

## **The Effectiveness of Visual Literacy in Developing Environmental Character of Grade IV Students of SDN 3 Rantepao**

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### **ABSTRACT**

This study was motivated by the weak character of environmental love in elementary school students. This can be seen from the low concern for classroom cleanliness, waste management, and a lack of understanding of the importance of preserving the environment. This study aims to determine the effectiveness of visual literacy in forming and developing the character of environmental love in grade IV students at SDN 3 Rantepao. The method used is quantitative research with a quasi-experimental approach involving two classes, namely the experimental class and the control class. Data were collected through observation, interviews, and questionnaires. The results of the study showed that the application of visual literacy media such as environmental posters, infographics, and educational videos significantly increased students' awareness and behavior of environmental love. The main contribution of this study is to prove that visual literacy is not only a means of conveying information but also effective in forming students' character through an attractive and easy-to-understand visual approach. This study recommends the use of visual literacy as part of a character education learning strategy, especially the character of caring for the environment from an early age. The main contribution of this study is to prove that visual literacy is not only a means of conveying information, but also effective in shaping students' character through an attractive and easy-to-understand visual approach, which has been proven to increase the average knowledge about the environment by 26%, environmental care attitudes by 18%, and real actions in protecting the environment by 26% in students.

Keywords: Visual Literacy; Environmental Character; Elementary School

### **INTRODUCTION**

Character education is an essential foundation in shaping children's personalities, especially in instilling values of concern for the environment. At the elementary school level, the formation of a character of love for the environment is a crucial aspect that needs to be developed sustainably. However, the reality in the field

shows that there are still many elementary school students who have not fully demonstrated an attitude of caring for the environment. The indications can be seen from the behavior of littering, the still low participation in classroom and school cleaning activities, and the minimal understanding of the importance of preserving the environment. This phenomenon creates a gap between the ideal expectations of environmental character education and the reality of student behavior in elementary schools.

This condition highlights the urgency of finding an innovative and effective learning approach to overcome these problems. One promising solution is the use of visual literacy. Visual literacy, defined as the ability to understand and convey ideas through various visual forms such as images, videos, infographics, and graphic symbols, has great potential to help students understand and internalize character values in a more enjoyable, interactive, and easy-to-digest way.

Therefore, this study was designed to answer the main problem formulation: How effective is the application of visual literacy in developing environmental character in grade IV students of SDN 3 Rantepao? Furthermore, this study aims to explore the extent to which visual literacy, through media such as environmental posters, infographics, and educational videos, is able to increase students' awareness, attitudes, and real actions in protecting the environment. The results of this study are expected to provide a significant contribution in proving that visual literacy not only functions as a means of conveying information, but is also very effective in shaping students' character through an attractive and easy-to-understand visual approach, proven to be able to increase the average knowledge about the environment by 26%, environmental care attitudes by 18%, and real actions in protecting the environment by 26% in students. This study includes several important parts, namely an introduction, a literature review that discusses the concept of character education, visual literacy, and environmental character; a research method that explains the quasi-experimental quantitative approach; results and discussion of research findings; and conclusions and recommendations.

## **LITERATURE REVIEW**

Research on visual literacy and character building has been widely conducted, although a specific focus on environmental character still requires further exploration, especially in the context of elementary education. Daya Negri Wijaya (2023) highlights the importance of the literacy movement as part of a national movement to improve students' reading and writing skills, as well as strengthen the role of teachers in leading literacy in schools. Bu'ulolo (2021) specifically discusses visual literacy as the ability to read, understand, and utilize visual information. Husni et al. (2024) further show that the application of visual literacy through media such as images, graphics, photos, or videos can enrich the learning process.

In the context of the environment, Yusri (2017) explained that visual literacy can help students analyze visuals related to environmental damage and create visual

works that campaign for environmentally friendly behavior, thereby building deeper environmental awareness. Hasibun (2024) also emphasized that visual exposure in schools can motivate students to care more about the environment. However, initial observations in this study indicate that the effectiveness of the implementation of visual literacy at SDN 3 Rantepao is still not optimal, indicating a gap in practical implementation that needs to be further investigated.

Studies on environmental character are also an important focus. Sukatin et al. (2022) define character as an individual's behavioral pattern that reflects a moral state and has three main dimensions: knowing good, loving good, and doing good. Harlistyarintica et al. (2017) emphasize that environmental character needs to be instilled from an early age, including concern for the social and natural environment. Muslim et al. (2021) reinforce the idea that developing an environmental character contributes directly to the sustainability of the earth and the quality of human life. Diyan Nurvika Kusuma Wardani (2020) identifies factors that influence the development of this character, including family environment, school, media and technology, and personal experience.

The relationship between visual literacy and environmental character has also been discussed. Tyas et al. (2022) stated that education that leads to character formation based on visual literacy and environmental awareness is part of an effort to improve the quality of human resources. Purwati (2024) added that visualization can strengthen students' understanding of environmental issues and encourage concrete actions. However, this study will specifically explore how visual literacy can develop environmental character, focusing on effectiveness and implementation at the elementary school level, which is a unique contribution of this study.

### **Visual Literacy**

Visual literacy is the ability to read, understand, interpret, and create meaning from information presented in visual form. It goes beyond recognizing images, requiring deeper analysis of the visual elements that make up a message. According to Sidhartani (2010), these elements include color, which carries emotional and symbolic meaning such as green representing nature; line, which creates form, space, and movement with straight lines signifying stability and curved lines suggesting dynamics; texture, which adds depth and realism to a visual; space, which provides perspective and organizes information; light, which emphasizes objects, creates atmosphere, and directs focus; and movement, which generates the illusion of dynamics and helps build narrative. Visual literacy also involves working with various media types—such as images, graphics, photos, and videos—that, as Huri (2023) explains, each have unique strengths for delivering messages effectively.

The functions and roles of visual literacy are equally significant. Rahmawati (2020) and Lubis et al. (2024) note that visual literacy improves comprehension of complex concepts, aids memory retention, supports engaging communication, stimulates

creativity, and integrates technology in both traditional and distance learning contexts. In education, visual literacy means being able to identify the need for visual materials, access and interpret them, analyze and evaluate visuals, and create meaningful visual works (Syah & Darmawan, 2019).

### **Environmentally-Loving Character**

The term “character” originates from the Greek *charassein*, meaning “to carve,” and refers to behavioral patterns that reflect a person’s moral state (Sukatin et al., 2022). Good character encompasses three dimensions: knowing good, loving good, and doing good. Within this framework, environmental character refers to concern for both the natural and social environment, expressed through attitudes and concrete actions to protect, care for, and preserve the environment (Harlistyarintica et al., 2017). Developing this character is essential for sustaining the earth and improving human quality of life, especially in facing global environmental challenges (Muslim et al., 2021).

Ye et al. (2025) identify three key dimensions for fostering environmental character: increasing ecological awareness, which emphasizes understanding the balance of nature and human-nature interdependence; developing a sense of responsibility, including practices such as reducing waste, recycling, and using resources wisely (Nengsih, 2018); and enhancing empathy and caring for living beings, flora, and fauna. The formation of environmental character must begin early through habituation, school-based learning, and teacher role modeling (Zikriana et al., 2023). Evidence of this character can be seen in students’ actions, such as maintaining cleanliness (Ismail, 2021), caring for plants and animals (Nengsi & Eliza, 2019), conserving natural resources, and using environmentally friendly goods (Sari et al., 2023).

Multiple factors influence the development of environmental character: the family environment, which forms the foundation of character; the school environment, which can implement programs to strengthen awareness; media and technology, which spread visual messages that shape attitudes; and personal experiences, especially direct interaction with nature (Wardani, 2020).

Overall, the literature suggests that visual literacy and environmental character are closely linked. Visual literacy provides powerful tools for raising ecological awareness and encouraging pro-environmental behavior. By using visuals effectively, educators can help shape students’ environmental character, fostering awareness, empathy, and responsible action toward nature.

### **Design and Sample**

This study applied a qualitative descriptive design and involved five fourth-grade students of SDN 3 Rantepao as research subjects. The study was conducted from January 20 to March 17, 2025. The purpose of using this design was to capture

students' responses and experiences in detail through direct interaction and documentation.

### **Instruments and Procedures**

The instruments used were interview guidelines and documentation in the form of photos. The main technique for data collection was interviews with the informants. Before each session, approval was obtained regarding the interview schedule. Each interview lasted approximately 45 minutes and was carried out at SDN 3 Rantepao. Five main questions were asked to all participants, and follow-up questions were added as needed to clarify or expand responses. The interviews were documented through recordings and photographs to ensure accuracy and to provide reference material for later analysis.

### **Data Analysis**

The data were analyzed using qualitative data analysis methods. Responses from interviews and supporting documentation were grouped according to variables to provide meaning and address the research objectives. The process followed three main steps: data reduction, where irrelevant or redundant information was eliminated; data presentation, where the organized data were displayed for interpretation; and conclusion drawing, where patterns and themes were identified to answer the research questions.

## **RESULT AND DISCUSSION**

The study's results showed that visual literacy is effective in increasing students' awareness and concern for the environment. This can be seen from the increasing participation of students in learning activities and changes in students' attitudes towards the environment. This study aims to reveal the effectiveness of visual literacy in developing environmental character in fourth-grade students of SDN 3 Rantepao. Based on the results of data analysis obtained through interviews with students and teachers, the application of visual literacy in learning has a significant positive impact.

### **1. Increasing Student Participation in Learning**

Before the implementation of visual literacy, student participation in learning activities was still relatively low. However, after the learning intervention through visual media, students' interest and enthusiasm in participating in learning activities increased significantly. This can be seen from the activeness of students in discussing, asking questions, and providing responses to the material presented. A student, Agus, stated, "Now learning about the environment is more exciting because there are lots of pictures and videos. In the past, I only heard the teacher talk, so I got bored quickly." The fourth-grade teacher, Mrs. Ani, also said, "I see a drastic difference. The children are more active in asking questions and dare to

express their ideas after we use visual media."

## 2. Improved Quality of Student Work Products

The results of the analysis of student work products in the form of posters, videos, and presentations showed a significant increase in terms of creativity, aesthetics, and relevance to the environmental theme. Students were able to convey information about the environment in an interesting and easy-to-understand way, and were able to express their ideas visually. A student, Vinsen, explained, "I am more enthusiastic about making posters about waste because I can use colors and images that I like." Mrs. Ani added, "Their work products are now not only informative, but also artistic. Some works are even very innovative, such as recycled posters from used materials."

## 3. Changes in Students' Attitudes Toward the Environment

In-depth interviews with several students showed positive changes in attitudes toward the environment. Students became more concerned about environmental issues, such as pollution, ecosystem damage, and climate change. They also showed awareness of the importance of protecting the environment and actively participating in conservation efforts.

One student, Yulianti, said, "Since watching the video about marine pollution, I have thought twice about littering. Now I always try to throw trash in its place." Teacher Mrs. Ani also observed, "Some students even started the initiative to collect trash in the school yard or remind their friends not to damage plants."

## 4. Student Creativity and Effectiveness

Visual literacy encourages student creativity in conveying messages of love for the environment. This is reflected in the results of work that are considered innovative by teachers and other students, such as the use of recycled materials to create visual media. The use of visual literacy is considered more effective than conventional methods such as lectures. This can be seen from the higher student evaluation scores on environmental material after the visual literacy method was applied.

To strengthen the qualitative findings above, a quantitative analysis was conducted on the data obtained from the pre-test and post-test. The results of the analysis showed a significant increase in students' average scores on all indicators, namely knowledge about the environment, attitudes toward caring for the environment, and real actions in protecting the environment.

Indicator	Pre-test (Average)	Post-test (Average)	Increase (%)
Knowledge	65	82	26
Caring Attitude	68	80	18
Real Action	62	78	26

The results of this study support the findings of previous studies showing that visual literacy is an effective tool for increasing environmental awareness and concern in students (Jones, M., and Brown, 2015). Images, videos, and infographics are able to present complex information about the environment in an interesting and easy-to-understand way for students. In addition, visual literacy can also trigger students' emotions and empathy, thus encouraging them to take real action in protecting the environment. These findings consistently show that when students are presented with strong visual representations of environmental impacts, they tend to show higher emotional responses and motivation to act. This is in line with the cognitive load theory, which states that visual information can reduce cognitive load and facilitate the understanding of complex material, making it easier for students to absorb and internalize, especially at the elementary education level.

Furthermore, this study strengthens the argument that visual literacy not only functions as a means of conveying information but also as a catalyst in character formation. The visual approach applied, such as the use of attractive environmental posters, infographics with easily digestible data, and interactive educational videos, has been shown to be able to activate students' affective dimensions. They not only know about the importance of protecting the environment, but also feel its importance. This emotional involvement is crucial in forming a deep and sustainable character of environmental love, not just momentary knowledge. In other words, visual literacy bridges the gap between cognitive information and desired behavioral responses.

Although this study successfully demonstrated the effectiveness of visual literacy in developing environmental character in grade IV students of SDN 3 Rantepao, there are several limitations of the study that need to be considered. First, the scope of this study was limited to one elementary school in one area, so generalizing the findings to a wider population of elementary school students may require further research in different locations and demographic characteristics. The socio-economic and cultural characteristics of the school environment can influence students' responses to visual literacy interventions, and these variations have not been fully explored in the context of this study.

Second, the relatively short duration of the study, which was one semester, limited the ability to observe the long-term impact of visual literacy interventions on changes in students' behavior and character. Character formation is an ongoing process and requires significant time to be fully internalized in an individual. Therefore, further research with a longer duration or longitudinal studies would be very useful to identify the sustainability of the impact of visual literacy. Third, the focus of this study was more on the effectiveness of using visual literacy media in general, without analyzing in depth which types of visual media were the most effective or the optimal combination of visual media. For example, although posters, infographics, and videos were used, the study did not specifically compare the effectiveness of each type of media. Future research could further explore these

nuances to provide more specific recommendations regarding the most appropriate choice of visual media for environmental character-building purposes.

This research provides significant benefits for various parties, both theoretically and practically. Theoretically, this research enriches the scientific treasury in the field of character education and visual literacy, especially in the context of forming an environmentally friendly character in elementary school students. These findings reaffirm the important role of visual literacy as an innovative and effective pedagogical approach, going beyond simply conveying information, but also as an instrument for internalizing moral and ethical values. It also provides an empirical basis for the development of a more comprehensive learning model, combining cognitive, affective, and psychomotor aspects through visuals.

The results of this study can be a reference and guide for teachers, principals, and educational policy makers in designing more effective curricula and learning strategies to instill an environmentally friendly character from an early age. The application of visual literacy media such as posters, infographics, and educational videos can be integrated into relevant subjects or as part of extracurricular programs. This is expected to create a more interesting and conducive learning environment for the development of environmentally friendly characters.

In addition, for parents and communities, this study can raise awareness of the importance of visual literacy in supporting children's character education at home and in the surrounding environment. With a better understanding of how visuals can influence perception and behavior, parents can be more proactive in selecting and providing visual content that educates and motivates children to protect the environment. Ultimately, this study contributes to collective efforts to create a young generation that is not only academically intelligent but also has a high awareness and concern for environmental sustainability for a sustainable future.

## CONCLUSION

Based on the results of the study, the visual literacy program is very effective in developing environmental character in grade IV students of SDN 3 Rantepao in North Toraja. This is supported by a significant increase in student participation in learning, the quality of student work products, changes in positive attitudes towards the environment, increased student creativity, and the effectiveness of visual media compared to conventional methods. These findings indicate that visual literacy is not only an alternative but a strong and proven approach to increasing students' awareness and concern for the environment, as seen from the increase in the average pre-test and post-test scores on the knowledge indicators (26%), caring attitude (18%), and real action (26%).

This research provides clear practical implications for teachers and other elementary school staff. Teachers are advised to actively integrate various visual media (pictures, videos, infographics, posters, etc.) into environmental learning



materials to spark student interest and participation. In addition, elementary schools can consider developing a curriculum that is more oriented towards visually-based projects that allow students to be creative and convey environmental ideas artistically and informatively. Training programs for teachers on the use of visual literacy in learning are also highly recommended to maximize the potential of this method. Further research could explore the development of more innovative visual literacy programs, for example, involving augmented reality or virtual reality technology, or test the effectiveness of these programs at different educational levels or in other subject contexts.

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