

Analysis of Environmental Awareness of Elementary School Students in Bandung City

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Abstract: Students' environmental awareness is an important aspect of implementing sustainable education. The environmental awareness of elementary school students is not only important for building awareness of sustainability but also crucial for shaping the character of young generations who care about nature. This research aims to find out how environmental awareness is possessed by students in several elementary schools in Bandung City. Research on the analysis of environmental awareness is needed to ensure that current educational efforts are effective and relevant to the challenges faced by society today. This type of research is descriptive qualitative with data collection techniques by means of observation, interviews and documentation. This research was conducted in four public elementary schools in Bandung City which have similar locations, student criteria and surrounding environmental conditions. Based on the results of the research conducted, it states that, principals and teachers have made efforts to develop various programs that focus on students' environmental care attitudes in Bandung City Public Elementary Schools but are less in accordance with the five indicators of environmental care attitudes, namely environmental awareness, real actions of students, environmental values and ethics, the influence of the social environment, and student discipline due to lack of awareness of students' environmental care attitudes.

Keywords: Attitudes; Environmental awareness; Primary school

Introduction

Concern for the environment is an important aspect that needs to be instilled from an early age, especially at elementary school level (Ratnasari et al., 2024). At elementary school age, children are at a critical phase of development, children begin to form an understanding of the world around them (Prananda et al., 2024). At elementary school level, children aged 6 to 12 years, at that age they begin to develop logical thinking skills and understand cause-effect relationships (Işıktaş & Öztürk, 2022). Elementary school children begin to understand their role in the community and environment so it is important to teach them to respect the surrounding environment and understand the importance of maintaining cleanliness for the preservation of nature

(Hanif et al., 2024). Children's understanding is not only limited to cognitive aspects, but also moral aspects and social responsibility which will shape their character in the future (Killen & Dahl, 2021). Therefore, it is important to instill an attitude of caring for the environment in elementary school (Baharuddin et al., 2025).

Environmental care is an individual's behavior or attitude that reflects concern for the condition and sustainability of the surrounding environment (Fitriati et al., 2019). Environmental concern is currently a crucial issue because it will determine a more decent life in the future because the balance of the ecosystem influences whether an environment can be said to be habitable (Hariram et al., 2023). Environmental care includes real actions such as maintaining cleanliness, reducing plastic

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use, and recycling waste. Environmental care is a human responsibility so it must be instilled from an early age so that it can prevent environmental damage (Astikasari et al., 2022). Considering that children are the next generation who will face environmental challenges in the future, they should be taught to understand the impact of their behavior on the environment and the importance of preserving natural resources (Hattu & Tahamata, 2024). So instilling an environmentally caring attitude in children needs to be implemented in a series of curricula in schools, especially for elementary school children (Saputra et al., 2022).

Implementing an environmentally conscious attitude into the curriculum in elementary schools can be done through various integrated and participatory approaches (Obasi & Osah, 2022). This can be done by developing an environmentally based curriculum through various learning programs and activities that actively involve students (Marpa, 2020). In an environmental-based curriculum, students not only receive passive information, but are also directly involved in the process of observation, experimentation, and problem solving related to environmental issues around them (Ningsih et al., 2023). Thus, to create meaningful learning, an environmental-based curriculum is needed to equip students with the skills needed to face future environmental challenges (Dewi et al., 2024). Materials that can be delivered according to the environmental conditions of students at school or the surrounding environment are changes in habitat and loss of green space, pollution (water, air, soil) in local ecosystems, local climate change, loss of natural pollinators, and plastic waste in the surrounding environment. These materials can be packaged in an interesting way in science learning.

Presenting science material on terrestrial ecosystems to elementary school students in an interesting and effective way can be done by developing e-modules into innovative solutions (Zainuri et al., 2024). The e-module is designed by integrating informative text, attractive illustrations, interactive animations, and relevant learning videos (Rusmansyah et al., 2023). The material is presented systematically, starting from the basic concept of the ecosystem, its components (producers, consumers, decomposers), to the interaction between living things and their environment (Dewika et al., 2024). The e-module is equipped with evaluation features such as quizzes and practice questions to measure student understanding, as well as case studies on environmental issues relevant to the terrestrial ecosystem around them. Thus, this e-module can increase students' interest in learning, facilitate a deep understanding of concepts, and develop

awareness and concern for the sustainability of terrestrial ecosystems (Yevira et al., 2023).

Before developing an e-module, it is better to know the problems in the field so that the development of the e-module can be adjusted to the problems that occur so that in addition to being a teaching material used in the teaching and learning process (Ashi et al., 2022). The e-module also becomes a solution to the problems experienced by elementary school students. Because the development of an e-module will be carried out which aims to develop environmental attitudes possessed by elementary school students. So in this study, an analysis of the environmental care attitudes of elementary school students in Bandung City was carried out.

Method

This research is a qualitative research with descriptive type. Qualitative research emphasizes an in-depth understanding of the context of the data to be collected (Waruwu, 2024). In this research, the researcher acts as the main instrument in collecting information through observation, interview and documentation techniques (Rizal et al., 2023). The data in this study were obtained and analyzed using triangulation techniques, which means using different data collection to get data from the same data source. The triangulation stage is shown in Figure 1.

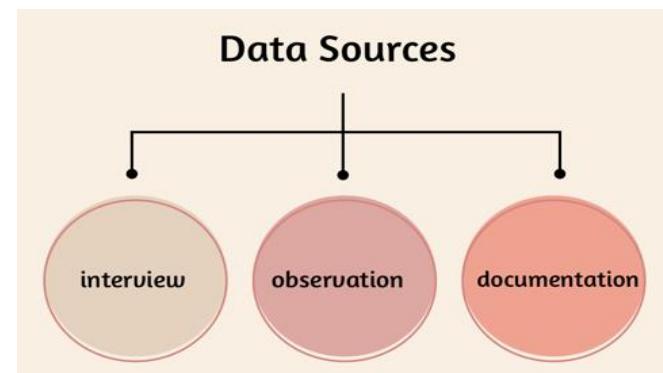


Figure 1. Triangulation technique (Alfansyur & Mariyani, 2020; Saputra et al., 2022)

This type of descriptive qualitative research focuses on descriptive collection, namely the data to be presented is not manipulated or as it is (Syahrizal & Jailani, 2023). The research took place in November 2024 in four elementary schools in Bandung City. The primary schools analyzed are public primary schools located in Bandung City. The results of this qualitative research focus on the importance of generalization by analyzing observation, interview and documentation data regarding students' environmental care attitudes. Observations and taking documentation at each school

were carried out during recess so that researchers could observe student behavior directly and observations were made for one day at each school. Data collection techniques through interviews were conducted to the principal of each elementary school.

Result and Discussion

This research will focus on several interrelated indicators to form environmental care attitudes of elementary school students, namely Environmental awareness, Students' real actions, Environmental values and ethics, The influence of the social environment and Discipline and habits. Some of these indicators are always related to each other to form environmental care attitudes possessed by students (Qodriyanti et al., 2022).

The first indicator is environmental awareness in students. Environmental awareness is an individual's understanding or attention to environmental conditions and the impact of activities carried out by humans (Pham et al., 2022). Schools can be an effective place to instill these values through various educational programs and activities (Priyadi et al., 2024). Based on the results of interviews and observations conducted at school W, it shows that the attitude of environmental awareness in students is mostly lacking, this is conveyed by the school, if the attitude of environmental awareness of students is inconsistent and teachers must reprimand continuously. On the issue of students' environmental awareness, teachers have a very important role in overcoming students' lack of awareness of environmental awareness through various interesting ways by applying in learning (Indriani, 2023). Based on the results of interviews and observations at school X, it shows that the attitude of environmental awareness in students is still lacking, this is shown in the absence of student sensitivity when they see garbage scattered and the preservation of plants around the school must be monitored and instructed by the teacher. The characteristics of elementary school students still need to be developed by maximizing the monitoring and direction of the teacher (Indriani, 2023). Whereas in school Y and school Z, based on the results of interviews and observations conducted, the attitude of environmental awareness in students is still lacking because every environmental awareness program carried out will not last long, only running for about one to two months cause students' understanding of the environment is not consistently instilled. To increase students' consistency in maintaining the environment, supporting facilities and deep understanding of students are needed so that environmental care attitudes are embedded in students (Andriani et al., 2025).

The second indicator is students' concrete actions. Students' concrete actions to protect the environment are diverse and reflect their commitment to sustainability (Hiroko et al., 2022). Based on the results of observations and interviews at elementary school W, on the indicator of students' concrete actions in reducing the use of single-use plastics has not been running optimally, this is observed when students buy food or drinks at recess outside the school environment, the traders still use plastic as a wrapper for food and drinks purchased by students. Most of the students in the W school did not care about the garbage that was scattered and not disposed of in its place due to the lack of cultivation of environmental care attitudes and daily habits in the learner's environment. In this case, the school has made efforts to improve students' real actions towards the environment by developing planting programs, routine picket, and conducting clean Friday activities. The success of existing programs at school certainly requires cooperation between all school parties (Sole & Anggraeni, 2017). In W's schoolyard, there are several well-maintained trees, but around the trees there is still a lot of garbage thrown carelessly by students. Environmental education activities are carried out by each homeroom teacher during class hours, but are minimally associated with the material presented by the homeroom teacher. Based on the results of observations and interviews at school X, the indicator of students' concrete actions in reducing the use of disposable waste has been implemented quite well based on the program carried out by the school, but similar to the case at school W, the traders around school X still use disposable waste to wrap food and drinks purchased by students. In school X, a program to use environmentally friendly transportation is implemented for all school members, teachers and students whose home distance to school is less than two kilometers are encouraged to ride a bicycle or walk. In school X, some students still dispose of garbage out of place, this is known during the observation activities found some garbage in the school environment. School X conducts a tree planting and maintenance program carried out by students and teachers which makes the school environment more beautiful, this is done under the supervision of teachers and principals at school X. Environmental education activities at school X have been provided during the learning process in class but the implementation has not been maximized and requires supporting media to conduct environment-based learning (Wahyu et al., 2020). Meanwhile, based on interviews and observations conducted at schools Y and Z, the indicators of students' real actions in reducing plastic waste have not run optimally, this was conveyed by the principal during the interview activity who stated that the program carried

out to reduce the use of disposable waste by bringing tumblr and food containers to buy food and drinks at school only ran for one month and in the following month the program was no longer running because the awareness of teachers or students was still lacking in paying attention to the environment. In addition to these programs, schools Y and Z also conduct a living pharmacy program by planting trees at several points of the school yard but the maintenance is not done optimally so that the living pharmacy program is not running well. Because the location of Y and Z schools is in the highlands and damp, the school is visited by many flies, especially with the condition that there is still a lot of garbage scattered around, making the Y and Z school environment look unhealthy. Environmental education for students has been carried out in the learning process but is not implemented optimally (Yusniza et al., 2023).

The third indicator is environmental values and ethics. Environmental values and ethics among elementary school children are very important in shaping their character and awareness of the sustainability of nature (Jayadinata et al., 2024). Environmental education implemented in schools not only provides knowledge about the importance of protecting the environment, but also instills values such as responsibility, solidarity and care for nature (Eliyawati et al., 2023). Based on the results of interviews and observations conducted at schools W, X, Y and Z, strict sanctions and rules have not been applied to students who behave in a way that does not care about environmental cleanliness. A dirty and unkempt school environment can reflect a low attitude of environmental care. In schools W and X, there are already separate bins for organic and inorganic waste, while in schools Y and Z there are no separate bins for different types of waste.

The fourth indicator is the influence of the social environment around students. The social environment has a significant influence on student character in developing an attitude of environmental care (Jančius et al., 2021). The development of students' environmental awareness will grow in an environment that supports environmental awareness, whether at home, school, or community, they tend to internalize these values more easily (Yusuf, 2022). Based on the results of observations and interviews in schools W and X have a social environment that is quite supportive to increase students' concern for the environment, it's just that students' self-awareness must be developed. Whereas in schools Y and Z, Based on the results of interviews with school principals, it is stated that the social environment is less supportive to improve students' environmental awareness, therefore extra efforts are needed to improve the environmental values and ethics possessed by students such as interactive teaching materials that

direct students to learn more about the attitude of the surrounding environment (Hillary et al., 2023; Yusuf, 2022).

The fifth indicator is student discipline and habits. Students' discipline and habits towards the environment are very important in creating a culture of environmental care in schools and communities (Nurlailah & Ardiansyah, 2022). Based on the results of observations and interviews conducted with school principals in schools W, X, Y and Z stated the same thing, namely student discipline and habits towards the environment are very lacking and require appropriate solutions to overcome these problems. Student discipline affects the attitude of caring for the environment, without good discipline, it is difficult for students to develop positive habits in protecting the environment (Hillary et al., 2023).

The following is documentation of observation activities at the four public elementary schools in Bandung City.



Figure 2. W-School

Figure 2 shows the condition of W school environment where there is still a lot of plastic waste that is not put in its place.



Figure 3. X-School

Figure 3 shows the documentation at X school, this school already has a separate trash can between organic and inorganic waste, it's just that the students lack awareness of the environment, and there are still many students who do not throw garbage in its place.



Figure 4. Y-School

Figure 4 shows the documentation of the school environment taken during the observation. The picture shows that the school environment is not good enough because the students' environmental awareness is very lacking. This is evidenced in the picture, a lot of garbage is scattered in front of the student, and he does not care about the garbage. The plants in the school environment also look unkempt because the program implemented for environmental sustainability is not running well so that the plants become damaged.



Figure 5. Z-School

Figure 5 shows the situation at Z school after recess, where there is some trash in the drains in front of the classroom. The school looks barren because there are no plants in the schoolyard.

Conclusion

From the results of interviews and observations, overall public elementary school students in Bandung City have a poor attitude towards environmental care, as evidenced in observations regarding five indicators, the majority of which are not applied and made into a culture. Among them, students' poor environmental awareness causes the school environment to look dirty and unhealthy. The real actions of the majority of students have not implemented a good environmental care attitude. Each school has different environmental values and ethics, there are schools that have good environmental values and ethics because of the direction of their teachers and schools, but most schools have poor environmental values and ethics. The social environment of students is very influential on the attitude of environmental care possessed by students, and student discipline affects good habituation to students. These five indicators need to be balanced with each other in order to form students' environmental attitudes. Education not only plays a role in academic ability, but also the personality and character of students. The researcher recommends applying environmental-based education in learning specifically by using the help of appropriate teaching materials so that students can have a broader knowledge of the environment and students realize the consequences that will occur in the long run from environmental damage.

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Author Contributions

Conceptualization, F. S. D. P, W. S, A. S, C. R. K; methodology, F. S. D. P, C. R. K; formal analysis, F. S. D. P, W. S; investigation, F. S. D. P, A. S, and C. R. K.; resources, F. S. D. P.; data curation, F. S. D. P.: writing – original draft preparation, F. S. D. P and C. R. K; writing – review and editing, F. S. D. P.: visualization.

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Conflicts of Interest

The authors declare no conflict of interest.

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