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Utilization of Interactive Multimedia in Science Learning at Junior High School MTs N 7

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ABSTRACT

Science learning at junior high school level plays an important role in providing students with a good understanding of complex biological concepts. However, conventional learning approaches limited to the use of textbooks and lectures are often less interesting for students and less effective in facilitating their learning. This research aims to explain how the utilization of interactive multimedia can improve science learning at MTs N 7 Sleman. In addition, this study also discusses the role of interactive multimedia in facilitating collaborative learning in the classroom along with the tools applied. The type of research used in this study is qualitative with a descriptive approach. The technique used in data collection uses semi-structured interview techniques conducted virtually using the Google meet platform. By applying interactive multimedia in Biology learning at MTs N 7 Sleman, it is expected that students can be more involved, enthusiastic, and gain a better understanding of Biology concepts. This will help improve the quality of education at MTs N 7 Sleman and prepare students to face the challenges of science and technology in the future.

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Introduction

Education is a very important basis or foundation in the progress of a country, because whether a country is advanced or not can be seen through the education system used by the country. Quality education will make human resources also have an increase. Therefore, the education system is very influential in the world of education. The education system is a relationship or interaction between educational components, such as the interaction that occurs between teachers as educators and students (Nastiti & Abdu, 2020). In addition to interaction, there are also methods, models, and media used so that interaction in learning can run interactively and meaningfully for students. Interactive learning can be created because of the role of educators who can make the learning motivate students and make students motivated by interactive learning. So that it can be known that educators are important facilitators for students. Technology that continues to develop rapidly makes teachers' creativity indispensable in making interactive learning. One of them is the use of interactive multimedia in the learning process. Interactive multimedia is a collaboration of various media such as text, graphics, images, sound, animation, video, interaction, and many more. These various media have been processed into a file in digital form, so that it is easy to publish in general. (Manurung, 2021).

When viewed in terms of the implementation of learning activities, teachers' ability to provide learning facilities is still lacking. Learning activities carried out by teachers usually do not make use of various technologies, such as the use

of interactive multimedia because the learning is fixed on conventional models. Therefore, teachers need to explore various technology-based learning models and methods so that students become more interested in the learning process. Judging from the aspect of technological developments that are increasingly aggressively fighting the world of education, technological advances are increasingly rapid, especially in the field of information technology. Many tools affect the advancement of information and communication technology, one of which is the computer. A computer is one of the electronic machines that receives and processes data to produce information. Computer devices are one of the contemporary learning tools with many variations, one of which is as an interactive learning medium during the learning process (Dewi & Kristiantari, 2022). Learning media is something (it can be a tool, it can be a material and a situation) that is used as a communication medium during learning activities. Learning media can help the teaching process and improve the quality of learning for students. One of the uses of learning media is interactive multimedia that can be used in the learning process so that it can generate a sense of motivation, stimulate learning activities, and even have a psychological impact on students. Students will more easily receive information if the learning object is facilitated through integrated graphics, audio and text technology (technically called multimedia). This has a different impact when teachers do not provide facilities in the form of interactive multimedia. Students will tend to get bored faster and become more passive in the learning process (Istiqlal, 2018).

Interactive Multimedia is very useful in science learning. Based on the results of interviews with science teachers at MTs N 7 Sleman, interactive multimedia is needed in science learning to make students more active in learning. In addition, the limited environment makes interactive multimedia very useful in delivering material. An example of science learning that requires interactive multimedia is material where the learning object cannot be seen with the naked eye like bacteria.

There are two categories of multimedia, namely linear multimedia and interactive multimedia (Manurung, 2021). Interactive multimedia in learning proposed by the author is one of the solutions so that the learning carried out can make students more motivated and not feel bored. Interactive multimedia that is used as a solution in the learning process can be useful in presenting the material to be taught, overcoming space and time limitations, and can make students more active in the learning process. Examples of interactive multimedia that can be used in the learning process are game applications, websites, and powerpoints (Musfiroh & Nugraheni, 2023). In this paper, it is explained about interactive media that can facilitate the learning process. In addition, with this paper, the author hopes to open up and add reader insight related to the benefits of interactive multimedia in the science learning process. This study focuses on the discussion of the use of interactive multimedia in the science learning process with the use of powerpoints, learning games, and many more. Therefore, this research is important to be carried out with the aim of providing information to readers about the importance

of using interactive multimedia in science learning.

Method

This research uses a qualitative type of research with a descriptive approach. This approach aims to provide an overview or explanation of information related to interactive multimedia. Science teachers at MTs N 7 Sleman are the subjects used in this study. The technique used in data collection is interviews. The interviews were conducted orally in a face-to-face virtual meeting. Interviews can be conducted in a structured, unstructured, and semi-structured manner. In this study, data collection techniques were used through interviews with semi-structures. The researchers conducted online interviews using the Google meet application. The focus of the research is the use of interactive multimedia in science learning at MTs N 7 Sleman. Based on this topic, the collection instrument was designed with the help of the lecturer who taught the course. The questions asked by the researcher are related to the advantages of using interactive multimedia in science learning, the reasons for using interactive multimedia as an effective tool in science learning, the right time to use interactive multimedia, and how to implement interactive multimedia in science learning. The existence of the researcher in this study as a planner and implementer in data collection, analysis, and communication of research results. Science teachers at MTs N 7 Sleman were the subjects of the research which was carried out on July 12, 2023.

Results and Discussion

Interactive Multimedia
Interactive multimedia is a form of media that allows users to actively participate, interact with content and influence the flow of experiences. Some examples of interactive media are mobile apps,

interactive websites, video games, virtual reality, augmented reality, and more. The phenomenon of interactive multimedia refers to the growth and influence of media that allows users to actively participate in the process of communicating and interacting with content (Wahyuni, Rahmadhani, & Mandasari, 2020). This phenomenon has a significant impact on various aspects of life, including education, entertainment, social life, and business. Learning with this interactive multimedia device has several advantages, namely 1.) This multimedia device can be made in any form, such as online learning where the material is packaged in the form of a power point and can be uploaded via youtube, 2.) Multimedia can present short materials so that it makes it easier for students to understand the material and change students' mindset to be more creative, 3.) Time used is more effective, efficient and saves costs and energy in the teaching and learning process, 4.) The existence of multimedia will make students more happy, interactive and active in participating in learning. Multimedia that is commonly used at MTsN 7 Sleman, is by using learning videos where teachers search for video references through Youtube and send the video link to students. In addition, teachers at MTsN 7 Sleman use the application in making questions, both Mid-Semester Assessment (PTS) and Final Semester Assessment (PAS) questions. Seeing the development of technology such as IT (Information and technology) currently requires teachers at MTsN 7 Sleman to be literate in technology and have applied it in biology subjects. Multimedia plays an important role in making it easier to learn biology such as getting to know parts of the body

organs in humans, breeding, where it cannot be displayed directly so that multimedia can help in learning.

Multimedia is an effective learning tool applied to biology subjects at MTsN 7 Sleman, this is due to several things, namely first, for classroom management where students like and pay attention if learning uses videos or pictures so that teachers are easier to direct. Second, teachers provide opportunities for students to discuss so that students are more creative in thinking. Third, by applying multimedia, it can increase student achievement, because students' interest in learning and curiosity are higher. This multimedia is implemented directly in biology learning such as material on the development system of breeding in plants in grade IX, the learning media used is a video of pollination, fertilization on seed plants so that students better understand the material.

Multimedia Utilization

The use of multimedia in learning can improve student learning outcomes. These learning outcomes can be seen when students participate in learning activities or during the learning process. The use of multimedia in junior high school students provides an overview of events or phenomena that occur in real life using the five senses. This study was used to analyze the use of multimedia in relation to the mastery of science material concepts in students at MTsN 7 Sleman. Students are trained to understand concepts, think critically, analyze and evaluate junior high school science material.

The use of interactive multimedia in science (Natural Sciences) learning in junior high school has become a popular approach to improve the quality of learning.

Here are some of the potential benefits and uses of interactive multimedia in science learning in junior high school:

Concept Visualization: Interactive multimedia can help students understand abstract science concepts by presenting interactive images, animations, or graphics (Kustiati, 2022). This allows students to visualize concepts more clearly and helps them connect theories to the real world.

Interactive Exploration: Interactive multimedia can provide students with opportunities for self-exploration by conducting virtual experiments or simulations. Students can click, move, or manipulate elements on the multimedia, allowing them to see the impact of changes in certain variables and strengthen their understanding of the concept.

Increased Engagement: The use of interactive multimedia in science learning can increase student engagement (Dwipayana, Redhana, & Juniartina, 2020). Engaging interactive features such as quizzes, games, or challenges can encourage active participation and student motivation in the learning process.

Access to Diverse Learning Resources: With interactive multimedia, students can access a variety of learning resources such as experimental videos, concept animations, or up-to-date information resources. It assists students in getting comprehensive and in-depth information about the topic being studied.

Collaborative Learning: Interactive multimedia can also be used to encourage collaborative learning among students. For example, by using a multimedia-based learning platform, students can work together in groups to solve problems, discuss, or share their understanding of science topics. The use of interactive multimedia in science learning in junior high school offers various benefits

and can increase student understanding, engagement, and motivation. It is important to select and design multimedia materials that are appropriate to the curriculum and learning objectives, and ensure that their use is carried out in an integrated manner with relevant learning strategies.

Junior High School Science Learning Natural Sciences (IPA) is a systematic problem-solving process to realize and construct knowledge about phenomena or events that occur. The step to obtain facts from IPA through a certain procedure or means is referred to as a process. Basically, science is a requirement for subjects, whether it is elementary, junior high or high school (Prismasari, Hartiwi, & Indrawati, 2019). Science material emphasizes more on understanding the material through effective and efficient learning. This is to achieve learning that is carried out with the student's situation.

Often students have difficulty in studying the learning delivered by teachers traditionally due to very limited and abstract sources of information. Science subjects have abstract learning principles so that they often cause conceptual errors in their delivery to students. Junior High School Science material is a material that is close to the real life of everyday students. Where this science learning has characteristics that include critical thinking, creativity, and increasing students to collaborate and communicate between their peers (Makhrus, 2018).

Conclusion

Based on the research conducted from interviews with MTsN 7 Sleman teachers, it was concluded that the use of interactive multimedia in science learning at MTsN 7 Sleman Junior High School that has been implemented is learning videos and

interactive power points. The benefits of the application of Multimedia at MTsN 7 Sleman can increase students to think critically, creatively, increase curiosity, increase achievement and students become more active in discussion. However, the multimedia needs to be improved and more adaptable to current technological developments for both students and teachers.

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