

## **The Use of Visual Learning Materials to Improve Learning Outcomes in Natural and Social Sciences (IPAS) in Elementary Schools**

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**Abstract:** The teaching of Natural and Social Sciences (IPAS) under the Merdeka Curriculum requires the use of instructional media capable of enhancing conceptual understanding and actively engaging students. However, in practice, IPAS instruction in elementary schools still faces challenges due to students' limited understanding of abstract concepts. This study aims to analyze the effectiveness of using visual learning media in supporting IPAS learning and improving student learning outcomes at MIS Guppi Teppo. This study employs a qualitative approach using the Miles and Huberman data analysis model, which includes data reduction, data presentation, and drawing conclusions. Data collection techniques were conducted through observation, interviews, and documentation. The results of the study indicate that the use of visual learning media has a positive impact on students' learning processes and outcomes. Visual media help students understand abstract concepts in a more concrete and easily comprehensible way, thereby increasing student engagement, motivation, creativity, and learning outcomes in IPAS instruction. Therefore, visual learning media need to be continuously integrated into the implementation of the Merdeka Curriculum to support the creation of effective and meaningful learning in elementary schools.

**Keywords:** *Visual Media, Elementary School Science Education, Merdeka Curriculum*

### **A. INTRODUCTION**

Educational developments in the 21st century call for a learning process that is more innovative, contextual, and learner-centered. The implementation of the Merdeka Curriculum in elementary schools is one of the government's efforts to create learning that is flexible, meaningful, and capable of optimally developing students' competencies and character. In this curriculum, the subjects of Natural Sciences and Social Studies are integrated into a single Natural Sciences and Social Studies course with the aim of building students' critical thinking and problem-solving skills, as well as their understanding of social phenomena and the surrounding environment (Aulia et al., 2024). However, in practice, the Natural and

Social Sciences course still faces various challenges, particularly regarding low student engagement and difficulties in understanding the abstract concepts presented by teachers.

Learning in elementary schools is generally still dominated by lecture-based methods and limited use of media, causing students to tend to be passive during the learning process. This situation results in low student achievement, particularly in subjects that require concrete visualization. In fact, elementary school students are at the concrete operational stage, so they find it easier to understand material with the help of visual and contextual media (Hadi et al., 2024). Therefore, the use of visual learning media is one alternative that can help students understand material in a more tangible and engaging way.

Various research findings indicate that visual learning media have a positive impact on improving student learning outcomes. A study conducted by Khairiyah et al. showed that the use of Canva-based animated videos in Natural and Social Sciences instruction significantly improved student learning outcomes compared to conventional teaching methods. Visual media help enhance students' attention, motivation, and conceptual understanding during the learning process (Sulistiyosari et al., 2022). Other research also explains that the use of audiovisual media in the implementation of the Merdeka Curriculum can create learning that is more interactive, engaging, and effective in improving students' understanding of the learning material (Haq et al., 2026). Additionally, the use of multimedia-based media has been proven to enhance students' learning activities and outcomes because students are more actively engaged in the learning process.

In elementary school science and social studies classes, visual media play a crucial role because they help students connect abstract concepts with real-world experiences. Research by Kusumawati, N., & Prastiwi, S. D. shows that contextual images are effective in helping students understand the material, particularly for students with learning difficulties (Haq., 2018). Other studies have also found that the use of instructional videos and audiovisual media can increase student participation, learning motivation, and learning outcomes in Science and Social Studies (Fitriya & Patriasurya Azhar, 2023). These findings indicate that visual media not only serve as learning aids but are also capable of creating more meaningful and enjoyable learning experiences.

Nevertheless, the use of visual learning media in the teaching of natural and social sciences in elementary schools remains suboptimal (Fauziah et al., 2023). Some teachers still face limitations in selecting and utilizing media that align with the characteristics of the subject matter and students' needs (Hamid, 2025). Furthermore, research on the use of visual media in the implementation of the Merdeka Curriculum in madrasah ibtidaiyah remains relatively limited, particularly in the context of Science and Social Studies instruction. Therefore, this study is important to provide insights into the use of visual learning media in improving student learning outcomes in Science and Social Studies.

In line with advancements in educational technology, the use of visual media in learning has also become increasingly diverse, ranging from images, posters, infographics, educational videos, animations, to digital-based interactive multimedia (Hasanah et al., 2024). The use of these media provides opportunities for teachers to create learning experiences that are more adaptable to the needs and characteristics of elementary school students. Research by Haq et al (2026) shows that visual-based learning can improve students' memory, critical thinking skills, and problem-solving skills because the information students receive becomes easier to understand and connect to real-life experiences. Additionally, visual media can help reduce student boredom during the learning process, making the learning environment more active and enjoyable.

In the implementation of the Merdeka Curriculum at MIS Guppi Teppo, teachers are expected to be able to deliver differentiated instruction that is centered on students' learning experiences. Therefore, the use of visual learning media is highly relevant as it supports the creation of contextual, interactive, and student-centered learning. Visual media can also help teachers convey Natural and Social Sciences material in a more systematic and easily understandable way, especially regarding topics related to natural phenomena, the social environment, and students' daily lives. With the appropriate use of visual media, students not only gain theoretical knowledge but also develop a deeper understanding through concrete learning experiences.

Based on the above discussion, this study aims to analyze the use of visual learning media in improving learning outcomes in natural and social sciences at the elementary school level. This study is expected to provide theoretical and practical contributions to elementary school teachers in developing more innovative and interactive teaching methods that align with the characteristics of the Merdeka Curriculum.

## **B. METHODS**

This study employs a qualitative descriptive approach. This approach was chosen because the purpose of the study is to describe and gain an in-depth understanding of the information obtained from interviews with teachers, rather than to measure data numerically (Rosyidah, 2021). The data collected consisted of teachers' explanations, opinions, and experiences regarding the actual conditions occurring at the school, in accordance with the perspectives of Miles and Huberman. Data collection was conducted through face-to-face interviews with three IPAS teachers of grades IV, V, and VI at MIS Guppi Teppo. The data collection process took place over a one-month period, from January 5 to February 2, 2026.

The interviews conducted were semi-structured interviews with IPAS subject teachers, aimed at gathering more in-depth information, in which the interviewees were asked to share their opinions and ideas (Pahleviannur et al., 2022). After collecting data through observation, interviews, and documentation regarding the variety of IPAS learning media in the era of the Merdeka Curriculum, the next stage of the research was to analyze the data.

In this study, data processing employed an analytical model developed by Miles and Huberman known as the interactive data analysis method, which consists of several stages. The first stage is data reduction; this process begins with the collection of information from various sources. This data is then classified and analyzed to separate relevant information in accordance with the research objectives. Data reduction aims to prepare the data for further analysis and to ensure the accuracy and reliability of the research results. Next is data presentation; the reduced data is then presented in the form of a descriptive narrative that facilitates the visualization of the findings obtained. Finally, the last step in data analysis is drawing conclusions based on the findings obtained during the research (Anisyah., 2022).

## **C. RESULTS AND DISCUSSION**

Based on interviews with three IPAS teachers at MIS Guppi Teppo, the use of visual media in IPAS lessons makes it easier for teachers to help students better understand the material, particularly for third-grade

students, for whom it remains quite difficult to grasp the concepts through verbal explanations alone without accompanying visual aids.

The interviews also revealed that all teachers shared a relatively similar view regarding the importance of visual learning media in teaching Natural and Social Sciences in elementary school. These findings indicate that visual media not only serve as learning aids but also function as tools capable of enhancing the overall quality of the students’ learning process.

**Table 1. Results of Interviews with Classroom Teachers**

Informant	Key Findings	Impact on Learning
Muslihah (4th-Grade Teacher)	Visual aids help students understand the material in a concrete way through pictures and illustrations.	Students are more focused, find it easier to understand the material, and are more engaged during class.
Zudiah (5th-Grade Teacher)	The use of visual aids increases students' enthusiasm and engagement in learning.	Students are more active in asking questions, responding to lessons, and don't get bored easily.
Zulfianah (6th-Grade Teacher)	Visual media contribute to improving student learning outcomes through practice and assessment.	Students' test scores and understanding improved compared to the lecture method.

Based on interviews conducted with science and social studies teachers at MIS Guppi Teppo, it was found that the use of visual learning media has a positive impact on the learning process and student learning outcomes. Teachers stated that visual media helps students understand the learning material more concretely, especially for lower-grade students who still have difficulty understanding abstract verbal explanations.

Ms. Muslihah, a fourth-grade teacher, said, “Visual media really helps students understand IPAS material because children learn more easily when they see pictures directly rather than just listening to the teacher’s explanation. When I use pictures, students seem more focused and grasp the material being presented more quickly.”

This statement indicates that the use of visual media can help teachers convey learning materials more effectively, in line with the characteristics of elementary school students who are still in the concrete

operational stage. Teachers stated that visual media help students understand learning materials more concretely, particularly for lower-grade students who still struggle to grasp abstract verbal explanations. The use of pictures, illustrations, and simple visual media makes it easier for students to understand learning concepts because they can directly see the form or examples of the material being studied. This finding is also consistent with Hasibuan's (2024) research, which explains that visual media plays a crucial role in supporting the learning of Natural and Social Sciences in elementary school.

The research findings also indicate that the use of visual aids can increase student engagement and enthusiasm during the learning process. The teacher explained that students became more active in asking questions, paying attention to explanations, and responding more readily to the material presented. Ms. Muslihah, a fourth-grade teacher, stated: "When using pictures or visual aids, students are more enthusiastic about participating in the lesson. They ask questions more actively and respond quickly to the material. This is different from when we only use the lecture method; some students get bored easily and lose focus."

This statement indicates that visual media can create a more engaging and interactive learning environment, thereby increasing student engagement in the learning process. Teachers explain that students become more active in asking questions, paying attention to explanations, and responding to the material presented. This is evident when teachers use images that are appealing and relevant to students' daily lives. In science and social studies lessons, visual media help students understand material regarding the environment, cultural diversity, social activities, and natural phenomena in a more tangible way. This aligns with the characteristics of elementary school students, who are in the concrete operational stage and therefore require learning media capable of connecting abstract concepts with students' real-world experiences (Haq et al., 2023).

In the teaching process, the teacher implements several learning stages, ranging from introductory activities, apperception, core activities, and exercises, to follow-up activities. During the apperception stage, the teacher uses visual aids in the form of images to capture students' attention and connect the material to their prior learning experiences. Next, during the core activities, teachers utilize visual media to explain the learning material so that students can more easily understand the concepts being studied. After the lesson is complete, teachers provide exercises and assessments to determine students' level of understanding of the material

that has been taught. The use of visual media at every stage of the learning process has proven to help create a learning environment that is more active, enjoyable, and less monotonous.

Based on the interview results, teachers also noted that the use of visual aids has a positive impact on improving student learning outcomes. This is evident in students' improved ability to answer questions, complete assignments, and understand the learning material compared to when instruction is delivered solely through lectures. Teachers observed that students find it easier to retain material presented through images than through verbal explanations alone. Additionally, the use of visual aids helps students stay more focused during class, making the learning process more effective.

In terms of assessment, teachers use formative assessments such as observation of the learning process, quizzes, and written tests to measure students' level of understanding after the use of visual media. Based on the results of these evaluations, most students demonstrated improved understanding of the Natural and Social Sciences material. Ms. Zudiah, a fifth-grade teacher, said, "After using visual media, students found it easier to answer questions and understand the content of the material. Their test scores and assignment grades are also better compared to when learning relied solely on verbal explanations."

Teachers noted that students were able to explain the learning material more effectively after viewing the images or illustrations used during the learning process. This indicates that visual media not only helps improve student attention but also impacts conceptual understanding and overall learning outcomes. Based on the evaluation results, the majority of students demonstrated improved understanding of Natural and Social Sciences material. Teachers assessed that students were able to better restate the learning material after viewing the images or illustrations used during the learning process. This indicates that visual media not only helps improve student attention but also influences conceptual understanding and overall student learning outcomes.

This study also found differences in the use of visual media between the Merdeka Curriculum and the previous curriculum. In the Merdeka Curriculum, the use of visual media places greater emphasis on interactive, creative, and student-centered learning. Teachers are encouraged to use visual media such as interactive presentations, educational videos, animations, and multimedia to support project-based learning. Meanwhile,

in the previous curriculum, the use of visual media was still largely limited to printed images and conventional explanations. Thus, the Merdeka Curriculum provides teachers with greater freedom to develop creativity in the use of learning media.

Nevertheless, the research findings indicate that the implementation of visual learning media at MIS Guppi Teppo still faces several challenges. One of the main obstacles is the lack of learning support facilities such as LCD projectors, projector screens, and adequate internet access. Ms. Zulfiana, a sixth-grade teacher, stated: “Our school does not yet have complete facilities such as LCD projectors in every classroom, so we more often use images from books or create simple media ourselves. Even so, we still strive to ensure that students can understand the material well.”

These conditions have prevented teachers from making optimal use of technology-based visual media. One of the main obstacles is the lack of learning support facilities such as LCD projectors, projection screens, and adequate internet access. These conditions prevent teachers from making optimal use of technology-based visual media. As a result, teachers more often use images found in textbooks or create simple visual media manually. These resource limitations inevitably impact the suboptimal implementation of digital-based learning as envisioned in the Merdeka Curriculum.

Despite facing facility limitations, teachers continue to strive to create engaging learning experiences through various simple visual media alternatives. Teachers use printed images, flipcharts, colored illustrations, and simple app-based media such as Canva and PowerPoint accessed via personal mobile phones (Karo., 2022). These strategies are employed to maintain students’ interest and motivation in participating in learning. Additionally, teachers combine the use of visual media with demonstrations and group activities to encourage students to be more active in the learning process. These efforts demonstrate that teachers’ creativity plays a crucial role in overcoming the limitations of learning resources in schools.

An in-depth analysis of the research findings indicates that the use of visual learning media is strongly associated with improved student learning outcomes in science and social studies. Visual media help students understand abstract concepts in a more concrete way, making material that is difficult to grasp through verbal explanations easier for students to comprehend. This aligns with the cognitive development characteristics of

elementary school students at the concrete operational stage, where students find it easier to understand information through real objects, images, and visual experiences.

In addition to enhancing conceptual understanding, visual media also influences student motivation and engagement in learning. Based on the results of observations and interviews, students appeared more enthusiastic, actively asked questions, and were more focused during the learning process. This indicates that visual media can create a more engaging and enjoyable learning experience. In the context of the Merdeka Curriculum, this is particularly important because learning is directed toward student-centered instruction and providing meaningful learning experiences (Putra et al., 2020).

The findings of this study also corroborate previous research by Ummah et al. (2024) that the use of visual media can enhance teachers' creativity in conducting lessons. Teachers not only use images from textbooks but also strive to create simple visual aids such as color printouts, flipcharts, and simple presentations using digital applications. Such teacher creativity is a key factor in supporting successful learning, particularly in schools that still face limitations in technology-based learning facilities.

However, this study found that limited resources and infrastructure remain the primary barriers to the implementation of digital visual learning media. The scarcity of facilities such as LCD projectors, internet access, and multimedia devices prevents the full utilization of interactive visual media. This situation indicates that the successful implementation of the Merdeka Curriculum depends not only on teachers' competencies but also requires adequate school facilities to ensure the learning process runs more effectively.

The results of this study reinforce the findings of Widiastuti et al. (2024) and Haq et al. (2025) that visual learning media have a significant impact on improving student learning outcomes. Visual media have been shown to help students visualize abstract concepts, making the learning material more concrete, easier to understand, and more meaningful. Furthermore, visual media can also boost students' motivation, engagement, and creativity throughout the learning process. Therefore, the integration of visual learning media into Science and Social Studies instruction must be implemented consistently to support the creation of effective, innovative learning that aligns with the characteristics of the Merdeka Curriculum in elementary schools.

The results of this study indicate that the use of visual learning media significantly contributes to improving learning outcomes in natural and social sciences in elementary schools. Visual media helps students understand learning materials more concretely, increases motivation and engagement in learning, and creates a more interactive and enjoyable learning environment. These findings also reinforce the research by Yuwanita et al. (2020) that the successful implementation of the Merdeka Curriculum is influenced not only by the curriculum itself but also by teachers' ability to utilize learning media appropriate for the characteristics of elementary school students. Therefore, school support is needed in the form of adequate learning facilities and training for teachers so that the use of visual media in learning can be carried out more optimally and sustainably.

The hope for other teachers is that fellow educators will consistently use printed images or flipcharts as their primary teaching tools, accompanied by dynamic narration and open-ended questions, so that students can visualize IPAS concepts—such as regional maps or cultural diversity—without relying on expensive technology. Additionally, it is hoped that other teachers will regularly practice improvisation, such as combining images with physical demonstrations or group games, which aligns with the principles of the Merdeka Curriculum for experience-based learning.

As for the school, the hope is that it can allocate a phased budget to provide portable LCD projectors or shared multimedia rooms, allowing for rotation of use among classes and supporting dynamic presentations such as animated maps or cultural slideshows. Furthermore, providing stable WiFi access and routine maintenance of devices will facilitate the integration of free digital content, in line with the Merdeka Curriculum's goal of creating a more enjoyable learning experience so that students do not feel bored and remain enthusiastic about participating in lessons.

Learning media in elementary schools are essential for supporting the learning process. In this technological age, learning media can be created using technology; they can help teachers visualize abstract concepts in concrete terms. However, in elementary schools, teachers often lack the ability to create such learning media. Learning media play a unique role in the learning process. The learning process occurs through multi-directional communication, specifically between people (between teachers and students). From the teacher's (as a learner) perspective, educational media plays a role in assisting teachers during the learning process.

#### **D. CONCLUSION**

Based on the results of a study conducted at MIS Guppi Teppo, it can be concluded that the use of visual learning media plays a very important role in improving learning outcomes in natural and social sciences in elementary school. The use of visual media helps students understand learning materials more concretely, especially abstract concepts that are difficult to grasp when conveyed solely through verbal explanations. Visual media can also improve students' focus, motivation, engagement, and enthusiasm during the learning process, making learning more active, engaging, and meaningful.

The research findings indicate that the use of visual media has a positive impact on improving student learning outcomes. This is evident in students' improved ability to understand the material, answer questions, and complete assignments and assessments. Additionally, the implementation of visual media in the Merdeka Curriculum encourages teachers to be more creative in designing interactive, student-centered lessons. Teachers utilize various simple media such as pictures, illustrations, flipcharts, and simple digital applications to support the learning process in Natural and Social Sciences.

However, this study also identified barriers to the implementation of visual learning media, particularly limitations in facilities and infrastructure such as LCD projectors, multimedia devices, and insufficient internet access. Despite this, teachers continue to strive to create effective learning experiences by utilizing simple visual media and adapting their teaching methods to suit the school's conditions. Therefore, school support is needed in providing adequate learning facilities and training for teachers so that the use of visual learning media can be carried out more optimally, innovatively, and sustainably in line with the characteristics of the Merdeka Curriculum in schools

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