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The Failure of Technology Utilization in the Era of Digital Education: A Study at the MTs of the Kandepag Project, Medan City

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Abstract

This study aims to describe the condition of MTs Kandepag in utilizing technology in the learning process. The method used is a field study by observing the condition of the school directly, starting from physical facilities to the application of technology in teaching and learning activities. Primary data is obtained through field records and documentation that records actual conditions in the field. Data analysis was carried out using data triangulation to ensure the validity of the findings, which were naturally outlined based on the results of direct observations. The findings of the study show that MTs Kandepag faces several challenges in the use of technology, including limited funds, lack of technology use, and lack of attention from the government. This study concludes that to increase the effectiveness of technology utilization in schools, it is necessary to make maximum efforts in providing facilities, improving teacher skills, and strengthening support from the government and the community.

Keywords: *Technology; Digital Education; MTs Kandepaq Medan City*

Abstrak: Penelitian ini bertujuan untuk menguraikan kondisi MTs Kandepag dalam memanfaatkan teknologi dalam proses pembelajaran. Metode yang digunakan adalah studi lapangan dengan mengamati kondisi sekolah secara langsung, mulai dari fasilitas fisik hingga penerapan teknologi dalam kegiatan belajar mengajar. Data primer diperoleh melalui catatan lapangan dan dokumentasi yang mencatat kondisi aktual di lapangan. Analisis data dilakukan menggunakan triangulasi data untuk memastikan validitas temuan, yang diuraikan secara alamiah berdasarkan hasil pengamatan langsung. Temuan penelitian menunjukkan bahwa MTs Kandepag menghadapi beberapa tantangan dalam pemanfaatan teknologi, antara lain keterbatasan dana, minimnya pemakaian teknologi, dan kurangnya perhatian dari pemerintah. Penelitian ini menyimpulkan bahwa untuk meningkatkan efektivitas pemanfaatan teknologi di sekolah, diperlukan upaya yang lebih maksimal dalam menyediakan fasilitas, meningkatkan keterampilan guru, dan memperkuat dukungan dari pemerintah serta masyarakat.

Kata Kunci: *Teknologi; Pendidikan Digital; MTs Kandepaq Kota Medan*

INTRODUCTION

Education is one of the main components in the development of quality human resources. In this digital era, the use of technology in education is something that cannot be ignored. Technology has great potential to improve the quality of learning, expand access to information, and motivate students in the learning process. However, although technology can be an effective tool, its application in various schools in Indonesia, including in Madrasah Tsanawiyah (MTs), still faces many challenges (Subagio & Limbong, 2023).

One real example is the Kandepag MTs Project, which shows that the use of technology in the school is not optimal, and this has an impact on low student motivation to learn. One of the main factors that hinders the use of technology is limited funds. Many schools, especially in remote areas, have difficulty providing sufficient budgets to meet the need for adequate technological equipment. As a result, schools are unable to provide technology-based learning facilities, such as computers, projectors, and limited internet access. This makes it difficult for students to utilize technology in teaching and learning activities, which in turn lowers their motivation because the learning methods applied tend to be monotonous and uninteresting.

In addition, the use of advanced technology such as artificial intelligence (AI) in education is also still very limited. AI has great potential to revolutionize education by providing more personalized and adaptive learning, according to the needs of each student. However, at MTs Kandepag, the use of AI is still very minimal. The application of technology, including AI, can increase student engagement and motivation. Unfortunately, the lack of understanding and ability to operate this technology among educators and students is an obstacle that hinders the optimization of the potential of AI in the learning process. As a result, students miss out on the opportunity to gain a more interactive and engaging learning experience (Tarmizi & Yahfizham, 2024).

Another problem is the lack of support from the government. Government support is urgently needed to ensure that schools have access to the technology and resources they need. Without adequate support, efforts to integrate technology in learning will be difficult to realize. stated that policies and support from the government have a crucial role in encouraging the adoption of technology in education. However, in the MTs of the Kandepag Project, government support is still limited, which has an impact on the lack of funds for the procurement of technology equipment and the lack of training for educators to improve their ability to use technology to support the learning process.

METHOD

The type of research used is the field study method, which prioritizes direct observation of conditions in the field to understand the problems faced by MTs Kandepag. Researchers made direct observations on various aspects in the school, ranging from the physical condition of the school building, available facilities, to the learning process that takes place in the classroom. This observation includes observation of existing technological facilities and infrastructure. The primary data used in this study consisted of field notes that recorded the results of observations during the study. This field record contains findings obtained directly from observation activities at MTs Kandepag. In addition, documentation in the form of photos or videos taken during observation is also used as a source of data to visually describe existing conditions.

To analyze the data, the researcher used data triangulation analysis, which aims to ensure the validity of the data obtained from various sources. Data triangulation was carried out by comparing the results of field observations with existing documentation, as well as looking for consistency between findings in the field and views obtained from relevant literature sources. The data obtained will be naturally decomposed, that is, presented according to what is observed without any manipulation or excessive interpretation.

RESULTS AND DISCUSSION

Learning in the Digital Age

In this all-connected digital era, technology has become an integral part of various aspects of life, including in the world of education. Technology in education refers to the use of scientific tools, techniques, and methods to achieve practical goals that support the teaching and learning process. In this context, technology includes a variety of digital devices and applications such as computers, tablets, projectors, educational software, as well as internet access all of which aim to simplify, enrich, and improve the quality of learning (Rismayani & Sari, 2022).

One of the main benefits of using technology in education is increased access to information. Technology allows students and teachers to access a variety of learning resources online, such as e-books, scientific articles, educational videos, and educational websites. This gives students the opportunity to learn outside the classroom and deepen their understanding of the material being studied. In addition, with the existence of digital platforms, students are not limited to a specific time and place to gain knowledge, thus expanding the scope of their learning.

In addition, technology also encourages more intensive interaction and engagement between students and teachers. Digital tools such as online discussion forums, collaborative apps, and video conferencing make it easy

for students and teachers to communicate without having to meet face-to-face. Students can engage in class discussions and group activities virtually, allowing them to stay active in learning even when they are not physically in the classroom. This enriches the learning experience and creates opportunities for the development of social and collaborative skills (Haryono, 2021).

One of the major breakthroughs brought by technology is skills-based learning. With technology in place, students can learn practical skills through various simulations, online tutorials, or computer-based projects. For example, learning to code through an interactive platform or developing graphic design skills using design software. This allows students to acquire skills relevant to industry and real-world job needs, as well as improve practical skills that will be useful in the future (Rismayani & Sari, 2022).

Evaluation and monitoring of student learning progress is also more efficient with technology. Teachers can now use digital tools to measure student progress and provide feedback in real-time. With online tests, interactive quizzes, and monitoring apps, teachers can immediately track students' progress, as well as provide the necessary interventions to help them achieve their learning goals. Technology allows teachers to conduct more objective and precise evaluations, based on accurate data (Wahyuni & Prasetyo, 2021).

In addition, technology supports differentiated learning, where the material can be tailored to the needs of each student. Adaptive learning apps allow for more personalized learning, by adjusting the difficulty level of the material based on students' abilities and learning speed. This helps each student to learn at a level that suits their abilities, and avoids the frustration that may arise if they feel left behind.

Creativity also gets a bigger space in digital learning. A variety of design applications, video production, and music software provide students with the opportunity to develop their creativity. With technology, students can express their ideas and works in a freer way, as well as explore various digital media to create more interesting and original works. This more creative and innovative learning also contributes to the development of students' critical thinking and problem-solving skills (Santosa & Setiawan, 2020).

Technology in schools also provides better preparation for students to face an increasingly digital future. In a globally connected world, tech skills are becoming increasingly important. By using technology in learning, students not only learn academic materials, but also develop skills that are relevant to the world of work and daily life in the digital era. Technology-based learning prepares students to be able to compete in a labor market that is increasingly dependent on digital skills.

Lastly, technology improves the efficiency and quality of evaluation in education. The use of data analysis software allows teachers to identify student learning patterns and provide more precise feedback that is tailored to the needs of each student. In addition, technology allows teachers to intervene faster if any student experiences difficulties, so that the learning process becomes more adaptive and responsive (Wahyuni & Prasetyo, 2021).

Overall, the utilization of technology in schools provides many benefits that not only improve the quality of learning but also prepare students for future challenges. With the existence of various educational, multimedia, and digital skills-based learning applications, technology is a very important tool in creating a learning environment that is more effective, interesting, and relevant to the times.

The Utilization of Digital Technology in Learning

Education in the digital era plays a very important role in preparing future generations to be able to adapt to the rapid development of technology. Changes that occur in the world of technology have an impact on almost all aspects of life, including in the world of education. In this case, education not only functions to transfer knowledge, but must also be able to adapt to the changing times and provide solutions to face challenges that arise due to technological advances (Haryono, 2021).

In the midst of such a rapid pace of scientific development, education is the main way for individuals to pursue and understand these developments. Technology in the scope of education not only plays a role as a tool, but more than that, it is a strategic means to improve the quality of education as a whole. The use of technology can open up wider access to information, enable more effective collaboration, and support the development of skills relevant to the needs of the future world of work (Alamsyah & Santi, 2022).

The benefits of using technology in education are very important, but to be able to maximize its impact, it is necessary to have the participation of various elements that support each other. While technology opens up great opportunities to improve the quality of education, its success depends heavily on several important factors, including teacher capabilities, supportive curriculum, support from principals, stakeholder engagement, and collaboration between various parties. Each of these elements has a significant contribution in guaranteeing that technology is used effectively to improve the learning experience of students (Putra & Hermawan, 2022).

1. Improving Access to Information and Learning Resources

The use of technology in education allows for wider access to a wide range of learning resources, such as e-books, scientific articles, educational videos, and online learning platforms. This gives students the opportunity to explore knowledge in a more in-depth and flexible way. However, the teacher's ability to select and present these resources appropriately is the

main key. Teachers must have a strong understanding of the material being taught and the ability to adapt the use of technology to the needs of students. A curriculum that supports the use of technology is also very important, so that learning materials do not only rely on the resources in textbooks, but also include the use of relevant and useful digital platforms. Therefore, the use of technology must be complemented by adequate training for teachers and curriculum updates that support the integration of technology in learning.

2. Making Interactive and Collaborative Learning Easier

Technology allows for more interactive learning, where students can engage in discussions, presentations, and collaboration through digital applications. However, to maximize this potential, support from school principals and education stakeholders is essential. School principals need to create an environment that supports the use of technology and ensure that adequate infrastructure is in place. In addition, collaboration between teachers, students, and other parties such as parents or the educational community is also very important. The involvement of all parties will help create a more dynamic and collaborative learning experience. Teachers who are competent in using technology to facilitate collaboration between students are also essential to creating an active and productive classroom.

3. Supporting More Personalized and Differentiated Learning

One of the great benefits of technology is its ability to provide more personalized learning and tailored to the needs of each student. Adaptive learning apps allow students to learn according to their ability level and learning pace. However, to maximize this potential, the curriculum must allow for the adaptive use of technology, and teachers must have the skills to appropriately assess student needs. Support from school principals is also important to provide policies that support the implementation of differentiated technology-based learning. The technology used must be aligned with learning goals and long-term educational goals, and accessible to all students without exception.

4. Practical and Digital Skills Enhancement

Technology provides great opportunities for students to develop practical skills needed in the world of work, such as coding, graphic design, and other digital skills. However, to achieve this, in addition to curriculum updates that include digital skills as the main component, it is also necessary to collaborate with industry and stakeholders to ensure that the skills taught are relevant to the needs of the world of work. Teachers need to be trained to be able to teach these skills effectively, while principals need to support ongoing training and professional development programs for teachers. Collaboration with external parties, such as technology companies or training institutes, can enrich the learning experience of students and ensure that the learning provided is in line with existing industry developments.

5. Increased Efficiency in Evaluation and Monitoring

Technology allows teachers to be more efficient in evaluating and monitoring student progress through digital tools such as online tests and student progress monitoring apps. However, the use of this technology requires teachers' skills in analyzing data and providing constructive feedback. Teachers must have knowledge of how to use the data from the evaluation results to improve the learning process. In addition, policies from school principals and stakeholder support to provide the necessary tools are essential. Technology-based evaluations also require supporting infrastructure, such as stable internet access and adequate devices in each class. Collaboration between teachers and principals in designing an effective technology-based evaluation system is essential to ensure successful implementation.

6. Encouraging Creativity and Innovation

With technology, students are provided with a variety of tools to express their creativity, such as design software, music apps, or video creation tools. However, to develop students' creativity to the fullest, teachers need to have skills in integrating technology in a way that supports the development of students' ideas and work. Teachers must also encourage students to think critically and creatively in solving problems. Support from the principal in providing adequate facilities and infrastructure for this creative activity is very necessary. Collaboration between teachers, students, and parents in encouraging creative achievement will also enrich the student learning experience (Sari & Wijaya, 2021).

Causes of Failure to Use Technology in Learning

1. Lack of Funds for Technology Procurement

One of the main problems that hinders the use of technology in education is the limited funding owned by schools, especially those located in remote areas, such as MTs Kandepag. These budget limitations make it difficult for schools to access and provide the technology tools needed to support the digital-based learning process. As a result, students are unable to utilize technology optimally due to the limitations of facilities, such as computers, projectors, and very limited internet connections. This makes the learning methods applied monotonous and uninteresting, which ultimately reduces students' interest and motivation to learn. Without adequate funds for technology procurement, the quality of learning will be hampered, and students will not be able to experience the maximum benefits of technology-based learning.

2. Not Maximizing Technology in Learning

The next problem is the limited use of artificial intelligence (AI) in learning at MTs Kandepag. AI technology, which has great potential to create a more personalized and adaptive learning experience, has not been fully utilized. In fact, AI can increase student engagement, enrich their learning

experience, and provide learning materials tailored to each student's abilities. According to Collins and Halverson (2009), the use of AI in education can boost student motivation and improve their understanding. However, the low level of understanding and skills in utilizing this technology among educators and students has caused this great potential to not be fully realized. As a result, students lose the opportunity to learn in a more engaging, interactive, and relevant way of the times.

3. Lack of Attention from the Government

The third problem that is also an obstacle is the lack of adequate support from the government to encourage the use of technology in education. This support is essential so that schools, especially in remote areas, can access the necessary technology and get the appropriate training to maximize its use. Without concrete government policies and support, efforts to integrate technology in learning will be hampered. As stated by Wagner et al. (2005), strong government policies and adequate support are crucial in accelerating technology adoption in schools. However, at MTs Kandepag, support from the government is still very minimal. This has an impact on limited funds for the purchase of technology devices and a lack of training for teachers in using technology properly, so that the potential of technology in improving the quality of learning cannot be fully utilized.

From these findings, it can be concluded that the use of technology in education at MTs Kandepag requires serious attention. The problem of funding, the lack of use of AI, and the lack of support from the government are major challenges that must be overcome immediately. For this reason, joint efforts are needed from schools, the government, and the community to create an educational environment that is more supportive of technology integration. This includes increasing access to technology equipment, providing training to teachers so that they can use technology more effectively, and strengthening policy support from the government so that technology can be accessed equally. With these steps, technology can be optimally utilized to increase students' motivation to learn, enrich their educational experience, and prepare them for an increasingly digital future.

CONCLUSIONS

Based on the description above, it can be concluded that education in the digital era has not been optimally implemented, because there are still schools that do not get these excesses because they are one of the schools that are not touched by the government's attention. So that reaps several problems, namely there are problems faced by MTs Kandepag, namely lack of funds, lack of AI utilization, and lack of attention from the government. From this problem, it will have a significant impact on students' learning motivation. Limited funding hinders the provision of technology facilities, while the low use of AI reduces innovation in learning. In addition, the lack of

government support exacerbates the situation by hindering access to the necessary technology. Therefore, collaborative efforts are needed to overcome these problems so that the quality of education and student learning motivation can improve.

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