

Students' Environmental Care Character through Environmental Education in Elementary School

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Abstract: This study aims to analyze the development of environmental care character among elementary school students through environmental-based education. The research conducted at SD Pacar Keling V Surabaya employs a qualitative descriptive approach involving five fourth-grade students, their parents, and two class teachers as subjects. Data collection methods include observation, interviews, and documentation. Key findings reveal that students actively engage in activities promoting environmental cleanliness and sustainability. These activities include routine clean-up events like “Clean Fridays” and outdoor initiatives like cleaning Kenjeran Beach. Students demonstrate energy conservation habits by turning off lights and electrical devices when not in use. They also understand the importance of waste separation, although the school currently uses a single trash can for all waste types. Furthermore, students participate in composting activities, utilizing used rice washing water as a primary ingredient, underscoring their practical involvement in environmental care. This study highlights the role of school and home environments in fostering students' environmental awareness, supported by parental involvement and school programs like the Adiwiyata initiative. Overall, this research underscores the effectiveness of integrating environmental education into the curriculum and school Culture, promoting a sustainable and environmentally conscious mindset among young students.

Keywords: environmental education; environmental care character; elementary school



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A. Introduction

The natural environment is experiencing worsening conditions due to human activities, leading to various natural disasters such as floods caused by improperly disposed garbage that clogs river flows, increased air pollution from motor vehicles, and a reduction in green spaces. This deterioration is attributed to human behavior that often neglects environmental considerations, highlighting a lack of environmental awareness, especially among children. The low community concern for the environment necessitates increased personal awareness and responsibility to prevent further environmental damage.

Environmental education is crucial in addressing these issues by fostering environmental awareness and care from an early age, thereby contributing to developing human resources conscious of their environmental impact. Human activities cause various natural disasters, including floods caused by garbage thrown carelessly so that it clogs the flow of rivers, increases air pollution from motor vehicles, and reduces the green environment. The damage may be caused by human behavior that pays little attention to the environment. The low level of environmental awareness among children is undoubtedly very concerning as long as the school curriculum, environmental behaviors, and attitudes are embedded (Widiawati, 2022). To overcome the problem of waste disposal and protect the environment, personal awareness of the environment is needed (Ismail, 2021). Human actions that ignore the environment worsen the natural environment's condition. This shows that the community's concern for the environment is low. Therefore, individual attention and awareness are needed to protect the environment so that damage does not occur.

Environmental education (EE) in early learning has been critically scrutinized globally. Prominent among the issues raised is that the pedagogy and curriculum of Early Childhood Environmental Education (ECEE) are dominated by colonized Western epistemology (Acharibasam dan McVittie, 2023). Environmental education is one of the essential factors in the success of environmental management, which also helps develop human resources (HR) who care about the environment (Aprilia, 2024).

The community's indifference to the impact of environmental damage cannot be separated from efforts in the form of environmental education for the community, and students are no exception. According to Buldur and Omeroglu (Ramadhan et al., 2019) Environmental education is essential to increasing students' attitudes and environmental awareness. According to Nurjhani and Widodo in Jufri et al. (2018) environmental education must be provided early so children understand the environment well and maintain its sustainability without damaging it.

Environmental education is essential in shaping human attitudes toward their environment (Syaputra, 2023). Something that is done regularly and often will grow into a habit, which will eventually form a character (Ana et al., 2022). Through character education, students can understand, internalize, and apply character values in daily behavior (Aminatuzzuhriyyah et al., 2024) Thus, environmental education must begin early to ensure that learners understand their environment strongly. This is important in producing environmentally conscious human resources.

In this research, we use this five-step to indicate environmental care character, i.e., 1) cleaning classrooms, 2) maintaining school gardens, 3) energy saving is done by turning off lights and electrical appliances when not in use, 4) separating organic and inorganic waste helps support more efficient recycling and waste management, 5) composting from organic waste reduces the amount of waste and produces natural fertilizer for plants (Ardiansyah et al., 2023). Implementing these indicators aims to form the character of students who are more aware and responsible for the environment.

The condition at SD Pacar Keling V before is that students have not implemented the five steps in caring for the environment above. There is not yet awareness of the five actions, so this research was carried out.

Previous studies have shown that elementary school students can develop a caring attitude toward the environment through environmental education. (Medina, 2023) Explaining the formation of environmental care character to elementary school students, it was found that students do not care about the environment even though they have received environmental education. states that when environmental care character is not fully implemented to meet school indicators, several obstacles exist, such as a lack of recognition of environmentally conscious students. (Lee, 2023) explained that student awareness is characterized by students' understanding of environmental issues, independent learning as measured by science self-efficacy, and practices about how well teachers guide and facilitate science classrooms. Educators must have an important responsibility and role in maximizing students' character education, especially at the elementary school level, because students will apply what they have learned until adulthood (Pentianasari et al., 2022). The research of Siskayanti and Chastanti concludes that even though environmental education has been provided, students still seem indifferent to the environment in elementary schools.(Siskayanti dan Chastanti, 2022) This shows that additional efforts, such as recognition and appreciation for students who have shown environmentally conscious behavior, are needed to encourage students to care more about the environment.

This research provides an in-depth analysis of how environmental-based education in elementary schools can shape students' character toward caring for the environment. It highlights the importance of instilling environmental awareness early, which can lead to responsible behavior and a love for nature. This research also contributes to understanding how environmental education can effectively integrate into school curricula and culture. It discusses practical methods, such as school cultural initiatives and self-development programs, encouraging students to engage in environmentally friendly activities like composting and waste management.

This study underscores the significant roles that teachers and parents play in fostering environmental care among students. It suggests that both parties must collaborate to provide consistent environmental education and set examples for students at school and home. By focusing on specific case studies, i.e., the activities at SD Pacar Keling V Surabaya, this research provides empirical evidence of how environmental education initiatives can lead to positive behavioral changes in students. This includes activities like energy saving and participation in environmental clean-up events. These contributions collectively enhance understanding of how elementary schools can effectively implement environmental education to nurture environmentally conscious individuals.

B. Method

This study uses a descriptive approach with qualitative research methods. Qualitative research is more focused on describing a specific object or behavior. (Abdussamad, 2021). This study uses a qualitative approach to accurately describe the characteristics of situations or phenomena that occur in the field (Fahrudin et al., 2024)

The data collection technique was carried out through observation aimed at grade IV students of SD Pacar Keling V Surabaya to find out the character of caring for the environment of students while at school. The grand theory used in this data analysis is the Sustainability Theory (Harrington, 2016). Sustainability theory is a concept that aims to balance the needs of the present with the preservation of natural resources for future generations. Some aspects that are by the environmental concern indicator can be seen in Table 1:

Table 1. Environmental Care Indicators

Indicator	Aspects observed
The habit of maintaining the cleanliness and sustainability of the school environment for students.	Use of landfills.
	Classroom maintenance.
Energy-saving habits.	Electricity use.
	Water use.
	Use of electronic devices.
Separating types of organic and inorganic waste.	Use of trash cans.
	Correct waste sorting.
Utilization of composting from organic waste.	The use of compost.
	Students' ability/knowledge in making compost.

(Source: Ardiansyah, 2023)

The interview was aimed at class teachers and guardians of SD Pacar Keling V Surabaya's grade IV students to discover the development of students' character in caring for the environment at school and home. Documentation can be in written materials, such as books or teaching modules—documentation as a complement to the use of observation and interview methods in qualitative research.

The data analysis technique used in this study uses the Miles and Huberman model. The flow used is shown in Figure 1. Based on the figure, there are four stages: the data collection stage, the data reduction stage, the data presentation stage, and the conclusion drawing stage. The data collection stage is done through observation, interviews, and documentation. The data reduction stage is carried out by analyzing the data obtained through observation and interviews. The data presentation stage is carried out by

presenting data in an informative manner. Drawing interesting conclusions or making conclusions can be in the form of descriptions or descriptions of research results.

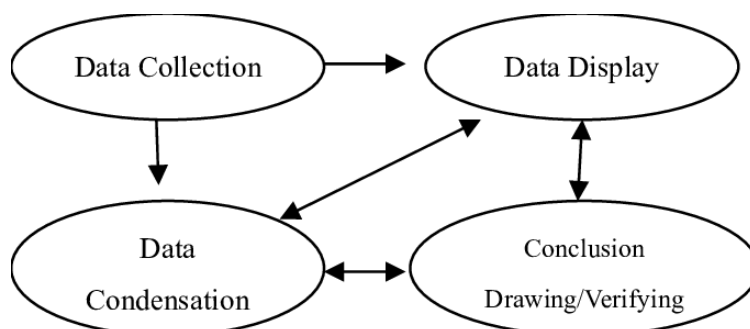


Figure 1. Qualitative Research Data Analysis Process (Ahmad dan Muslimah, 2021)

C. Result and Discussion

Result

Based on the results of observation/observation data carried out in grade IV of SD Pacar Keling V Surabaya, which is by the indicators mentioned;

The Habit of Maintaining Cleanliness and Sustainability of the School Environment by Students.

According to P, always throw garbage in its place and also do class pickets before going home. According to me, he threw the garbage in its place, and the class maintenance activity that I carried out was a class picket that was carried out before he went home. According to S, he explained that at the elementary school, no one threw garbage carelessly, and S also explained that they always did class pickets before going home. According to A, he has thrown the garbage in its place and kept the classroom clean by picketing the class. According to B, if garbage is handed over, he helps throw it away and do a class picket.

Energy-Saving Habits

According to P, he has carried out energy-saving activities by turning off the fan and water after using it, and when after computer learning, he always turns off the computer before leaving the computer lab. According to me, I always turn off the fan, water, and computer after using it. S mentioned that he had done energy-saving activities such as turning off lights, water, and computers after using them. According to A, he saves electricity by turning off fans and lights, but sometimes he forgets to turn off the water or computer after using them. According to B, he has saved energy by turning off lights, fans, projectors, and water when they are no longer used. One way to get into saving-energy habits is to put posters in several places described earlier—for example, the water-saving poster depicted in Figure 2.

Separating Organic and Inorganic Waste

According to P, using garbage cans is appropriate; even though there are two, there is still one time to dispose of them. I believe the trash can has become one, but its use has been appropriate. According to S, garbage cans are perfect, and garbage cans are one.

According to A, using garbage and cans in one is appropriate. According to B, the use of garbage cans is correct, and garbage cans are one. It can be seen in Figure 3.

Utilization of Composting from Organic Waste

According to P, composting is suitable for plants. According to I, if there is a school cleaning activity, students are told to bring compost from home, which is correct for plants. According to S, he has made compost, which is correct for plants. According to A, he once made compost from water used to wash rice, which is suitable for plants. According to B, he made compost, and its use was correct for plants. It can be seen in Figure 4.



Figure 2. Water Saving Poster



Figure 3. Trash Can

Based on the results of observations made in grade IV, it can be concluded that grade IV students have used trash cans correctly and carried out class pickets as an effort to maintain the classroom carried out by students. Students have implemented energy conservation in schools. Students have tried to save energy by turning off fans, lights, and water after using them.

Even though the trash cans at school are one, students have understood how important it is to separate garbage according to its type. The school has involved students in compost-making activities. Composting is known not from organic waste or leaves but from water used for washing rice (leri water) during clean Friday activities.



Figure 4. Water the Plant with Leri Water

The results of the interview with teacher S stated that learning activities about the environment are carried out through cleaning and recycling projects, while activities that form students' habits in maintaining school sustainability are holding community service activities on Fridays. Teacher S only provides an understanding of saving energy; for example, when returning from school, students are asked to turn off the fan and lights, and the teacher gives an example and then practice. In waste sorting activities, teachers only explain various types of waste or provide waste management videos. Students carry out compost-making by bringing rice-washing water during the Friday activity, and the teacher explains the benefits of compost.

Meanwhile, the interview results with teacher Y stated that learning activities about the environment were carried out through recycling project activities and community service activities as a habit for students in maintaining school cleanliness. There are no special activities regarding energy saving, just explaining the explanation of energy saving. Teacher Y only explained the difference between organic and inorganic waste and gave an example, even though the waste was mixed at school. Composting is not done from leaves but from water used to wash rice, and the teacher explains the importance of composting for plants.



Figure 5. Clean-up Activities at Kenjeran Beach.

The results of interviews with teachers about the character of caring for the environment of students of SD Pacar Keling V Surabaya show that the environmental

learning carried out by SD Pacar Keling V is through a recycling and cleaning project at Kenjeran Beach, which can be seen in figure 5. Efforts made by teachers to maintain the cleanliness of the environment are by holding community service. This activity increases students' awareness of the environment and makes them want to cooperate. Instilling the character of caring for the environment with examples, habituation, and conditioning is essential. Inviting students to learn outdoors to get to know nature more closely, regular activities on clean Fridays, and healthy Saturdays (Rosela dan Gunansyah, 2022). With routine activities such as clean Fridays, students can independently form a character that cares for the environment. Teachers carry out no particular program to increase students' awareness of the importance of energy saving; it is just that teachers explain and provide direct examples of energy saving. There is only one type of school place in the school, but the teacher still explains the types of waste and how to sort waste correctly; the teacher also provides an overview or video of waste management. Composting has involved students. This can encourage students to participate more actively in composting activities.

The researcher also interviewed the student's parents to determine whether the students still care about the environment at home. According to Mrs. A, the parent of student P, P still cares about the environment even though he is cleaning the yard at home. I give the habit through rewards to keep the spirit of protecting the surrounding environment. According to Mrs. E, the parent of student I, I has cared about the home environment through activities such as throwing garbage and cleaning the yard. Habituation is done through direct examples so that children will get used to the cleanliness of their environment. Mrs. I, the parent of student S, mentioned that S did not carry out activities related to caring for the environment. S's parents explained that their children were difficult to invite to clean the house environment. Even so, S's parents still exemplify their environmental concerns. According to Mrs. W, the parent of student A, A cares about the environment of the house through activities such as watering plants and disposing of garbage in their place. Habituation is done by giving examples, sometimes explaining the purpose of cleanliness so that A is aware of cleanliness. According to Mrs. F, the parent of student B, even though B was forced to throw garbage in its place, B's parents still emphasized that B did not care about the cleanliness of the environment. Parent B still gives an example, even though his child is unaware of cleanliness.

Based on the results of interviews with students' parents, it can be concluded that some students still care about their home environment. Activities that show their concern through activities to clean the yard and dispose of garbage in its place. In addition, the role of parents is vital in instilling environmental care by setting an example to their children, but some parents give gifts to their children as an award.

Research data suggest that not all students are concerned about the surrounding environment even though they apply it at school. All residents and the community must be involved to realize a school that cares about the environment.

Discussion

Implementation of Environmental Education Integrated with School Curriculum

Schools are involved in activities that foster students' environmental care attitudes through activities outside and inside the school. Students are involved in protecting the environment. Implementing the Kenjeran beach cleanup activity can be said to be going well. This can find out the extent to which students care about their environment. Not only community service activities, but the school also encourages students to take care of and protect the environment, both at and outside school.

This research is in line with the results of research from Almira Dwi Susanti and Siti Maisaroh (2021) It can be concluded that SDN Jetak Godean, the implementation of environmental awareness in Adiwiyata schools includes school cultural initiatives such as making compost, encouraging students to pick up garbage, and watering plants, as well as self-development programs such as caring for plants, gardens, and handwashing stations.

Although environmental education has no particular curriculum, each teacher makes teaching modules. Teachers use lectures, group discussions, assignments, and questions and answers. The concrete learning media used by teachers to deliver material is plants. This is in line with research conducted by Meika and Efendi, which shows that learning activities inside and outside the classroom show the role of teachers in fostering environmental awareness (Meika R dan Putra, 2021) the planning of learning is in the form of preparing a learning implementation plan (RPP) and learning media. Environmental education can be applied through school curricula and routine activities, such as maintaining classroom cleanliness (Efendi et al., 2019).

Caring for the environment is a character that needs to be instilled in students from an early age. Based on research conducted at SD Pacar Keling V Surabaya, activities related to caring for the environment can produce a neat and comfortable environment for daily activities.

SD Pacar Keling V Surabaya has held various activities related to the environment, such as cleaning the school environment, caring for plants, and activities outside the school. This aims to develop a personality that cares about the environment. The Adiwiyata program is implemented in a variety of ways, including incorporating morals and role models into the curriculum, lesson plans that include environmental themes, providing role models, and habituating a clean lifestyle (Milutasari, 2019).

Habituation of Environment Care Character at Home

Based on the results of interviews with teachers and parents, this finding is strongly supported, showing that environmental care activities through cleaning activities at Kenjeran Beach and community service work at school have successfully fostered students' awareness of their school environment (Mu'ammam dan Badri, 2022) and not the home environment. The teacher explained how to sort the waste correctly and provided energy savings (Imran dan Almusharraf, 2024). Students do not show concern for the environment around their homes, and parents play a vital role in instilling

the habit of caring for the environment. Thus, activities at SD Pacar Keling V Surabaya have instilled the character of caring for the environment in students at school. However, students do not instill this character at home.

The result of this study emphasizes the importance of collaboration between teachers and parents in nurturing an environmentally conscious character in students (Cahyaningsih et al., 2024). Both parties must actively participate to ensure a comprehensive development of environmental awareness. The role of teachers and parents is very influential on the habituation of students' environmental care character (Sihvonen et al., 2024). Parents play a vital role in forming the habit of environmental care of children at home, namely by setting an example and encouraging the habit of environmental care character wherever children are (Sihadi et al., 2017).

This research shows that environmental education can significantly enhance students' environmental care character when effectively integrated into school activities and supported by teachers and parents. This approach benefits the students and contributes to broader environmental sustainability efforts.

D. Conclusion

Based on the results of research conducted, environmental-based education at SD Pacar Keling V Surabaya has been effective in instilling environmental awareness in students, as seen from positive habits such as disposing of waste in its place, saving energy, and participating in environmental activities held by the school. Although waste separation is not yet fully optimal, students have understood the basic concept of waste separation. However, the application of environmental awareness at home is still lacking, indicating the need for a more potent synergy between school education and parents' support. Active involvement from both parties is significant in forming a character of comprehensive environmental awareness.

Suggestions for educators are that the role of teachers and parents is very much needed. That way, teachers can see how the character of caring for the environment is applied in schools, and parents can set an example for their children to care more about the environment around them. This research can be the basis for further research on environmental education and developing environmentally conscious characters. Suggestions for researchers: Further investigation is needed, such as developing more effective educational strategies and exploring obstacles that hinder the full implementation of environmental care character in schools.

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