Evaluation of Students' Environmental Care Characters at Adiwiyata School (Case Study of SMPN 19 Palembang)

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Abstract: Adiwiyata School program is unable directly build the student's environmental care character. Therefore, it is necessary to evaluate the students' environmental care character at schools that won the Adiwiyata Award. This study aims to evaluate the environmental care character of students at Adiwiyata School. This study used a mixed-method, which combines quantitative and qualitative descriptive methods. The research sample was taken using the purposive sampling technique where the researcher took 110 students as the research sample. There are 3 (three) indicators used to evaluate students' environmental care character. The first indicator is the environmental cleanliness concern which showed 89.88% of students gave a positive value response. The second indicator is the knowledge of waste management which showed 90.07% of students gave a positive score response, and the last indicator is the knowledge about reforestation and natural resource management which showed 82.62% of students gave a positive score response. Based on the three indicators used, the overall response was a positive value of 75%. In accordance, the results of the study show that the average value of positive responses was 88.08%. Thus, it can be said that the environmental care character of students at SMPN 19 Palembang is in the very good category.

Keywords: Adiwiyata School, character, care for the environment

1. Introduction

The environment requires more joint efforts to overcome the existing problems [1]. Many environmental problems are caused by human behavior; therefore efforts are needed to control the rate of pollution and environmental damage. Educational institutions such as schools have a strategic role in providing environmental education. One of the efforts to provide this is the holding of the Adiwiyata School Program. The Adiwiyata program combines a school education curriculum with an environmentally sound curriculum in building students' character. Characters are values that have been well internalized in a person and become part of life that is seen in daily attitudes and behavior [2]. The character of caring for the environment is the embodiment of attitudes in the form of actions that come from a self-awareness not to pollute and destroy the environment [3].

Humans have reasons, thoughts, and consciences thus character appears in the form of belief and obedience to conscience. Environmental care indicators include maintaining environmental cleanliness, sanitation, and school drainage, disposing of waste in its place, carrying out water-saving and energy-saving movements, conducting waste sorting activities, and participating in reforestation movements [4].

One way to change behavior, attitudes, and paradigms towards the environment is by holding Environmental Education [5]. Adiwiyata is an environmental education program in collaboration with the Ministry of Environment and Forestry with the Ministry of Education and Culture launched in 2006 [6].

The purpose of implementing Adiwiyata school program is to form schools that are caring and environmentally cultured through the efforts of protecting and managing the environment at school [7]. Suppose that the awareness and knowledge of the school community about the environment increases, the caring behavior, and environmental culture will also develop which will reduce environmental damage in the future. The success of the environmental education process can be seen from the output that appears in the form of attitudes, behavior, and character [8]. The Adiwiyata school program that has been implemented as a whole is satisfactory but still suboptimal that improvements are needed in several ways related to the implementation of Adiwiyata school program since it

is found that the level of concern and participation of the school community, especially students towards the environment is still unideal and limited to formality. Or it has not fully become an individual awareness of the school community, which is carried out only when the Adiwiyata Team will be assessed [9].

The research that has been conducted on Adiwiyata school program has not yet answered the question of how care is students about the environment, hence it is necessary to evaluate the environmental concerns of the students. Fostering environmental awareness through real activities that are close to students' daily lives, can make students understand more and can directly apply it [10].

This study's purpose to evaluate the environmental care character of students at SMPN 19 Palembang as one of the schools that have won the Adiwiyata School award.

2. Materials and Methods

2.1. Materials

The data used in this study came from two sources, namely primary and secondary data. The data in this study were obtained through a study of documentation owned by SMPN 19 Palembang, questionnaires distributed to students online, interviews with school principals, and field observations.

2.2. Methods
2.2.1 Sample Collection and Preparation

This study used a total sampling technique. Total sampling was a sampling technique and the entire population was used as a research sample [11]. In this study, 10% of the total students at SMPN 19 Palembang were selected to fill out the distributed questionnaires. In Table 1, it can be seen the data on the number of students at SMPN 19 Palembang is for the 2021/2022 academic year.

Table 1 Number of Students at SMPN 19 Palembang of academic year 2021/2022

Class	Group	The number of students		
		L	P	Amount
VII	11	164	200	364
VIII	11	165	201	366
IX	11	156	1194	350
Total	33	485	594	1080

Source: SMPN 19 Palembang Documentation

2.2.2 Time and Place

This research was conducted from July 19 to October 19, 2021, at the Department of Environment and Land, South Sumatra Province, and SMPN 19 Palembang.

2.3. Experimental Variable and Analytical Procedures

The researcher limits this research by choosing junior high school considering the characteristics and roles of junior high school students greatly determine their lives as individuals in adult society. Junior high school age or better known as teenagers is a stage of the development process of forming the establishment of life view as life values [12]. The variable in this study is the student's environmental care character.

Online questionnaires have been distributed to students selected as the samples. The test method refers to environmental care indicators based on the Regulation of the State Minister of the Environment Number 53 the Year 2019 concerning the Adiwiyata Award. The environmental care indicators include concern for cleanliness, knowledge indicators about waste management, and knowledge indicators on reforestation and natural resources conservation.

These indicators become a reference in making a questionnaire to assess and evaluate the students' environmental care. In addition to using questionnaires, researchers also conducted direct observations and interviews with school principals or teachers [13]. The questionnaire contains 36 statements which are grouped according to environmental care indicators as shown in the following table:

Table 2. Questionnaire Statements Grouping Based on Environmental Care Indicators

Environtmental Care Indicator	Questionnaire statements
Indicator concern for cleanliness	[1] Sanitation, drainage and environmental cleanliness in schools must be maintained properly.
	[2] Sanitation, drainage and environmental cleanliness at schools is the responsibility of every school member.
	[3] I will reprimand my friends who do not carry out the cleanliness picket at school.
	[4] Littering causes pollution and environmental damage.
	[5] I feel proud if I throw trash in places provide.
	[6] If the trash I throw falls out of the trash can, I will immediately go and pick it up again.
	[7] I will reprimand and remind my friends if I see them littering
	[8] Throwing food wrappers and used paper into the desk drawer is not commendable behavior.
	[9] When walking through the scattered garbage, I will clean up the scattered garbage.
	[10] The cleanliness of the school environment affects the enthusiasm and concentration of learning.
knowledge indicators about waste management	[11] Based on its nature, waste consists of organic and inorganic waste
	[12] Organic waste and inorganic waste must be placed in different places.
	[13] Schools need to implement 3R (Reuse, Reduce, Recycle) waste management.
	[14] I am happy when the teacher gives school assignments to make 3R creations for crafts.
	[15] I like to use used items that can still be used.
	[16] Bottles used for beverage packaging can be reprocessed into other goods.
	[17] I am happy when I am taught at school about how to process organic waste into compost.
	[18] Making things from recycled materials is fun.
	[19] I will share my knowledge of how to make compost and organic fertilizer with family members at home.
	[20] I prefer to bring lunch from home.
	[21] Bring a tumbler (drinking water bottle) when you go to school/travel.
	[22] Bring a special container as a temporary trash can while traveling.
	[23] I feel happy when I am taught how to manage waste properly and correctly at school.
Indicator knowledge indicators on reforestation and natural resources conservation	[24] Every school must have a Green Open Space such as a school garden, garden or family medicine garden.
	[25] Every school member must participate in planting, caring for and maintaining trees/plants at school without exception.
	[26] The availability of water and energy resources is limited.
	[27] No need to turn on the light during the day.
	[28] I always use water necessarily and sparingly.
	[29] Collect and reuse air conditioning waste water and water used for ablution for watering plants as one of the water conservation efforts.
	[30] We have to close the water faucet when we finish using the bathroom or toilet because our water supply is abundant.
	[31] Saving energy and saving clean water is the responsibility of all of us.
	[32] I always use energy efficient equipment.
	[33] I would turn off the lights and unplug the unused switches.
	[34] The world's oil reserves are dwindling.
	[35] I like to use public transportation to school
	[36] I use public transportation to school to save energy.

2.4. Data Analysis

Data analysis was carried out by weighting or scoring the value of the questionnaire [14]. Every statement has 4 answer choices including strongly agree, agree, disagree, and strongly disagree. Each of the choices has its own value. The value of weighting or scoring is given using the Likert scale. The Likert scale is used to measure attitudes, opinions, and perceptions of a person or group of people about social phenomena. Then the weighting value (x) in this study to see students' environmental care is described with intervals from the lowest to the highest value/ percentage as follows:

a.   0 – 25   : very bad character;
b.   >25 – 50   : bad character;
c.   >50 – 75   : good character;
d.   >75 – 100   : very good character.

It aims to see and describe the characters of all subjects studied.

3.   Result and Discussion

The research was conducted using online media in the form of a questionnaire distributed to 1080 students consisting of students in grades VII, VIII, and IX, but only 10% of the data are used as research samples. The questionnaire contains 36 statements related to environmental care indicators. The following are the results and discussion of the research conducted.

3.1 Concern for Cleanliness

The results of the questionnaire on indicators of concern for cleanliness can be seen in table 3 below:

Table   3   Results   of   Awareness   Indicator Questionnaire Concern for Cleanliness

Statement	Percentage of Answers (%)			
	SA	A	D	SD
1	67.27	32.73	0.00	0.00
2	56.36	42.73	0.91	0.00
3	46.36	52.73	0.91	0.00
4	56.36	30.00	7.27	6.36
5	60.91	35.45	0.91	2.73
6	45.45	33.64	16.36	10.00
7	40.91	56.36	2.73	0.00
8	60.91	28.18	8.18	2.73
9	44.55	44.55	6.36	4.55
10	38.18	37.27	14.55	10.00

Notes : SA : strong agree; A : agree; D :disagree;
        SD : strong disagree

Based on Table 3, it can be seen that the average positive score (strongly agree and agree) for the environmental hygiene indicator at SMPN 19 Palembang is 91.09%. From 10 (ten) statements, the one that received the highest positive response was statement number 1, which was 100%.

3.2 Knowledge   Indicators   About   Waste Management

Poor waste handling makes the environment contaminated and polluted. Waste must be managed properly and correctly so it will not cause negative impacts on the environment and society [15]. Waste management will minimize the risk of pollution and environmental damage [16].

Table 4. Questionnaire Knowledge Indicators About Waste Management

Statement	Percentage of Answers (%)			
	SA	A	D	SD
11	44.55	53.64	0.00	1.82
12	52.73	46.36	0.91	0.00
13	43.64	55.45	0.91	0.00
14	39.09	50.00	7.27	3.64
15	44.55	38.18	11.82	5.45
16	39.09	59.09	1.82	0.00
17	39.09	56.36	3.64	0.91
18	30.91	59.09	7.27	2.73
19	30.00	64.55	5.45	0.00
20	20.00	49.09	20.91	10.00
21	38.18	50.00	9.09	2.73
22	22.73	60.91	14.55	1.82
23	40.91	44.55	10.00	4.55

Notes : SA : strong agree; A : agree; D :disagree;
        SD : strong disagree

Based on Table 4, the average positive value for the indicators of knowledge about waste management at SMPN 19 Palembang is 90.21%. From 13 statements, the ones that received the highest positive responses were statements number 12 and 13.

3.3 Knowledge Indicators on Reforestation and Natural Resources Conservation

Reforestation is one of the most important efforts to reduce the impact of global warming and can improve the quality of the environment [17]. Natural resource conservation is the usage and management of natural resources wisely while maintaining and improving the quality of diversity and its value to ensure the continuity of its supply [18].

Table 5 Questionnaire Results of Knowledge Indicators of Greening and Natural Resources Conservation

Statement	Percentage of Answers (%)			
	SA	A	D	SD
24.	51.82	43.64	3.64	0.91
25.	46.36	50.00	3.64	0.00
26.	15.45	50.00	30.00	4.55
27.	37.27	49.09	10.91	2.73
28.	42.73	55.45	1.82	0.00
29.	26.36	47.27	22.73	3.64
30.	49.09	43.64	4.55	2.73
31.	55.45	42.73	0.91	0.91
32.	28.18	60.91	10.00	0.91
33.	42.73	36.36	12.73	8.18
34.	22.73	48.18	22.73	6.36
35.	14.55	52.73	23.64	9.09
36.	14.55	50.91	22.73	11.82

Notes : SA : strong agree; A : agree; D :disagree;
SD : strong disagree

Based on Table 4, it can be seen that the average positive value for the knowledge of reforestation and conservation of natural resources indicator at SMPN 19 Palembang is 82.94%. From 13 (thirteen) statements, the highest positive responses are statements numbered 28 and 31.

3.4 Evaluation of Students' Environmental Care Character

The evaluation results of students' environmental care character studied can be seen in Tables 2 to 5. Based on these results, it can be seen that the average positive response value for the three environmental care indicators is 88.08%. The positive result response shows that the environmental care character of the students is very good

4. Conclusion

Based on the evaluation that has been carried out on the environmental care character of students at SMPN 19 Palembang, information on the factors that influence the environmental care character of students include attitudes, behavior, lifestyle, integration of environmentally friendly curriculum, knowledge, and understanding of students and awareness of participation. From 108 samples taken in filling out the questionnaire, 88.08% show the positive response from the questionnaire which means that the students have a very good environmental care character and have implemented it in their daily activities.

These results indicate that the environmental care character of students at Adiwiyata School is excellent, the existence of Adiwiyata School award has positive impact on the environmental care character of the students in the school.

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