

ENVIRONMENTAL LITERACY ATTITUDE: AN EXPLORATION OF ELEMENTARY SCHOOL STUDENTS TO FORMULATE ENVIRONMENTAL EDUCATION STRATEGIES

Ni Made Yuni Wiratni

SD Negeri 2 Dangin Puri
yuniwiratni@gmail.com

ABSTRACT

Increasing the environmental literacy attitude of elementary school students is needed as an effort to maintain the environmental sustainability. Analysis of the level of environmental literacy attitudes of students is needed to formulate operational environmental education strategies in schools. This survey research aims to explore the level of environmental literacy of SD Negeri 2 Dangin Puri students. A total of 197 students in grades IV, V, and VI became the sample of this study, consisting of 100 males and 97 females. Data collection is done online using Google Forms. The data collected was then analyzed descriptively and inferentially. Descriptive analysis aims to determine the percentage of students' environmental literacy attitudes. Meanwhile, inferential analysis was used to determine differences in the level of students' environmental literacy attitudes between grade levels and gender. The results showed that most of the students at SD Negeri 2 Dangin Puri (73.61%) had good and very good environmental literacy attitudes. The remaining 26.39% have average and poor environmental literacy attitudes. Furthermore, there was no significant difference in the level of environmental literacy attitudes between grade and gender. Based on the results of the research, it can be concluded that SD Negeri 2 Dangin Puri still has challenges to improve students' environmental literacy attitudes. Strategies to improve students' environmental literacy attitudes can be carried out using policy, curricular, and extracurricular approaches. Further research is needed to formulate operational steps for implementing these approaches in an effort to improve the environmental literacy attitudes of SD Negeri 2 Dangin Puri students.

Keywords: *attitudes, environmental literacy, students, elementary school, strategies*

1. INTRODUCTION

Environmental literacy is defined as a state of environmental literate related to knowledge, skills, and attitudes to prevent and overcome environmental problems (Roth, 1992). Everyone should have adequate environmental literacy, including students. Ownership of environmental literacy in a person is one of the important factors to ensure the sustainability of the environment and human life in the future. Therefore, empowering environmental literacy needs to be carried out in various aspects of life including education.

In relation to education, Roth (1992) also stated that environmental literacy is the main goal of education to improve the quality of human life. This statement is supported by several arguments which state that the perspective of environmental literacy is important for teachers, prospective teachers, and students for the sustainability of life (Özgürler & Cansaran, 2014) so that environmental education becomes a crucial aspect to be taught to students (McBride et al., 2013; Roth, 1992).

The results of observations at SD Negeri 2 Dangin Puri show that there are still some attitudes and behaviors of students who do not care about the environment. One of the findings was the behavior of students who littered, did not clean their nails, did not use the toilet properly, and there were still many students who consumed food

in single-use containers, which led to an increase in the volume of waste at school. If this is not addressed, it will have a negative impact on learning activities and environmental sustainability in schools.

So far, SD Negeri 2 Dangin Puri has carried out several strategies to increase students' environmental literacy. One strategy is to form student groups to clean the classroom regularly. With the observational findings as described above, it can be said that this strategy has not been fully successful. This strategy is also a strategy implemented downstream while the upstream part is in the form of changing the mindset of students towards the environment that has not been accommodated.

Based on this, it is necessary to explore the environmental literacy of SD Negeri 2 Dangin Puri students. This is important for mapping the level of environmental literacy of students so that it can be used as a basis for the formulation of subsequent environmental education strategies. This study specifically aims to determine the level of students' environmental literacy attitudes. Research is limited to the attitude domain because the attitude domain has a significant relationship with other environmental literacy domains (Maurer & Bogner, 2020). The results of subsequent research are used as the basis for the formulation of an environmental education strategy at SD Negeri 2 Dangin Puri.

2. RESEARCH METHODOLOGY

This research is a cross-sectional survey study using the direct administration method. The sample in this study was 197 students in grades IV, V, and VI consisting of 100 male students and 97 female students at SD Negeri 2 Dangin Puri, North Denpasar District, Denpasar City. The distribution of research samples is presented in Table 1.

Table 1. Sample Distribution

Number of Samples				
Based on Grade			Based on Gender	
IV	V	VI	Male	Female
72	50	75	100	97

Data on environmental literacy attitudes were collected in four domains, namely initiative, personal hygiene, wisdom, and responsibility. The data collection instrument was adapted from the environmental literacy attitude questionnaire used by Kuswendi & Arga (2020). The questionnaire consists of 16 statements on environmental literacy attitudes with a choice of 4 scale frequency responses, namely always, often, rarely, and never. Data collection is done by direct administration online using Google Forms.

Data analysis was performed using descriptive statistical analysis to determine the percentage of students' environmental literacy attitudes. Percentage calculation is done using the following formula.

$$\frac{\text{Score Obtained}}{\text{Score Max}} \times 100\%$$

Differential statistical analysis was also carried out to determine differences in environmental literacy attitudes based on grade and gender. Differential statistical tests were performed using ANOVA for differences between grades and t-independent for differences based on gender. The differential statistical test was preceded by a prerequisite test for normality and homogeneity with a significance level of 0.05. The environmental literacy attitude category is presented in Table 2.

Table 2. Environmental Literacy Attitudes Category

No.	Score	Category
1	0-60	Poor
2	60-70	Average
3	>70-80	Good
4	>80-100	Very Good

Source: (Narut & Nardi, 2019)

3. RELATED RESEARCH/LITERATUR REVIEW

Gunawan & Guslinda (2019) stated that the environmental literacy attitudes of students at SD Negeri 184 Pekanbaru were in the very good category (89.02%). Meanwhile, in Ruteng, East Nusa Tenggara, Narut & Nardi (2019) found the same result. Meanwhile, Siskayanti & Chastanti (2022) found different results, namely the character of students caring for the environment was in the low category.

In implementing environmental education policies, Rokhmah & Munir (2021) explain that implementing environmental education in schools requires three main steps, namely planning, implementing, and evaluating. Planning activities are forming a school environmental management team, making environmental studies and planning environmental actions. The activities carried out during the implementation were making environmentally sound policies, implementing an environment-based curriculum, carrying out participatory-based environmental activities, and managing environmentally friendly supporting facilities. The success of the implementation is evaluated by monitoring the state of biodiversity in schools, electricity bills and expenses for buying office stationery, weighing the amount of waste and monitoring students' abilities to manage the environment from the cognitive, affective and psychomotor aspects.

4. RESULTS AND DISCUSSION

The results of the data analysis revealed that most students in grades IV, V, and VI of SD Negeri 2 Dangin Puri had good environmental literacy attitudes. Details of the distribution of students' environmental literacy attitude categories are presented in Figure 1.

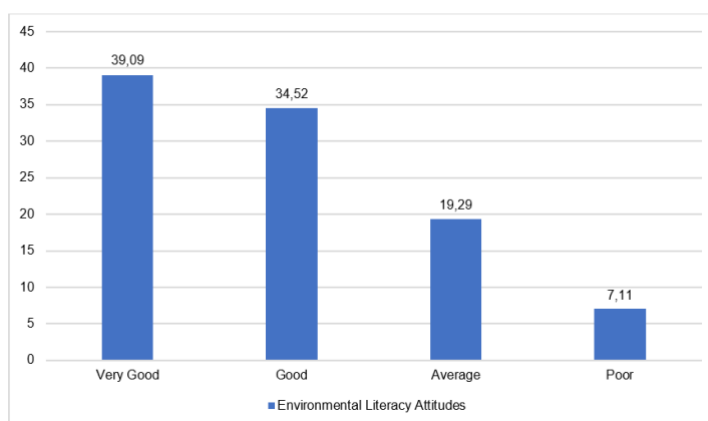


Figure 1. Percentage of Students Environmental Literacy Attitude

Of the total, there were 77 students were in the very good category, 68 students in the good category, 38 students in the average category, and 14 students in the less category. Furthermore, if a category dichotomy is carried out by combining very good and good categories, 73.61% of students are obtained. The results of this study are supported by Gunawan & Guslinda (2019) who state that the majority of the environmental awareness of SD Negeri 184 Pekanbaru students is in the very good category. In Ruteng, East Nusa Tenggara, Narut & Nardi (2019) also found similar

results that 77.81% of students had a good attitude of caring for the environment. Meanwhile, Siskayanti & Chastanti (2022) showed different results where the environmental care character of students in West Bilah, North Sumatra, needs improvement.

On the other hand, 26.39% of students were in average and poor categories. This shows that SD Negeri 2 Dangin Puri 2 still has challenges in improving students' environmental literacy attitudes because the percentage of students in the sufficient and insufficient categories is still relatively high.

To find out the differences in the level of environmental literacy attitudes among students in grades IV, V, and VI, an ANOVA test was carried out as presented in Table 3. Before the ANOVA test was carried out, the data normality and homogeneity tests were carried out. The normality test shows a p-value of 0.200, 0.200, and 0.054 respectively for data distribution in grades IV, V, and VI. This value is greater than the significance level of 0.05 which indicates that the data is normally distributed. Meanwhile, the homogeneity test showed a p-value of 0.836 (>0.05), so the data was categorized as homogeneous.

Table 3. ANOVA Test Result Based on Students' Grade

Data Source	N	Mean	SD	p	Note
Grade IV	72	49.22	7.80	0.625	Not Significant
Grade V	50	49.86	7.25		
Grade VI	75	48.53	7.54		

The ANOVA test results shown in Table 3 reveal that the p value (0.625) > 0.05 . This indicates that there is no significant difference in environmental literacy attitudes between students in grades IV, V, and VI of SD Negeri 2 Dangin Puri.

Data analysis was also carried out to determine differences in the level of environmental literacy attitudes based on gender with the independent t-test as shown in Table 4. The normality test was carried out before carrying out the independent t-test and showed the scores of male and female students respectively 0.170 and 0.200. This value is > 0.05 so the data distribution is said to be normal. Meanwhile, the homogeneity test showed a value of 0.296 (> 0.05) so the data was categorized as homogeneous

Table 4. ANOVA Test Result Based on Gender

Data Source	N	Mean	SD	p	Note
Male	100	48.23	7.92	0.092	Not Significant
Female	97	50.04	7.06		

The independent t-test results in Table 4 reveal the p-value (0.092) > 0.05 . This indicates that there is no significant difference in environmental literacy attitudes between male and female students at SD Negeri 2 Dangin Puri. The results of this study are in line with the research of Fitri & Hadiyanto (2022) which states that there is no difference in environmental literacy between male and female students.

The results showed that the majority of SD Negeri 2 Dangin Puri students had very good and good environmental literacy attitudes. On the other hand, there are quite a number of students, namely 26.39%, who still have environmental literacy attitudes in the average and poor categories. This shows that schools still have considerable challenges to improve students' environmental literacy attitudes. This challenge needs to be faced seriously so that students' environmental literacy attitudes can be

improved. Improving the environmental literacy attitude of elementary school students is a significant aspect to ensure environmental sustainability in the future. Schools need to formulate rational and practical strategies to improve students' environmental literacy attitudes.

Based on the grades and gender, there was no significant difference in the level of environmental literacy attitudes. This result can be interpreted that students in grades IV, V, and VI as well as male and female students have the same attitude towards environmental literacy. This provides an illustration that the strategies taken by schools can be generated at the educational unit level. This means that schools do not need to develop different educational strategies for each grade or different strategies for male and female students.

The formulation of environmental education strategies in schools can be divided into three approaches, namely policy, curricular, and extracurricular approaches based on environmental management (Jufri et al., 2018). The policy approach includes regulations made in schools for environmental management. The curricular approach includes integrated environmental education strategies in programmed classroom learning. Meanwhile, the extracurricular approach is an environmental education strategy through strengthening students' interests and talents.

In the context of a policy approach, schools can formulate various regulations to manage and maintain environmental sustainability that must be obeyed by all school members, including students. From a student's, the formulation of these regulations can be made in the form of preparing schedules for class cleaners, sorting organic and inorganic waste, and conducting socialization on environmental sustainability regularly and continuously (Idrus & Novia, 2018; Marjohan & Afniyanti, 2018).

In curricular activities, teachers can use an ecopedagogical approach to improve students' environmental literacy attitudes (Adela & Permana, 2020). This approach aims to integrate learning with environmental content. In its implementation, this approach can be initiated by preparing lesson plans (Efendi et al., 2020) and teaching materials (Kahar, 2018) by integrating local environmental content based on local culture (Huda et al., 2018). Furthermore, teachers can choose innovative learning models to be implemented in implementing ecopedagogical approaches. Several innovative learning models such as problem-based learning, project-based learning, contextual teaching and learning, outdoor learning, cooperative learning, and talking chips have also been proven to be able to improve students' environmental care character (Santika et al., 2022; Widyaningrum & Prihastari, 2018; Wiwik Saptiani & Astawan, 2020).

Meanwhile, the extracurricular approach can be carried out by compiling or activating environment-based extracurricular activities. This activity can be in the form of activities outside of schools such as visits to rice fields, landfills, or places for organic and inorganic waste management.

This research is limited to formulating strategies to improve environmental literacy attitudes at SD Negeri 2 Dangin Puri. Implementation of the strategy formulation must be carried out in a participatory manner by involving all school members and parents. Furthermore, strategy implementation must also be adapted to the characteristics, potential, and school environment, both natural and social, which are not discussed in this study. Therefore, further research is needed to formulate

operational steps for implementing strategies to improve students' environmental literacy attitudes at SD Negeri 2 Dangin Puri.

5. CONCLUSION

The results of the study showed that the majority of SD Negeri 2 Dangin Puri students had a cumulative good and very good environmental literacy attitude of 73.61%. Meanwhile, the rest had a level of environmental literacy that was average and poor cumulatively 23.69%. It was also found that there were no significant differences in environmental literacy attitudes at the grades and student gender. The results of this study indicate that SD Negeri 2 Dangin Puri still has challenges in improving students' environmental literacy attitudes. Strategies to improve students' environmental literacy attitudes can be carried out with a comprehensive strategy at the school level including policy, curricular and extracurricular approaches. Further research is needed to formulate operational steps for implementing policy, curricular and extracurricular approaches in an effort to improve the environmental literacy attitude of SD Negeri 2 Dangin Puri students.

REFERENCE

- Adela, D., & Permana, D. (2020). Integrasi Pendidikan Lingkungan di Sekolah Dasar, *Jurnal Belaindika*, 2(2). [Jenis ref: Jurnal]
- Efendi, N., Barkara, R. S., & Fitria, Y. (2020). Implementasi Karakter Peduli Lingkungan di Sekolah Dasar Lolong Belanti Padang, *Jurnal Komunikasi Pendidikan*, 4(2). [Jenis ref: Jurnal]
- Fitri, R. A., & Hadiyanto. (2022). Kepedulian Lingkungan melalui Literasi Lingkungan pada Anak Usia Dini, *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 6(6). [Jenis ref: Jurnal]
- Gunawan, H., & Guslinda. (2019). Analisis Sikap Peduli Lingkungan Siswa Sd Negeri 184 Pekanbaru, *Primary: Jurnal Pendidikan Guru Sekolah Dasar*, 8(14). [Jenis ref: Jurnal]
- Huda, F. N., Noperman, F., & Yuliantini, N. (2018). Pengaruh Bahan Ajar Muatan Lokal Konservasi Pesisir Pantai Bengkulu, *Jurnal Riset Pendidikan Dasar*, 1(3). [Jenis ref: Jurnal]
- Idrus, A., & Novia, Y. (2018). Pelaksanaan Nilai Peduli Lingkungan di Sekolah Dasar, *Jurnal Gentala Pendidikan Dasar*, 3(2). [Jenis ref: Jurnal]
- Jufri, La Fua, J., & Nurlila, R. U. (2018). Pendidikan Lingkungan di Sekolah Dasar Negeri 1 Baruga, *Jurnal Al-Ta'dib*, 11(2). [Jenis ref: Jurnal]
- Kahar, A. P. (2018). Application Of Mangrove Ecosystem Material Based on Local Potential to Improve Student's Environmental Awareness Attitude. *Didaktika Biologi: Jurnal Penelitian Pendidikan Biologi*, 2(1). [Jenis ref: Jurnal]
- Kuswendi, U., & Arga, H. S. P. (2020). Developing Primary School Students' Environmental Literacy by Utilizing Scraps, *Mimbar Sekolah Dasar*, 7(2). [Jenis ref: Jurnal]
- Marjohan, & Afniyanti, R. (2018). Penerapan Nilai Pendidikan Karakter Peduli Lingkungan di Kelas Tinggi Sekolah Dasar Marjohan 1, *Jurnal Gentala Pendidikan Dasar*, 3(1). [Jenis ref: Jurnal]
- Maurer, M., & Bogner, F. X. (2020). Modelling Environmental Literacy With Environmental Knowledge, Values And (Reported) Behaviour, *Studies in Educational Evaluation*, 65(2019). [Jenis ref: Jurnal]
- McBride, B. B., Brewer, C. A., Berkowitz, A. R., & Borrie, W. T. (2013). Environmental Literacy, Ecological Literacy, Ecoliteracy: What Do We Mean and How Did We Get Here? *Ecosphere*, 4(5). [Jenis ref: Jurnal]
- Narut, Y. ., & Nardi, M. (2019). Analisis Sikap Peduli Lingkungan pada Siswa Kelas XI IPS SMA di Kota Pontianak, *Jurnal PIPSI (Jurnal Pendidikan IPS Indonesia)*, 5(2). [Jenis ref: Jurnal]
- Özgürler, S., & Cansaran, A. (2014). Graduate Students, Study of Environmental

- Literacy and Sustainable Development, International Electronic Journal of Environmental Education, 4(2)*. [Jenis ref: Jurnal]
- Rokhmah, U. ., & Munir, M. (2021). *Implementasi Budaya Sekolah Berwawasan Lingkungan dalam Membentuk Karakter Peduli Lingkungan Siswa Sekolah Dasar. Muallimuna : Jurnal Madrasah Ibtidaiyah, 7(2)*. [Jenis ref: Jurnal]
- Roth, C. E. (1992). *Environmental Literacy: Its Roots, Evolution, and Directions in the 1990s*. [Jenis ref: Laporan]
- Santika, I. G. N., Suastra, I. W., & Arnyana, I. B. P. (2022). *Membentuk Karakter Peduli Lingkungan pada Siswa Sekolah Dasar Melalui Pembelajaran IPA, Jurnal Education and Development, 10(1)*. [Jenis ref: Jurnal]
- Siskayanti, J., & Chastanti, I. (2022). *Analisis Karakter Peduli Lingkungan pada Siswa Sekolah Dasar, Jurnal Basicedu, 3(2)*. [Jenis ref: Jurnal]
- Widyaningrum, R., & Prihastari, E. B. (2018). *Implementasi Model Pembelajaran Talking Chips Disertai Media Fotonovela untuk Meningkatkan Sikap Peduli Lingkungan dan Kemampuan Menyampaikan Pendapat Mahasiswa. Premiere Educandum : Jurnal Pendidikan Dasar Dan Pembelajaran, 8(1)*. [Jenis ref: Jurnal]
- Saptiani, N. W., & Astawan, I. G. (2020). *Pengaruh Model Pembelajaran TPS Berbasis Lingkungan Terhadap Sikap Peduli Lingkungan dan Kompetensi IPA, International Journal of Elementary Education, 4(1)*. [Jenis ref: Jurnal]