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Teachers' efforts to improve the quality of learning through the application of information technology at Madrasah Ibtidaiyah Negeri 7 Ponorogo

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Abstract

The application of information technology in the field of education is increasingly becoming the main concern in improving the quality of learning. Teachers as the main agents in the learning process play a crucial role in integrating information technology into their learning technology platform. The research method used is a case study at Madrasah Ibtidaiyah Negeri 7 Ponorogo. Data was collected through in-depth interviews with teachers, classroom observations, and analysis of related documents. This study aims to investigate various efforts made by teachers in improving the quality of learning through the application of information technology. The results of the study show that the efforts made by teachers in learning at Madrasah Ibtidaiyah Negeri 7 Ponorogo are: 1) encouraging students to interact with learning resources or learning media; 2) encourage students to have discussions with their friends; 3) ask questions from teachers to students or students to their friends; 4) monitoring students' perceptions and thought processes; 5) monitoring and observing learning outcomes.

Keywords: teachers, information technology, learning quality.

Intruduction

Education is an important factor in human and societal development, where information technology plays an important role in supporting the modern learning process. The work of a teacher is one of the most important professions in society. The main role of a teacher is to educate and teach his students at various levels of education, from elementary school to college. Among its main responsibilities are guiding, assessing, inspiring, building good relationships with stakeholders.

In addition, a teacher also acts as an example and role model for his students in terms of attitude, values, and morality. The teaching profession requires strong commitment, patience, good communication skills, and the ability to adapt to various learning styles and individual needs of students.¹ Learning success can be measured from several different perspectives, depending on the goals and context. In general, the success of learning can be described as an achievement or expected achievement from the teaching and learning process.

The success of learning in the technological era now involves not only mastering academic materials but also skills and a deep understanding of the dynamics of the technological age. By taking technology into account these factors, education can prepare individuals for success in this increasingly complex and connected environment.²

The use of information technology in schools can increase interactivity, accessibility, and learning effectiveness.

¹ Achmad Dahlan Muchtar, Aisyah Suryani, 2019, Character Education According to the Ministry of Education and Culture (Thought Study of the Ministry of Education and Culture) Edumaspul: Journal of Education – Vol 3 No. 2 (2019) 50-57 DOI: <https://doi.org/10.33487/edumaspul.v3i2.142>

² Firman, Novita Wulandari, 2020, Acep Irawan Designing a Web-Based Lecturer Teaching Journal Information System at the Faculty of Teacher Training and Education, University of Education Muhammadiyah Sorong, PETITION Journal, Vol. 1, No. 1 ISSN: - e-ISSN: - 33

Teachers as the main facilitators in the classroom have a crucial role in implementing information technology to achieve better learning goals. The digital era has brought a revolution in education. Access to online educational resources, e-learning platforms, and interactive learning tools has transformed the way we learn and teach.³

Information Technology and Communication Technology has various benefits in education, including: (1) Information Accessibility: technology allows easy and fast access to information through the internet. Students and teachers can access learning resources, references, and learning materials from around the world. (2) Distance Learning: technology allows for distance learning or online, which allows students to follow lessons without having to be in a physical classroom. This is especially beneficial in situations such as pandemics or for students living in remote areas. (3) Interactive and Interesting: Various technology applications and platforms can make learning more interactive and engaging. For example, with simulations, learning videos, and educational games that can increase student engagement. (4) Collaboration: technology facilitates collaboration between students, teachers, and educational institutions around the world. Students can work together on joint projects or communicate with experts and industry players to gain deeper insights. (5) Administrative Management: School management information systems (School SIM) and other applications assist in the management of educational administration, such as student data management, attendance, and academic evaluation. (6)

³ Islam, S., Baharun, H., Muali, C., Ghufro, M. I., Bali, M. M. E. I., Wijaya, M., & Marzuki, I. (2018). To Boost Students' Motivation and Achievement through Blended Learning. *Journal of Physics: Conference Series*, 1114(1), 1–11. <https://doi.org/10.1088/1742-6596/1114/1/012046>

Improved Teaching Quality: Teachers can use technology to design more engaging curricula, personalize learning according to students' individual needs, and provide more timely feedback. (7) Material Storage and Sharing: technology allows for the digital storage of learning materials and easy sharing between teachers and students. This makes it easier to re-access and collaborate between them. (8) Technology Skills Development: The use of technology in education helps students develop technology skills that are essential for their future, such as digital literacy, technology problem-solving, and understanding of digital technology.⁴

Based on observations at Madrasah Ibtidaiyah Negeri 7 Ponorogo, which has made changes since 2020 in its learning process, namely using information technology starting from grade 4, grade 5 and grade 6. The use of information technology can be in the form of laptops, iphones, ipads, androids and tablets that must be owned by every individual who will be used during learning.

The application of information technology at Madrasah Ibtidaiyah Negeri 7 Ponorogo is carried out during the learning process, whether it is routine activities every day or when UTS and UAS. This can make students more independent and more active in learning activities as well as teachers as facilitators and mediators. That way, the role of teachers and the application of information technology can improve the quality of learning. Based on this description, the researcher is interested in conducting research with the aim of finding out how teachers and the application of technology can improve the quality of learning at Madrasah Ibtidaiyah Negeri 7 Ponorogo.

⁴ Training,T.,Jl, I.P.,Km,R.N.,& Padangsidimpuan,S. (2020). Development Of Islamic Education With Implications Of Educational Technology. Nasruddin Hasibuan. 189–206

Method

This study uses a qualitative approach with a focus on a case study of several teachers at Madrasah Ibtidaiyah Negeri 7 Ponorogo. This research uses descriptive analysis, namely describing facts or data obtained in the field. The data collection methods carried out are: first, the documentation method, which is a data collection method related to matters or variables in the research through photos and archives of school activities related to the information technology learning process.

Second, the observation method, namely the researcher directly observes the information technology learning process. Third, the interview method, which is conducting an interview or question and answer with related parties. In addition, direct observation in the classroom and analysis of documents such as lesson plans are also carried out to gain a deep understanding of the teacher's efforts in improving the quality of learning. After all the data is collected, the next step in data analysis is to process the data using descriptive analysis which is then drawn conclusions.

Result and Discussion

The Role of Teachers in Learning

Teachers play a central role in the learning process in schools. They are not only teachers, but also mentors, facilitators, and inspirations for students. As authoritative figures, teachers have a great responsibility to create a learning environment that facilitates the intellectual, social, and emotional development of their students.⁵

⁵ Achmad Dahlan Muchtar, Aisyah Suryani, 2019, Character Education According to the Ministry of Education and Culture (Thought Study of the Ministry of Education and Culture) Edumaspul: Journal of Education – Vol 3 No. 2 (2019) 50-57 DOI: <https://doi.org/10.33487/edumaspul.v3i2.142>

First of all, teachers have the task of mastering the subject matter being taught. They must have a deep and actual understanding of the curriculum they teach in order to convey information clearly and accurately to students. This ability includes not only knowledge of the subject itself, but also an understanding of effective and relevant teaching methods.

Apart from being a source of knowledge, teachers also play a role as learning facilitators. They must be able to create a classroom atmosphere that encourages open discussion, problem-solving, and critical thinking. By implementing various teaching strategies such as group discussions, collaborative projects, or practical experiments, teachers can help students internalize and apply the concepts learned into real life.

Not only that, a teacher must also be able to motivate and inspire students. They are exemplary examples that guide students in developing moral values, ethics, and personal character. By building a good emotional connection with students, teachers can stimulate their interest in learning and help overcome learning challenges.

Overall, the role of a teacher in education is very important. They are not only teachers but also leaders and mentors. With their commitment to meaningful and immersive learning, teachers shape future generations who are ready to face global challenges and develop their full potential.

Student Learning Process and Transformation

Learning is a complex and continuous process in which students assimilate the knowledge, skills, and values necessary to face the challenges of the modern world. This process not only takes place in the classroom, but also involves experiences

outside of school, social interaction, and practical application in everyday life.⁶

Effective learning begins with stimulating students' interest and engagement. Teachers who are able to present material in an interesting and relevant way are able to arouse students' curiosity and motivation to learn more. In this process, students not only receive information, but are also active in building their own understanding through reflection, discussion, and exploration.⁷

Furthermore, it is important for students to experience hands-on experience and engage in practical activities. Project-based, simulation, or experiment-based learning helps students connect theory with real-world applications. Thus, they not only remember the facts, but also acquire critical skills such as problem-solving, communication, and teamwork.

During the learning process, evaluation plays an important role in measuring students' understanding and adjusting teaching approaches. Teachers must be able to provide constructive and growth-oriented feedback, so that students can continue to improve their academic performance.

However, learning is not just about the acquisition of academic knowledge. It also involves developing students' personalities and social skills. Through interaction with teachers and classmates, students learn to collaborate, respect differences, and manage conflict constructively.

⁶ Harsiwi, Udi Budi, and Liss Dyah Dewi Arini, 'The Effect of Learning Using Interactive Learning Media on Student Learning Outcomes in Elementary Schools', *Basicedu Journal*, 4.4 (2020), 1104–13 <https://doi.org/10.31004/basicedu.v4i4.505>

⁷ Annisa Mayasari, Yuli Supriani, Opan Arifudin, 2021, Implementation of Information Technology-Based Academic Management Information System in Improving the Quality of Learning Services in Vocational Schools, *JIIIP-Scientific Journal of Educational Sciences* (2614-8854) Volume 4, Number 5, September 2021 (340-345) 340

Overall, effective learning prepares students to become skilled and well-rounded global citizens. By incorporating innovative and proven approaches in teaching, teachers play a key role in inspiring, guiding, and supporting students in developing their full potential.

Learning media is anything that is used as a tool or means to convey information, concepts, or learning materials to students. This media plays an important role in the learning process to help improve understanding, facilitate interaction, and make learning more interesting and effective. In explaining clearly about learning media, here are some points that can be described:

Learning Media

Learning media includes a variety of forms, from simple ones such as images and text, to complex ones such as 3D animation and interactive simulations. The use of this media aims to facilitate the learning process by visualizing abstract concepts or illustrating real situations that are difficult to understand with just words. Learning Media: (1) Visual: Includes pictures, diagrams, graphs, and maps. Visual media helps visualize concepts, explain the relationships between ideas, and make it easier to understand. (2) Audio: Includes voice recordings, songs, and narratives. Audio media is useful for clarifying information through hearing, providing examples of correct pronunciation, or adding a dramatic effect to learning. (3) Audiovisual: A combination of image and sound, such as learning videos, multimedia presentations, and animations. This media offers a more immersive learning experience by presenting information through various senses. (4) Digital and Interactive: Includes learning software, applications, and computer simulations. This media utilizes technology to present material interactively, allowing students

to actively participate in the learning process. (5) Realia: Real objects or physical objects used in learning, such as models, cultural artifacts, or practical tools. This media helps make learning more concrete and relevant to daily life.⁸

Benefits of Learning Media: (1) Increase Engagement: Engaging media such as videos or simulations can increase student motivation and engagement in learning, as they provide a fun and challenging learning experience. (2) Facilitates Comprehension: Images, graphs, and animations help visualize abstract concepts, facilitate comprehension, and clarify the relationships between complex ideas. (3) Accommodating Learning Styles: Different types of media allow different learning approaches, so that they can accommodate students' varied learning styles (visual, auditorial, kinesthetic). (4) Encourages Creativity: Interactive media provides opportunities for experimentation and discovery, encouraging learners to develop their creativity in solving problems and facing challenges. (4) Expanding Access and Flexibility: Digital media allows access to learning from anywhere and anytime, facilitating distance learning and lifelong learning.

Application of Information Technology in the Learning Process

The teacher's duty as a facilitator is obliged to be able to use the right way or technique to convey messages to students. With this framework, teachers can hope that the purpose of the message they want to convey to students can be achieved to the

⁸ Achmad Dahlan Muchtar, Aisyah Suryani, 2019, Character Education According to the Ministry of Education and Culture (Thought Study of the Ministry of Education and Culture) Edumaspul: Journal of Education – Vol 3 No. 2 (2019) 50-57 DOI: <https://doi.org/10.33487/edumaspul.v3i2.142>

maximum. In fact, the success of the teacher's interaction with students is greatly influenced and determined by the method.⁹

In the teaching and learning process, the main thing that must be considered by a teacher in the use of media is related to the analysis of the benefits of using the media. Explaining several reasons that must be considered in the use of learning media related to the analysis of the benefits that will be obtained, namely *first*, learning will attract more attention of students so that it can foster learning motivation. *Second*, learning methods will be more varied, not merely verbal communication through the use of words by the teacher, so that students are not bored and teachers do not run out of energy, especially if the teacher has to teach for every hour of lessons. *Third*, the meaning of learning materials will be clearer so that they can be better understood by students and allow students to master the learning objectives better. Fourth, students do more learning activities, because they not only listen to the teacher's description, but other activities such as observing, doing, demonstrating and others.¹⁰

Information technology can be used as another alternative learning medium besides conventional learning media such as textbooks. This media can be used as a support for the learning process so that learning is more effective and efficient so as to facilitate the learning and teaching process in the classroom. Technologies used to process data, including processing,

⁹ Erfy Melany Lalupanda, 2019, Implementation Of Academic Supervision To Improve Teacher Quality, Journal of Educational Management Accountability Volume 7, No 1, April 2019 (62-72) Online: <http://journal.uny.ac.id/index.php/jamp> Journal of Educational Management Accountability ISSN 2337-7895 (print) ISSN 2461-0550 (online)

¹⁰ Harsiwi, Udi Budi, and Liss Dyah Dewi Arini, 'The Effect of Learning Using Interactive Learning Media on Student Learning Outcomes in Elementary Schools', *Basicedu Journal*, 4.4 (2020), 1104–13 <https://doi.org/10.31004/basicedu.v4i4.505>

obtaining, compiling, storing, and manipulating data in various ways to produce quality information, i.e. relevant, accurate and timely information, which is used for personal, educational, business, and government purposes and is strategic information for decision-making.

This technology uses a set of computers to process data, a network system to connect one computer to another computer according to needs. Information technology for the world of education should mean the availability of channels or means that can be used to broadcast educational programs. The use of information technology in the field of education has become a norm, namely to help make it easier for participants to get current information about the subject matter received.

Teaching the use of information technology from elementary school can develop students' knowledge of technology so that it can be used as a provision to continue to a higher level. One of the institutions that follows the government curriculum is Madrasah Ibtidaiyah Negeri 7 Ponorogo which applies to grades 4, 5 and 6 only. In its application, the use of information technology is not only computer-based, but every student is required to have these information technology tools such as laptops, iphones, ipads, tablets and the like to support the successful use of information technology in the classroom.¹¹

In addition, the application of information technology is not internet-based or online-based, but offline-based, namely teachers provide soft files related to learning materials to students, then learn them themselves. Only then did there take a discussion between students about their learning outcomes.

¹¹ Setiadi, A., Yuliatmojo, P., & Nurhidayat, D. (2018). Android Application Development for Pneumatic Learning. *Journal of Vocational Education in Electronics Engineering*, I (1), 1–5.

This has occurred a paradigm shift from conventional education to modern education.¹²

In conventional education, it is known as teacher-centered where in the learning process it uses classical methods, namely lecture methods that focus more on teachers who explain the material and students are silent, this can make students bored with learning. From teacher-centered to student-centered where students are active in learning, teachers are only facilitators.

This means that the application of student-centered in learning will train students to improve students' skills and creativity. So, at first, information technology was only data processing. However, along with the development of technology, information technology is not only limited to data processing, but can be used in the world of education as a learning medium to improve the quality of education.

Quality of Learning

Learning outcomes and student quality are greatly influenced by success in the learning process. Effective and efficient learning is also influenced by the competence of teachers during learning activities. With effective and efficient learning, learning objectives can run well. One of the ways to improve quality is to improve the quality of learning. Improving the quality of learning can be achieved if teachers have carried out innovative learning by placing students as the center of learning and they can learn meaningfully. In terms of learning, it must be supported as well and complete as possible

¹² Rudi Haryadi M. Pfi., Idah Rosiana, 2020, The Effect of Online Learning System on Student Motivation and Quality of Learning, Journal of the Department of Counseling Guidance Undiksha Volume 11 Number 2, 2020, pp 136-141 ISSN: Print 2598-3199 – Online 2598-3210 Undiksha DOI:<http://dx.doi.org/10.23887/jibk.v10i2>

so that the learning process is smooth, the things that can support the learning process include: 1. knowledge, 2. ability to make planning learning 3. ability to use media or lesson aids 4. ability to use methods 5. ability to manage grade 6. ability to evaluate.¹³

Paying attention to the function of the teacher, which plays a very large role in the learning process, the right methods and tactics are needed in teaching so that students can understand learning optimally. Teachers as education practitioners need to innovate and be creative in the process of implementing learning so that learning objectives are successful. In addition, media is also very necessary as a channel of messages from teachers to students so that learning is more effective.¹⁴

Based on the discussion above, it has been mentioned that the efforts made by teachers in the learning process with the application of information technology at Madrasah Ibtidaiyah Negeri 7 Ponorogo are to make their students active in interacting with learning resources or learning media. With the application of information technology in learning, the teaching and learning process is focused on students.

Student-centered learning has the benefit of developing students' process skills such as observing, classifying,

¹³ Annisa Mayasari, Yuli Supriani, Opan Arifudin, 2021, Implementation of Information Technology-Based Academic Management Information System in Improving the Quality of Learning Services in Vocational Schools, JIIP-Scientific Journal of Educational Sciences (2614-8854) Volume 4, Number 5, September 2021 (340-345) 340

¹⁴ Sari Mellina Tobing, 2019, The Use Of The Internet As An Information Medium In Teaching And Learning Activities In Pancasila Education Courses, Journal Of Pekan. Vol. 4 No. 1 April 2019 Edition Sari Mellina. Q, Utilization..... 64 ISSN: 2540 – 8038

measuring, practicing and inferring.¹⁵ Therefore, the use of information technology in the learning process makes students more independent, active and creative during teaching and learning activities. They will have discussions and questions and answers either with teachers or with friends. Although the use of information technology is student-centered, teachers also have an important role as facilitators and observers in learning.

Based on the results of the research conducted, the efforts made by teachers in this learning are: 1) encouraging students to interact with learning resources or learning media; 2) encourage students to have discussions with their friends; 3) ask questions from teachers to students or students to their friends; 4) monitoring students' perceptions and thought processes; 5) monitor and observe learning outcomes.

Conclusion

Based on the research that has been conducted, it can be concluded that the application of information technology in the learning process at Madrasah Ibtidaiyah Negeri 7 Ponorogo can improve the quality of students. Students are more active and independent towards learning materials. This will not make students stutter technology in the face of increasingly sophisticated technological competition. With the application of information technology in the learning process, teaching and learning activities are more student-centered. Teachers are only facilitators and observers of learning activities.

However, the role of teachers is not only as a facilitator and observer in the classroom. Learning with the application of information technology will not succeed if there are no steps or efforts made by teachers to support during the activity. Thus,

¹⁵ Syafruddin. (2019). Development of Android-Based Digital Books to Stimulate Students' Psychomotor. *Cyberspace: Journal of Information Technology Education*, 3 (1), 8 –18. <https://doi.org/10.22373/cj.v3i1.4212>

teachers' efforts are indispensable in improving the quality of students to support success in the classroom.

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