODUCTION

In community development, building a foundation known as education is crucial. However, with the rapid changes in this digital era, education must adapt to remain effective and relevant. Various challenges arise in this digital era, such as changing student learning patterns, increasingly widespread access to information, and constantly evolving technology. These challenges require a focused and effective strategy *solution* Which *innovative* to balance and adapt education in the digital era. Digital-based education is learning that uses technology effectively and efficiently to enhance students' learning experiences (Dermawan et al., 2022). In the 21st century, digital technology has become part of the technological evolution of human civilization, which experts currently refer to as the Industrial Era 4.0 and is also known as "Industry 4.0 "Internet of Things".

Education in the 4.0 era is not only about digital learning technology, but also about changing the way of thinking in education and what is most important to the next generation. As with education in the past, various theories and definitions of education in the era of disruption exist, but they can face future challenges. Speaking of *education* (Education) is transforming in the digital age, not without its challenges. This is because the 4.0 era, also known as the digital era, is understood to be a

time of change driven by technological advancements. Education plays a central role in developing intelligent human resources (HR).

Indonesia is the fifth-largest internet user country out of 195 countries worldwide. According to data from the Central Statistics Agency (BPS), approximately 50 percent, or 132,700,000 Indonesian citizens, use internet services. Of these figures, 6.3 percent, or approximately 8.3 percent, of Indonesian students are students. Over the past 17 years, internet usage among students has continued to increase, reaching approximately 6,535.0 percent. This growth in start-up companies in the education sector continues to experience rapid growth each year. This development can encourage the creation of modern technology-based education (Adnan S., 1981).

Digital learning can be used anywhere and anytime, whether at school, at home, or while traveling. This is because digital technology offers us convenience and advantages in learning. Furthermore, digital learning can advance change in schools by increasing equity and access to educational opportunities, increasing teacher and administrator productivity, providing student-centered learning, ensuring students' career and college readiness, and empowering teachers to become educational planners.

These challenges are reinforced by several recent studies. Alfiyanto (2022) found that teachers' limited digital literacy remains one of the main obstacles to implementing technology-based learning in the Industry 4.0 era. Similarly, Susyanto (2022) emphasized that limited facilities and infrastructure, along with the readiness of human resources, are key challenges faced by Islamic educational institutions in adapting to the digital era. These recent findings strengthen the urgency of examining the challenges faced by educational institutions, such as SMA Negeri 1 Masbagik, in implementing digital-based learning.

In the review and explanation above, the researcher wishes to conduct research related to "Challenges Educational Institutions in Implementing Digital-Based Learning with Research Locations at SMA Negeri 1 Masbagik. SMA Negeri 1 Masbagik is a school in East Lombok Regency that has used digital-based learning.

2. METHOD

In this research, a descriptive qualitative approach will be used because it will explain. In this study, the description will be more detailed and in-depth. This study will also focus on describing "The challenges of educational institutions in facing digital-based learning (Case Study of SMA Negeri 1 Masbagik)." Therefore, this study uses descriptive analysis in quantitative methods.

This research will be conducted at SMA Negeri 1 Masbagik, Masbagik District, East Lombok Regency. Because SMA Negeri 1 Masbagik is a state education institution that has implemented digital-based learning and is located in a strategic location, namely on the edge of the main road between districts. Researchers use data collection techniques in interviews, observations, and documentation. Related to (the challenges of educational institutions in facing digital-based education (case study of SMA Negeri 1 Masbagik).

The data analysis in this study used the situational data analysis technique developed by Miles and Huberman. The collected data was arranged in a matrix. The matrix presented descriptive data fragments about a particular event or experience, separating the data before and after. Data analysis using the Miles and Huberman model has several steps, including: data collection, data reduction, data presentation, and concluding. With this analysis, researchers obtained in-depth findings related to challenges of educational institutions in facing digital-based education (case study of SMA Negeri 1 Masbagik).

The informants in this study consisted of six people, namely the school principal, three teachers, and two students of SMA Negeri 1 Masbagik, who were selected using a purposive sampling technique based on the criteria of having direct experience with digital-based learning. The principal was selected as the party responsible for school policy on digital-based learning, teachers were

selected based on their active involvement in teaching using digital media, and students were selected based on their active participation in digital-based learning activities. This selection procedure was intended to ensure that the data obtained were relevant, credible, and could be traced and replicated by future researchers.

3. RESULTS AND DISCUSSION

Educational institutions certainly face several challenges, such as those experienced by SMA Negeri 1 Masbagik. The challenge currently facing the institution is digital-based learning. The challenges facing educational institutions in facing digital-based learning at SMA Negeri 1 Masbagik include:

Challenges faced by educational institutions in facing digital-based learning at SMA 1 Masbagik

In conducting the research, we went directly to the research location, namely at SMA 1 Masbagik, and conducted interviews with the principal, teachers, and several students at SMA 1 Masbagik, and found several things related to the challenges of educational institutions in facing digital-based learning, namely:

1. Lack of facilities and infrastructure that can support digital-based learning activities.

The results of interviews with several teachers at SMAN 1 Masbagik stated that there was a lack of facilities and infrastructure that could support digital-based learning activities because the number of students was far greater than the digital-based learning media such as computers, LCDs, and laptops provided (Teacher Interview, October 31, 2023).

Based on the data on facilities and infrastructure at SMAN 1 Masbagik, it appears that it is highly unlikely that digital-based learning activities will be fully supported. The school has 982 students, while the facilities and infrastructure consist of 6 computers, 1 LCD, and 1 laptop (School Profile of SMAN 1 Masbagik). Therefore, if all teachers and students use these media, it is clearly insufficient.

2. Lack of understanding of teachers and students in the use of digital-based learning media.

When using digital-based learning media, of course, not all teachers are proficient in using it, as stated by several teachers at SMAN 1 Masbagik that we who are not ICT teachers certainly do not understand how to use computers as learning media, because we are not used to it and have not learned how to use computers as learning media, in contrast to ICT teachers who are certainly proficient and do not find it difficult to use computers as learning media (Teacher Interview, October 31, 2023).

Computers are one of the digital-based learning media used by teachers during the teaching and learning process. If teachers cannot or are not proficient in using computers, they will certainly find it difficult, and this can hinder the teaching and learning process.

3. Teachers find it difficult to control students when using digital-based learning media, especially when using cellphones.

HP (handphone) is one of the digital-based learning media that is usually used by teachers during the teaching and learning process, because many things can be accessed using HP, such as YouTube, learning applications, websites, and others. However, when using HP as a learning medium, of course there are risks borne by teachers, such as interviews conducted by researchers with teachers of SMAN 1 Masbagik said that we find it difficult to control students when using HP as a learning medium because we cannot see everything they open and access on their HP during the teaching and learning process (Teacher Interview, October 31, 2023).

4. An unstable internet connection that cannot reach all rooms makes learning less effective.

An unstable internet connection is a challenge faced by SMAN 1 Masbagik in the digital-based learning process; this is a fundamental thing that an institution must have so that digital-based learning can be implemented smoothly. This is in accordance with what was stated by a teacher at SMAN 1 Masbagik in an interview; he said that the internet connection is unstable at the school because it cannot reach all rooms, which sometimes hampers the teaching and learning process (Teacher Interview, October 31, 2023).

This aligns with what several students expressed, stating that the school's internet connection doesn't reach all areas, making it difficult for them to access the internet (Student Interview, November 4, 2023). This is because digital learning today requires a stable internet connection to access learning.

5. Lack of interest in learning among students because they feel it is not very important, as everything they want to find can just be copied via Google.

The final challenge faced by SMAN 1 Masbagik in digital-based learning is the lack of interest in learning among students because they feel it is not very important because everything they want to find can just be copied via Google. As expressed by several students of SMAN 1 Masbagik, the challenge faced in digital-based learning is being lazy to listen when the teacher explains in front of the class because students prefer to search for the material themselves using Google. This is what makes students not understand the material given by the teacher. In addition, the same thing was expressed by the teacher: the lack of attention of students when we explain the material, both materials such as ICT and other computer programs, less attention and more busy searching for material on the internet using cellphones, so the material we convey cannot be understood well (Teacher and Student Interview, October 30, 2023).

From the explanation above, the challenges of digital-based learning at SMAN 1 Masbagik are caused by a lack of interest in learning among students because they feel it is not very important and prefer to search for material on Google rather than listening to explanations from their teachers.

This finding needs to be examined more critically. The use of Google is essentially a form of technology-based learning resource, not merely a distraction from learning. Therefore, the low learning interest observed in this study is more closely related to students' lack of active engagement and self-directed learning skills, rather than to the use of technology itself. In other words, the core challenge does not lie in the presence of digital tools such as Google, but in how teachers guide students to use these tools critically and purposefully as part of the learning process, rather than as a shortcut that allows them to avoid engaging directly with the material.

Several challenges facing educational institutions at SMA 1 Masbagik can be linked to several theories, including challenges in Indonesian language learning, including: appropriate curriculum, facilities and infrastructure, and the competency of educators and students in digital literacy (Ariyati, 2020). The challenge for educators is to be able to operate digital-based hardware and software.

The challenges faced by educators during the Industrial Revolution 4.0 are: first, teacher readiness in equipping themselves to improve professional competence, and second, addressing the impact of technology and rapid globalization (Ismail, S. 2021: 76-84). The challenges faced by teachers in information technology-based learning are emphasized in two aspects, namely: instilling values in education and implementing education evenly throughout Indonesia, especially in marginalized, outermost, and isolated areas (Reflianto and Syamsuar, 2018: 1-13).

From several theories regarding the challenges of digital-based learning above, they are in accordance with those faced by educational institutions at SMA 1 Masbagik, both for teachers, students, and the principal.

How educational institutions adapt to digital-based learning models at SMA Negeri 1 Masbagik, namely:

The way the Educational Institution adapts to the digital-based learning model at SMA Negeri 1 Masbagik, according to the results of interviews with several students and teachers, namely:

1. Increasing the number of facilities and infrastructure that support digital-based learning processes
2. Make the best possible use of existing facilities and infrastructure
3. Teachers seek and participate in training that can increase their insight regarding digital-based learning.
4. Create a schedule for using IT devices and the internet so that you can use them in turns.
5. Students are allowed to bring cell phones with the permission of the subject teacher and homeroom teacher, but they must remain under supervision while on school grounds.

According to Majid, A. (2005:136), learning models should be able to comprehensively accommodate existing learning principles. Digital-based learning also requires teachers to be more creative, innovative, and engaging in the learning process so that students don't get bored easily and can effectively grasp the learning material.

This view is further supported by more recent research; Rozi and Fuadiy (2025) emphasize that effective learning management requires strategic approaches to organizing and engaging learners in order to accommodate diverse learning needs, which is particularly relevant to the context of digital-based education faced by educational institutions today.

4. CONCLUSION

Based on the findings and discussion of the research results, the following conclusions can be drawn:

The research results show that there are several main challenges in implementing digital-based learning, namely (1) limited supporting facilities and infrastructure, (2) low understanding of teachers and students regarding the use of digital media, (3) difficulties for teachers in controlling the use of technology by students, (4) limited internet networks that are not yet stable, and (5) low student interest in learning.

The adaptation strategies implemented by educational institutions include (1) increasing the number of facilities and infrastructure that support digital-based learning processes, (2) optimal use of available facilities and infrastructure, (3) increasing teacher competency through digital learning training, (4) arranging rotating schedules for the use of information technology and internet devices, and (5) granting permission to students to bring gadgets to learning activities under the supervision of teachers and homeroom teachers.

These findings imply that the successful implementation of digital-based learning depends not only on the availability of facilities and infrastructure, but also on the readiness of teachers and students to use digital technology critically and purposefully. Practically, it is recommended that schools such as SMA Negeri 1 Masbagik gradually increase their digital facilities, provide regular and sustainable digital literacy training for teachers, and develop clear guidelines that encourage students to use digital tools, such as internet search engines, as a means to support rather than replace active learning. These

recommendations are expected to serve as a reference for other educational institutions facing similar challenges in adapting to digital-based learning.

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