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Article

**The Use of Interactive Learning Media in Improving Critical Thinking
Among Students at Mts Al-Islam Joresan**

Attin Devi Inovia^{1*}, Delia Agustina², Jessica Fitriandini³, Oli Fia⁴,
Zahrotul Munawaroh⁵, Syaiful Arif⁶

^{1,2,3,4,6} UIN Kiai Ageng Muhammad Besari Ponorogo, Indonesia

⁵ MTs Al-Islam Joresan Ponorogo, Indonesia

* Corresponding Address: noviadeviaattin2003@gmail.com

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ABSTRACT

Students' critical thinking skills are still relatively low due to teacher-centered learning and the lack of interactive learning media. This condition causes students to be less active in observing, reasoning, and solving problems in science learning. The study aims to describe the utilization of interactive learning media to improve critical thinking skills among eighth-grade students at MTs Al-Islam Joresan in science subjects. The research employed a descriptive qualitative method with data collected through observation, interviews, and documentation. The results show that the use of interactive learning media such as instructional videos, visual media, and learning aids enhances students' active participation as well as their ability to analyze and draw conclusions based on scientific evidence. Therefore, the use of interactive learning media is effective in fostering critical thinking skills and supporting meaningful, student-centered science learning.

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Zahrotul Munawaroh, Syaiful Arif

INTRODUCTION

Education is a conscious and planned effort to develop human resource potential. Through education, humans can develop their ability to think, behave, and adapt to changes over time. One of the efforts to improve the quality of education is to improve the learning process so that it is more meaningful and in line with the needs of students. Teachers play a strategic role in this process because they are the main facilitators who determine the creation of an active and interactive learning atmosphere. Teachers are required to keep up with developments in science and technology and applying new concepts in learning. The use of interactive images in biology materials has been proven to strengthen students' understanding and reasoning skills in analyzing phenomena around them (Junika et al. 2024). However, in practice, many teachers are still unable to develop interactive and digital-based learning media. The media used is often still conventional, such as textbooks or lecture methods, so that students easily get bored and are less interested in following the learning process. The lack of

innovation among teachers has resulted in suboptimal learning outcomes and students' critical thinking skills not being properly honed. Therefore, it is very important for teachers to innovate in the creation and use of teaching media that are tailored to the characteristics of the students and the material being taught (Herlin & Elvira, 2023). The teaching media applied in the learning process at MTS Al Islam Joresan are images, videos, and simple teaching aids created with the creativity of the teachers.

Most teachers still use a lecture approach with teacher-centered learning patterns. This approach results in one-way interaction, where students become passive and do not have the opportunity to explore their own knowledge. As a result, students tend to be indifferent, easily bored, and lack focus during the learning process. Interactive learning media can be a solution to overcome this condition because it can increase student participation through activities such as watching, demonstrating, or interacting directly with the material. This media can also develop students' critical thinking skills, which are important for assessing the accuracy of information and making rational decisions. The Effect of Interactive Learning Media and Critical Thinking Skills on Junior High School Students' Learning Achievement (Ulya et al., 2024). Improvements in learning quality can be achieved through the application of various innovative learning methods and media. One proven effective solution is the use of interactive learning media that directly involves students in the learning process through digital technology. This type of media not only presents information passively, but also allows students to interact, explore, and actively participate during the learning process. It should be added that interactive learning media can take the form of computer applications, educational videos, digital simulations, or online platforms that encourage collaboration between students (Nunuk, 2023). Critical thinking skills have become a major focus in the development of 21st-century curricula. Critical thinking is an important skill that students must have in order to face global challenges and the complexities of modern life. One effective way to foster this skill is through the use of animated videos. Animated videos help bridge abstract concepts to make them more concrete, interesting, and easy to understand. Thus, this media not only increases interest in learning but also fosters logical, analytical, and reflective thinking skills in students (Hamidah, 2024). Interactive learning has great potential to foster critical thinking skills because it allows students to actively participate in the learning process. Through group discussions, case studies, simulations, and the use of interactive technology, students are encouraged to question assumptions, test hypotheses, and seek alternative solutions to a problem. In Indonesia, the emphasis the development of critical thinking skills in the curriculum has increased as an effort to prepare the younger generation to face complex global challenges. Therefore, the implementation of interactive learning has become very relevant in the context of modern education (Arauna et al. 2025).

Based on these various studies, it can be concluded that the use of interactive learning media plays an important role in improving students' critical thinking skills. This media enables a more meaningful, participatory, and enjoyable learning process. However, the main challenge faced is the low ability of teachers to design and implement interactive media effectively in the classroom. Therefore, research on the implementation of interactive learning to improve students' critical thinking, especially in science or biology subjects, is important to be studied further in order to make a real contribution to improving the quality of education in the current era.

LITERATURE REVIEW

The use of interactive learning media is one of the important innovations in modern education, especially in efforts to foster critical thinking skills in students. Critical thinking is seen as one of the main competencies of the 21st century that every individual must have in order to face the increasingly complex challenges of life. According to Facione (2015), critical

thinking includes the ability to analyze, evaluate, and reflect on information systematically in order to produce logical and rational decisions. In the context of learning, this ability does not appear instantly, but must be built through a challenging and meaningful learning process. Therefore, learning needs to be designed to encourage students to actively explore, question, and discover knowledge for themselves. One effective approach to achieving this goal is to utilize interactive learning media that allows students to interact directly with the material and gain a more concrete learning experience.

Interactive learning media is a learning tool that combines text, images, animations, audio, and video into a single, complementary whole that allows users to interact actively. According to the cognitive theory of multimedia proposed by Mayer (2009), learning is more effective when students process information through verbal and visual channels simultaneously. Thus, interactive media can help improve students' attention, understanding, and retention of information. In addition, the constructivist theory proposed by Piaget and Vygotsky explains that the learning process becomes more meaningful when students are actively involved in constructing their own knowledge through interaction with the environment and the technology used. In this case, interactive media serves as a bridge that connects theory with practice and encourages students to think critically about the concepts being studied.

Research conducted by Ardi Saputra, Retno Candra Murti, and Widyastuti Sri Hastuti (2025) in the *Prima Edukasia Journal* entitled *The Effect of Web-Based Interactive Learning Media on Critical Thinking Skills of Elementary School Students* shows that the use of interactive web-based media has a significant effect on improving the critical thinking skills of elementary school students. This quasi-experimental study compared the learning outcomes between the group that used interactive web-based media and the group that used conventional methods. The results showed that the experimental group had higher analytical and reasoning skills. This happened because interactive media provided opportunities for students to explore concepts, solve problems, and obtain immediate feedback during the process.

Another study by Ainun Moriska and Muhammad Hanif (2024) entitled *Interactive Learning Multimedia Articulate Storyline as an Alternative Media to Improve Elementary Students' Critical Thinking Skills*, published in the *Elementary School Scientific Journal*, shows similar results. This study developed interactive multimedia based on Articulate Storyline software used in sixth-grade elementary school mathematics learning. The results showed that students who used interactive media had better critical thinking skills than students who learned through lectures. Students became more active in analyzing information, reasoning cause-and-effect relationships, and concluding learning outcomes.

The use of interactive media has been proven to increase learning engagement and facilitate higher-level thinking activities. Meanwhile, Ahmad Abdullah, Ali Mustadi, and Wahyu Fitriani (2021) in their study entitled *PBL-Based Interactive Multimedia in Improving Critical Thinking Skills* published in the *Indonesian Journal of Education* found that interactive media developed with a Problem Based Learning (PBL) approach effectively improved students' critical thinking skills. Through R&D development design, the researchers produced interactive multimedia that allows students to actively participate in solving contextual problems. Trials showed a significant increase in students' analysis, evaluation, and reflection indicators after using the media. This study reinforces the view that interactive media designed based on an active learning approach can optimize students' critical thinking skills.

Based on these research results, it can be concluded that the use of interactive learning media contributes positively to the development of students' critical thinking skills at various levels of education. Interactive media not only functions as a visual aid but also as a means of fostering higher-order thinking skills. The use of appropriate media can increase learning engagement, encourage students to think reflectively, and build a deep conceptual understanding. Therefore, the integration of interactive media in learning is a strategic step to

create a generation of learners who are critical, creative, and adaptive to technological developments and the demands of the times.

METHOD

This study uses a descriptive qualitative approach that aims to describe in depth the process and results of utilizing interactive learning media in improving the critical thinking skills of students at MTs Al-Islam Joresan. This approach was chosen because it is in line with the research objectives, which focus on understanding the learning phenomenon. The research was conducted during the Internship II (Real Teaching) activity, from September 15 to October 24, 2025, with the application of learning activities using digestive system learning videos, digestive system images, and respiratory system teaching aids. Through this activity, the researcher sought to understand the students' responses and the extent to which these media were able to stimulate their critical thinking skills.

The data sources in this study were obtained through direct observation of the learning activities of students in classes VIII D, VIII E, VIII F, and VIII J at MTs Al-Islam Joresan during the learning process and supported by literature studies in the form of journals, books, and other scientific sources relevant to the topic of interactive learning media and critical thinking skills. Data collection techniques were carried out through observation, documentation, and literature study. Observation was used to obtain direct data on student involvement and response to the use of interactive learning media. Documentation included recording learning activity results, photos, and field notes during the observation process. Meanwhile, literature study was conducted to reinforce the observation results with relevant theories and previous research.

The data was analyzed in the form of narrative descriptions, then conclusions were drawn. The results of this study are expected to provide a valid and meaningful picture of the effectiveness of utilizing interactive learning media in improving students' critical thinking.

RESULT AND DISCUSSION

Research results based on observations of student learning activities and literature studies show that the use of interactive learning media can improve students' critical thinking skills at MTs Al-Islam Joresan. This improvement can be seen from more active student involvement, deeper understanding of concepts, and critical thinking skills such as analysis, interpretation, and evaluation. The following are specific results based on the type of learning media used:

1. Digestive System Interactive Video Learning Media

The use of interactive video media has proven to be effective in helping students understand abstract concepts in digestive system material, such as peristaltic mechanisms, enzyme secretion, and the process of nutrient absorption. The visualizations displayed through animated movements provide a more concrete and easy-to-understand learning experience. Figure 1 shows the interactive video learning media used in digestive system material. This media visualizes the digestive process dynamically to reinforce students' conceptual understanding. This video is visualized with interactive animations that explain the digestive process in stages, thereby strengthening students' conceptual understanding of the relationship between organs.



Figure 1. Digestive System Learning Video

The observation results show that students are more focused, actively ask questions, and are able to analyze the relationships between digestive organs. Students can explain the flow of the digestive process logically and draw conclusions based on the video they watched. This shows an increase in analytical and evaluation skills, two major components of critical thinking. In addition, interactive videos allow for two-way interactivity between students and teachers, where teachers can ask reflective questions during the video screening, encouraging students to think more deeply about the concepts being studied. These observation results are in line with the research by Hazmi & Helsa, 2025, which states that the use of interactive videos can improve students' critical thinking skills because it stimulates visual and reflective understanding.

2. Digestive System Image Media

The use of visual media in the form of diagrams and illustrations of the digestive system also has a positive impact on students' critical thinking skills. Simple yet clear visual representations help students identify the structure of digestive organs, understand the function of each organ, and explain the process flow in their own words. Figure 2 shows an example of visual media of the digestive system used in learning activities to help students understand the relationship between organs and the flow of the digestive process visually.

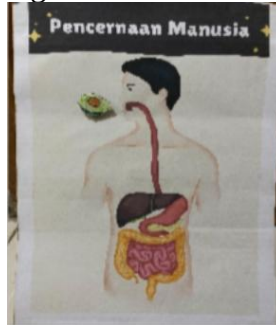


Figure 2. Visual media of the digestive system

Through discussion and presentation activities based on images, students demonstrate better interpretation and analysis skills. They can compare organ functions, describe the flow of food, and evaluate factors that affect the digestive process. These activities not only improve conceptual understanding, but also train students to communicate ideas and results scientific observation, which is an important indicator of critical thinking. Research by Alimah & Alimah, 2023 states that visual media can improve critical thinking skills because it helps students connect visual information with abstract concepts being studied.

3. Respiratory System Teaching Aids

The use of simple teaching aids, such as lung models made from balloons and plastic bottles, provides students with the opportunity to conduct direct experiments to understand the mechanisms of inspiration and expiration. By observing changes in air volume and balloon movement, students can relate the concept of air pressure to the breathing process. Figure 3 shows a simple respiratory system teaching aid that is the main medium in student experiments on the subject of respiratory mechanisms.



Figure 3. Digestive system teaching aid

The results of the observation show that students are more active kinesthetically, participating in making models, observing changes, and drawing inferences based on their observations. This exploration process fosters critical thinking skills in the form of inference, logical reasoning, and evaluation of experimental results. In addition to improving conceptual understanding, the use of teaching aids also builds scientific curiosity and enhances collaboration among students in group experiments. Research by Ngongo et al., 2025 supports these results, showing that the use of concrete teaching aids can increase learning activities, scientific curiosity, and critical thinking skills of students in science learning at the junior high school level.

Overall, the results of the study indicate that interactive learning media has a positive influence on developing students' critical thinking skills at MTs Al-Islam Joresan. This is in line with constructivism theory, which emphasizes that students construct their knowledge through active and meaningful learning experiences (Casfian et al. 2024). Thus, the application of interactive learning media at MTs Al-Islam Joresan not only helps students understand the subject matter cognitively but also significantly improves critical thinking skills through the development of scientific attitudes, curiosity, argumentation skills, and teamwork skills. Through active interaction with learning media, students are encouraged to analyze information, interpret data, and evaluate learning outcomes reflectively, which directly supports the research focus on improving critical thinking. Overall, the use of interactive media in this school plays an important role in shaping the profile of students who are critical, creative, and adaptive to developments in science and technology.

CONCLUSION

Based on the results of the study, the use of interactive learning media such as videos, images, and teaching aids has been proven effective in improving the critical thinking skills of students at MTs Al-Islam Joresan. These media not only increase student engagement but also deepen their understanding of conceptual analysis and develop the skills of interpretation and evaluation, which are key components of critical thinking. Therefore, teachers are expected to continue innovating in developing digital-based interactive learning media to create learning that is relevant to the needs of the 21st century and supports the formation of students who are critical, creative, and adaptive to technological developments.

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