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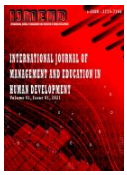

Visual Media as a Driver of Interest in Learning Natural Science In Elementary Schools

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ABSTRACT

Natural Science (IPA) education in elementary schools plays a crucial role in building students' scientific knowledge and critical thinking skills from an early age. However, students' lack of interest in science subjects poses a significant challenge in the learning process. One strategy proven effective in addressing this issue is the use of visual media. Visual media, such as illustrative images, instructional videos, animations, and infographics, can stimulate attention and enhance understanding of abstract concepts in science. Research shows that visual media not only makes learning more engaging but also bridges students' visual learning styles, which are often poorly facilitated by conventional methods. This article aims to review the role of visual media in encouraging elementary school students' interest in science subjects. The method used is a literature study by collecting and analyzing various research results from national and international journals over the past five years. The results of the study indicate that consistent use of visual media can increase students' intrinsic motivation, strengthen memory, and build active engagement in the science learning process. Thus, the integration of visual media in science learning in elementary schools is highly recommended as an innovative and effective pedagogical effort. In the future, the development of contextual visual media based on digital technology will be key to creating enjoyable and meaningful science learning.

Keywords: *Elementary School, Innovative Learning, Learning Interest, Science, Visual Media.*

I. INTRODUCTION

Science education is the main foundation in building scientific literacy in students starting from elementary school. The goal of science learning is not only to transfer factual knowledge, but also to develop scientific mindsets, observation skills, and critical and objective scientific attitudes. According to Minister of Education and Culture Regulation No. 24 of 2016, science subjects in elementary schools are directed at fostering students' curiosity about the natural world and developing problem-solving skills through a scientific approach. However, science learning in the classroom is often monotonous, teacher-centered, and lacks adequate exploration and learning media, which leads to low student interest in learning.

Interest in learning is a crucial aspect of the educational process because it serves as an internal driving force that determines students' success in understanding and mastering subject matter. Low interest in learning can lead to a lack of active student participation and decreased learning outcomes. Slameto (2017) emphasized that interest in learning is influenced by various factors, one of which is the methods and media used by teachers to deliver material. Therefore, a learning approach is needed that can enliven the classroom atmosphere and stimulate students' curiosity, one of which is through the use of engaging and contextual visual media.

Visual media in learning are aids in the form of images, graphics, videos, and other visual forms that can reinforce the message or subject matter being conveyed. According to Heinich et al. (2019), visual media has the power to clarify abstract concepts, strengthen memory, and facilitate the visual learning style commonly found in elementary school students. In the context of science, visual media plays a crucial role in helping students understand concepts such as the water cycle, photosynthesis, the structure of living organisms, and other natural phenomena that are difficult to visualize without visual support.

Research conducted by Sudrajat and Rahayu (2021) shows that the use of visual media in science learning can significantly increase students' motivation and interest in learning. Previously passive students become more active and enthusiastic in participating in lessons when teachers use interactive learning videos and animations. This proves that visualizing concepts in science can transform students' perspectives on material that was initially considered difficult and boring, making it more engaging and understandable. Visual media can also provide a more realistic and meaningful learning experience through simulations and visual representations that resemble the real world.

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Furthermore, visual media also acts as a bridge between the abstract world of science and the realities of students' everyday lives. Syaodih and Wuryandani (2020) revealed that a visual approach helps students connect new knowledge to their experiences, thereby improving retention and application of knowledge. In the context of science education, students' ability to connect scientific concepts to real-life situations is crucial so that the knowledge they learn is not merely theoretical but has practical, applicable value.

However, the use of visual media in science learning in elementary schools still faces several obstacles, including limited facilities, a lack of teacher training in developing appropriate media, and low technological literacy among educators. According to Astuti et al. (2022), although many teachers have recognized the benefits of visual media, their implementation in the classroom remains minimal due to limited resources and skills. Therefore, support from schools and the government is needed to provide facilities, training, and policies that support the integration of visual media into the learning process.

Considering the importance of visual media as a motivator for learning, a more in-depth study of its role in enhancing students' motivation and understanding of science in elementary schools is necessary. This study will provide theoretical and practical contributions to the development of innovative, engaging, and engaging learning strategies that meet the needs of 21st-century learners. With the right visual media, science learning can be more engaging, contextual, and able to stimulate curiosity and a sustained enthusiasm for learning in elementary school students.

II. LITERATURE REVIEW

The use of visual media in learning has become a major focus in developing effective teaching strategies in the 21st century. According to Rukmini and Hartanto (2023), visual media serves as a tool that can strengthen students' perception of abstract concepts, especially in subjects like science that require a high level of spatial and conceptual understanding. Media such as images, diagrams, videos, and animations not only help students understand the material but also provide cognitive stimulation that stimulates curiosity. This is in line with multimodal learning theory, which states that students learn better when information is conveyed through multiple sensory channels.

In the context of science learning, visual media plays a crucial role in bridging the gap between scientific concepts and students' real-life experiences. Research conducted by Safitri and Lestari (2022) showed that elementary school students who learned using visual media demonstrated a better understanding of material on the water cycle and ecosystems than students who only used textbooks. They emphasized that visual media can present simulations of natural phenomena that are impossible to observe directly, thus enabling virtual, experiential learning.

Student learning interest is a crucial aspect influenced by the learning methods and media used. According to Hasibuan and Utami (2021), interactive visual media can increase students' intrinsic motivation by providing a fun and non-monotonous learning experience. In their research, the use of animated videos in science lessons increased students' engagement in class discussions and increased their confidence when answering questions. This demonstrates that visual media not only supports the cognitive aspect but also contributes to the affective aspect of learning.

Teachers play a crucial role in selecting and designing visual media appropriate to the cognitive developmental level of elementary school students. Nurhayati and Pramono (2020) emphasized that the effectiveness of visual media depends heavily on teachers' ability to integrate it into contextual, student-centered learning activities. They also emphasized the need for teacher training in digital literacy to enable them to optimally access and utilize various visual platforms. In today's digital era, visual media extends beyond static images to include interactive videos, educational animations, and multimedia-based presentations.

Furthermore, the integration of visual media in science learning is also related to the constructivist approach, where students are guided to construct their own knowledge based on observations and experiences. Research by Yuliana and Setyawan (2024) concluded that visual media used in inquiry-based projects can improve students' critical thinking skills, as they are exposed to the process of observing, asking questions, collecting data, and drawing conclusions independently. Therefore, visual media not only encourages learning interest but also strengthens students' overall science competencies.

III. RESEARCH METHODS

This study uses a qualitative approach with a literature review method, which aims to examine and analyze various scientific sources related to the use of visual media as a driver of interest in learning Natural Sciences (IPA) in elementary schools. This literature review was chosen because it allows researchers to systematically identify trends, findings, and gaps in previous research. Data sources analyzed include national and international journal articles, proceedings, scientific books, and official educational policy documents relevant to the theme of science learning and visual media. All sources used were published within the last 10 years (2016–2024) to ensure the topicality and relevance of the information.

Data collection was conducted through a systematic search in several online databases such as Google Scholar, DOAJ (Directory of Open Access Journals), SINTA (Science and Technology Index), and Garuda (Digital Reference Index). Keywords used in the search process included “visual media,” “science learning interest,” “elementary school,” “innovative learning,” and “children’s science education.” Each article found was selected based on inclusion criteria, namely (1) explicitly discussing the relationship between visual media and students’ learning interest, (2) focusing on elementary education, and (3) containing traceable data or analysis results. Articles that did

not meet these criteria were eliminated from further analysis. To maintain the validity of the findings, source triangulation techniques were used by comparing information from various authors and different research approaches.

Data analysis was conducted using content analysis techniques. Each selected article was analyzed in depth to identify patterns, themes, and consistent and contradictory results related to the effectiveness of visual media in increasing interest in science learning. The main focus of the analysis lay in how visual media is used in learning practices, its impact on student motivation and participation, and the role of teachers in designing and implementing such media. The findings from each article were then categorized and synthesized to formulate theoretical conclusions that can form the basis for developing more innovative and contextual learning strategies in elementary schools. The results of this analysis are expected to contribute to a more comprehensive understanding of the potential of visual media in improving the quality of science learning.

IV. RESULTS AND DISCUSSION

4.1 The Role of Visual Media in Science Learning in Elementary Schools

Visual media plays a crucial role in enhancing the effectiveness of Natural Science (IPA) learning in elementary schools because it can simplify complex and abstract scientific concepts into more concrete and easily understood concepts for students. Science, a subject rich in natural phenomena, processes, and scientific structures, is often difficult to grasp through verbal or textual explanations alone. In this context, visual media such as illustrative images, diagrams, infographics, animations, and educational videos bridge the gap between scientific abstractions and students' real-life experiences. According to Rukmini and Hartanto (2023), visualization can strengthen students' memory because it involves richer sensory elements than purely textual media. Learning experiences involving visuals not only engage students but also help them form more accurate mental representations of the concepts being studied.

Besides facilitating conceptual understanding, visual media also significantly contributes to increasing students' interest and motivation in learning. Science learning involving visual media is more effective in creating a fun, interactive, and non-monotonous learning environment. This is crucial given the characteristics of elementary school students, who tend to be active, easily bored, and more responsive to visual stimuli. Hasibuan and Utami (2021) state that the use of animated videos and colorful images can stimulate students' curiosity and increase their participation in class discussions. In practice, when students are given the opportunity to observe visualizations of the water cycle through animated videos, they more easily understand the process and are encouraged to ask questions. Thus, visual media not only influences cognitive aspects but also strengthens students' affective aspects, such as curiosity and enthusiasm for learning.

Furthermore, the role of visual media in science learning also strengthens the inquiry-based and exploratory learning approach strongly recommended in the Independent Curriculum. Visual media can be used as an initial stimulus to foster scientific questions, spark group discussions, and encourage students to conduct observations and critical reasoning. Yuliana and Setyawan (2024) explain that when visual media is used strategically in inquiry activities, students are encouraged to think analytically, connect information, and draw conclusions independently. This demonstrates that visual media not only assist teachers in delivering material but also shape students' scientific thinking from an early age. With the support of visual media that are contextually designed and relevant to everyday life, science learning becomes more meaningful, applicable, and centered on students' learning experiences.

4.2 The Impact of Visual Media on Students' Learning Interest

Interest in learning is a key factor in determining the success of the educational process, particularly at the elementary school level, where it forms the foundation for children's cognitive and affective development. The use of visual media has been proven to significantly increase students' interest in learning because it offers a more engaging and easily understood approach. Dewi and Ramadhani (2022) revealed that visual media, such as educational videos, animations, and moving images, provide a fun learning experience and eliminate the monotony of conventional learning. These media enable students to process information through the visual channels they predominantly use at an early age, making learning more lively and meaningful. When children see visualizations of concepts they are learning, such as photosynthesis or the water cycle, they become more easily interested and focused on the material being presented.

In addition to providing visual appeal, visual media also impacts students' emotional engagement and motivation in the learning process. Prasetya and Hapsari (2021) showed that students who learn using interactive visual media exhibit greater enthusiasm and tend to be more active participants in class. They are not merely passive listeners but also take the initiative to ask questions, answer questions, and even express curiosity about the material. Visual media can evoke feelings of joy, challenge, and confidence because students feel helped in understanding material previously considered difficult. This creates a positive learning environment and supports the development of children's scientific attitudes. When an intrinsic interest in learning is formed, the learning process is no longer merely an obligation but becomes a necessity that students look forward to.

Furthermore, the impact of visual media on learning interest is not only temporary but can also influence students' long-term learning patterns. Wulandari and Setiawan (2023) found that regular learning with visual media tends to foster independent learning habits and a sense of responsibility in students for their own learning process. Visual media also plays a role in fostering an exploratory mindset, encouraging students to delve deeper and connect learned concepts to everyday phenomena. Thus, visual media not only enhances immediate learning interest but also fosters a spirit of continuous learning. Within the framework of the Independent Curriculum, the use of visual media

can be a concrete strategy to support student-centered and relevant learning, enabling students to continuously develop learning interests across various learning contexts.

4.3 Visual Media as a Means of Improving Conceptual Understanding in Learning Science

Understanding concepts in science requires cognitive abilities to connect theory to real-world phenomena. However, elementary school students often struggle to grasp abstract concepts, such as planetary movements, changes in the state of matter, or the food chain. This is where visual media comes in as a tool that can bridge the gap between abstraction and reality. According to Hidayati and Puspitasari (2022), visual media allows students to see visual representations of the concepts being taught, making them easier to understand logically and systematically. Thus, visual media not only enhances the presentation of learning but also plays an essential role in students' cognitive processes.

The ability of visual media to build conceptual understanding is also closely linked to cognitive learning theory, which emphasizes the importance of schemata or knowledge frameworks in understanding new information. When teachers use images, animations, or videos to explain scientific concepts, students can relate them to prior knowledge more concretely. For example, when studying the process of photosynthesis, an animation showing the movement of water and carbon dioxide within a plant provides a concrete picture that is difficult to achieve through verbal narration alone. According to Utari and Setiabudi (2021), interactive simulation-based visual media have a significant impact on improving students' conceptual understanding of the topic of energy changes.

Furthermore, visual media also provides space for strengthening differentiated learning. Students with visual learning styles gain immediate benefits, but even those with kinesthetic or auditory learning styles can gain additional benefits through combining visual media with other activities such as discussions or simple experiments. According to findings by Andriani and Kurniawan (2023), the use of visual media combined with guided inquiry methods can improve fifth-grade students' science learning outcomes comprehensively, across cognitive, affective, and psychomotor aspects. Therefore, visual media serves not only as supporting illustrations but also as a key component in the meaningful learning process.

4.4 Challenges and Strategies for Using Visual Media in Elementary Schools

Despite the significant benefits of visual media in learning, its implementation in elementary schools faces various technical and pedagogical challenges. One major obstacle is the limited technological infrastructure in some schools, particularly in rural areas or those with minimal budget support. According to Yusri and Azzahra (2023), many elementary school teachers lack access to technological devices such as projectors, computers, or stable internet connections, resulting in limited use of visual media. Furthermore, some teachers are unfamiliar with or untrained in designing and integrating visual media effectively into lesson plans and the learning process.

Another challenge lies in the quality and relevance of the visual media used. Not all visual media available online are appropriate for the cognitive developmental characteristics of elementary school students or the local cultural context. Therefore, teachers need to have good media literacy to select and/or modify appropriate visual materials. According to Fauziah and Rendra (2021), unadapted visual media can actually lead to confusion or misconceptions in students. A strategy to address this is to involve teachers in training on developing simple, locally-based media, such as creating infographics using simple applications or producing environmental-based learning videos.

As a long-term solution, collaboration between teachers, schools, and the digital education community is essential to encourage the optimization of visual media in learning. Developing visual media based on the curriculum and local context, such as natural phenomena around students' homes, will make the material more relevant and easier to understand. According to research by Saputra and Wening (2024), a local wisdom-based approach visualized through digital media significantly increases student understanding and active participation. Therefore, the use of visual media needs to be supported by an adaptive, creative, and collaborative education ecosystem to truly become a long-term solution for improving the quality of science education in elementary schools.

V. CONCLUSION

Visual media plays a significant role in enhancing the effectiveness of science learning in elementary schools. By presenting concrete and engaging visual representations, these media can bridge the gap between abstract concepts in science and students' real-life experiences. Media such as images, videos, and animations not only strengthen conceptual understanding but also stimulate students' memory, emotional engagement, and natural curiosity. This makes visual media an essential learning tool in creating...

The impact of using visual media in learning is not only limited to improving understanding, but also significantly contributes to the growth of sustainable learning interest. Although its implementation still faces several challenges, such as limited infrastructure and teacher competency, innovative strategies such as digital training, school collaboration, and the development of locally based media can be effective solutions. Therefore, visual media needs to be optimally integrated into the science learning process as part of a contextual, constructive learning approach that is oriented towards the learning needs of today's students.

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