



The Impact of Student Responses and Concepts Understanding on the Environmental Care Character of Elementary School Students

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ABSTRAK

Pentingnya karakter peduli lingkungan dimiliki oleh setiap individu sejak dini, menjadikan penelitian mengenai bagaimana pengaruh respon siswa terhadap karakter peduli lingkungan suku anak dalam dan pemahaman konsep siswa pada pelajaran tematik tema 8 lingkungan sahabat kita terhadap karakter peduli lingkungan siswa perlu dilakukan. Dengan tujuan mengetahui pengaruh respon siswa terhadap karakter peduli lingkungan suku anak dalam dan pemahaman konsep siswa terhadap karakter peduli lingkungan siswa sekolah dasar. Subjek penelitian yaitu siswa aktif kelas 5 sekolah dasar. Teknik pengumpulan sampel simple random sampling. Jumlah sampel 100 siswa. Jenis penelitian menggunakan penelitian mixed method desain sequential eksperimental dengan metode analisis data statistik dan Miles dan Huberman. Hasil penelitian menunjukkan pemahaman konsep Siswa pada pelajaran tematik tema 8 lingkungan sahabat dan respon siswa terhadap karakter peduli lingkungan suku anak dalam berpengaruh terhadap karakter peduli lingkungan siswa sekolah dasar. Sehingga pengetahuan mengenai peduli lingkungan siswa sangat mempengaruhi meningkatnya karakter peduli lingkungan siswa.

ABSTRACT

The importance of caring for the environment is owned by each individual from an early age, making research on how the effect of student responses on the character of caring for the environment in the tribe and understanding of students' concepts in thematic learning of our 8 themes of the environment of friends on the character of caring for the environment of students needs to be done. This study aims to examine the effect of student responses on the environmental care character of the inner tribe and students' conceptual understanding of the environmental care character of elementary school students. This type of research uses a mixed method of explanatory sequential design. The subjects of this study were 5th grade elementary school students. The sampling technique was simple random sampling. The number of samples is 100 students. The research instrument is in the form of response questionnaires and questions as well as interviews with data analysis using statistics and Miles and Huberman. The results showed that students' understanding of concepts in thematic learning themed 8 was environmentally friendly and students' responses to the environmental care character of ethnic children in influencing the environmental care character of elementary school students. So that knowledge about caring for the environment of students greatly affects the improvement of the character of caring for the environment of students.

1. INTRODUCTION

The importance of science and social can be obtained through the tiers of education. Education is an important topic in every country which is one way to produce quality human resources in the face of globalization, therefore education must be implemented (Astawan et al., 2021; Rati & Rediani, 2021; Tanti et al., 2021). The important goals of education include instilling students' creative abilities, caring character for the environment and students' achievement at the center, and if this has been achieved at the elementary school level, it will be easier to develop at the next level (Amin et al., 2021; Aulia Martaputri et al., 2021; Sipayung et al., 2021). Education in schools is one of the strategic media to educate, instill and develop character values to the younger generation and is influenced by the application of ongoing learning patterns (Asrial et al., 2021; Inayatillah, 2022; Kamid, Sabil, et al., 2021; Putri et al., 2022). The first level of education taken by an individual is elementary school.

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At the elementary school level, students are introduced and taught about basic knowledge such as counting, writing, and reading and inculcating character values that are useful for their lives and environment. The environment is part of a mechanism that produces real behavior from students themselves in creating changes in the environment at the elementary school level. Environmental material is studied in grade 5 in thematic learning theme 8, namely the environment of our friends (Divayuda et al., 2021; Khasanah & Karmila, 2021; Ulva et al., 2021). Thematic learning is learning that links several subject matter content that emphasizes the activeness of students in the learning process that is integrated into everyday life so that students can gain direct experience (Cahyarini et al., 2021; Karimah et al., 2021). Thematic learning materials with the theme of our friend's environment include basic competencies where students must be able to identify changes that occur in nature, their relationship to the use of natural resources and the influence of human activities on environmental balance (Gustina, 2021; Nurul Huda Panggabean et al., 2020; Puspitaningrum et al., 2020). So that from an early age students have been instilled knowledge about conservation and sanitation.

Knowledge about conservation and sanitation is very important for every individual so it needs to be instilled early on. An effort to protect or preserve the environment carried out by humans by maintaining the existence of an environmental component to maintain the balance of the ecosystem and ensure the continuity of life in the world is called conservation (Barral, 2020; Khairunnisa & Yuono, 2021; Mukarromah et al., 2022). Environmental Sanitation has an important role that must be considered, especially clean water facilities, drinking water sources, latrine conditions, waste water disposal channels, types of house floors (Durán Sosa et al., 2021; Kurniawati & Abiyyah, 2021; Maliga et al., 2020). Local wisdom can be used as a source of learning biology because it carries the function of value conservation and preservation of natural resources that must be known, understood, and preserved by generations of the nation through education, especially learning in schools by teachers (Agus Lanini & Ikhsan Syafiuddin, 2020; De Rooy et al., 2021; Siti Alimah, 2019). Given that conservation and sanitation are closely related to the environment, it is necessary to cultivate the character of caring for the environment in students.

The character of caring for the environment is something that is important to be owned and maintained in order to maintain the sustainability of a simple life. Education in Indonesia is important in efforts to build character in accordance with the nation's culture, not only in schools through a series of learning activities, but also through life habits, such as being religious, honest, disciplined, tolerant, hard working, peace loving, responsible, and caring for the environment (Halek et al., 2021; Hidayati et al., 2020; Nada et al., 2021). Environmental care character education is an attitude that a person has to improve, maintain and manage the environment correctly and sustainably so that there are sustainable benefits (Wardani, 2020; Kosenchuk et al., 2019; Sitorus & Lasso, 2021). Environmental awareness is important to be carried out early on in students, so that they can understand and apply character education in the form of caring for the environment, in school life, as well as at home, in society, and generally on earth (Arent et al., 2020; Sari et al., 2021). The character of caring for the environment must be maintained in each individual so that the environment is maintained in its beautiful state.

Previous research which is in line with current research, which is both researching how the environmental care character of basic students is with the results of the study showing that there are differences in the environmental care character between the environmental-based TPS learning model and the conventional learning model group and with the results of research on environmental care character education can be implemented. in schools through integration in subjects as well as through self-development programs carried out by (Amelia et al., 2018; Wiwik Saptiani & Astawan, 2020). In previous research, it was also stated that character is an important and main thing in equipping elementary schools. The difference between previous and current research is that the variables associated with the caring character variable were used in previous studies to measure the learning model variables on the caring character of students' environment. So, this research was conducted by measuring the effect of students' responses on the environmental care character of the Inner Tribe and the influence of the student's response on the environmental care character of the Inner Tribe with the understanding of students' concepts on the environmental care character of elementary school students.

Previous research investigates dimensions of early childhood character education based on multiculturalism and local wisdom. Where the self dimension has indicators of honesty, responsibility, and independence, the fellow human dimension still has four indicators, namely rights and obligations, obeying the law, respecting the work of others, and being polite to anyone, and the environmental dimension also has four indicators, namely the spirit of nationalism, love homeland, communicative, and care for the environment (Harun et al., 2020; Ridlo, 2020). So that this research is a form of the recentness of previous research where this study specifically discusses the environmental care character of elementary school students which is measured through student responses and understanding of concepts in the environmental material of our friends in grade 5 elementary school. Based on the explanation above, this

study aims to examine the effect of student responses on the environmental care character of the inner tribe and students' conceptual understanding of the environmental care character of elementary school students. children in understanding the concept of students towards the environmental care character of elementary school students.

2. METHOD

This type of research uses mixed method research with explanatory type sequential design. Mixed method with explanatory sequential design, which is a combination of quantitative and qualitative methods which produces an interpretation where the results of quantitative data analysis are strengthened by qualitative data results (Hermawan, 2019; Utarini, 2020). Collecting data where the first thing to do is to select students based on the categories given by the researcher, then provide questionnaires and conduct interviews about the character of students' environmental care and understanding of students' concepts in thematic learning theme 8 of our friend's environmental material. The data needed in research can be collected or obtained from various data sources. The population is the whole object or subject of research, while the sample is part or representative of the population that has characteristics or general description of the representation of the population (Iskandar et al., 2021; Lesmana, 2021; Riyanto & Hatmawan, 2020). The sample of this research was taken from the population of SDN 76/IX Mendalo Darat and SDN 6 Sungai Duren, with this research sample 50 students at SDN 76/IX Mendalo Darat and 50 students at SDN 6 Sungai Duren. So the number of samples in this study is 100 students. The sample collection technique used is simple random sampling. Where every individual has the same opportunity to be a research subject (Sudaryono, 2021).

The research instrument consisted of a questionnaire and an interview. The questionnaire used was in the form of student response questionnaires and understanding of student learning concepts, as well as interviews conducted with students. There are 20 valid statement items about the character of students' environmental care and student responses, as well as multiple choice questions consisting of 20 questions about students' conceptual understanding of the thematic subject matter of the theme 8 of our friend's environment on this instrument using a Likert scale. The scale consists of 4 points with 4 points for Very not good, 3 for Not good, 2 for Good, and 1 for Very good. The grid for this research questionnaire can be seen in Table 1 and Table 2.

Table 1. Instrumental Grid for students' environmental care character

Variable	Indicator	No. Statement Items
Character care for the environment of students	Curious, critical, and cares about the environment	1, 2, 3, 4, 5, 6, 7
	Efforts to repair the natural damage that has occurred	23, 24, 25, 26, 27, 28, 29, 30
Total Statement		15

Table 2. Instrument Grid Student responses to the environmental care character of children's ethnic groups in

Variable	Indicator	No. Statement Items
Student's response to the character of caring for the environment of the children's tribe in	Participate in maintaining the garden in the school yard	1, 2, 3, 4, 5
	Participate in keeping the environment clean	12, 13, 14, 15, 16, 17, 18
Total Statement		12

Then, as for the description of the categories of the questionnaire instrument for students' environmental care and understanding of students' concepts in the thematic lessons on theme 8 of our friend's environmental material, they are as shown in Table 3.

The questionnaire categories table for student responses to the environmental care character of the inner tribe and understanding of students' concepts in the thematic lessons on theme 8 of our friend's environmental material are as shown in Table 4.

Table 3. Description of the questionnaire categories of students' environmental care and understanding of students' concepts

Category	Indicator Interval	
	Curious, critical, and cares about the environment	Efforts to repair the natural damage that has occurred
Very not good	7.00 – 12.25	8 – 14
Not good	12.26 – 17.50	15 – 20
Good	17.51 – 22.75	21 – 26
Very good	22.76 – 28.00	27 – 32

Table 4. Description of the categories of student responses to the character of caring for the environment in the children's tribe and understanding of students' concepts

Category	Interval Indikator		
	Beautify classrooms and schools with plants	Participate in keeping the environment clean	Understanding student concepts
Very not good	5.00 – 8.75	7.00 – 12.25	0 – 5
Not good	8.76 – 12.50	12.26 – 17.50	6 – 10
Good	12.51 – 16.25	17.51 – 22.75	11 – 15
Very good	16.26 – 20.00	22.76 – 28.00	16 – 20

The quantitative data of this study were obtained from statement questionnaires and multiple-choice questionnaires and the qualitative data of this study were obtained from the results of interviews conducted with students. Analysis of quantitative data using descriptive statistics and inferential statistics using SPSS version 25. The use of the SPSS application is to present descriptive statistical data in the form of tables of frequency, min, max, percentage, mean, median and others (Kamid, Sabil, et al., 2021; Santoso, 2019). Then inferential statistics using parametric tests in the form of testing assumptions and testing hypotheses. To test the hypothesis in the form of a regression test, the assumption test must be fulfilled, namely the data is normally distributed and linear (Kamid, Rohati, et al., 2021; Yuliawati et al., 2019). The normality test is useful for determining the data that has been collected is normally distributed or comes from a normal population (Qomusuddin, 2019). With the condition that the decision value of sig. > 0.05 means that the data is normally distributed, and for linearity test the condition is that the value of sig. < 0.05 means that the data is linear. with the fulfillment of the assumption test, it can be continued with the parametric regression statistical test which is useful for knowing the effect of a variable on other variables provided that the value of sig. < 0.05 then it has an effect. Continued for qualitative data analysis using the Miles and Huberman model. Explained that the Miles and Huberman model in the analysis process consisted of three stages, namely data reduction, data display, and drawing conclusions and verification (Astalini et al., 2018; Helmis, 2020).

3. RESULT AND DISCUSSION

Result

The results of descriptive statistics and inferential statistics with the variables measured are the character of students' environmental care and understanding of elementary school students' concepts on thematic subject matter theme 8, namely the environment of our friends, where the results are obtained from the distribution of a questionnaire on the statement of the character of caring for the environment and a questionnaire on student responses to the caring character of the children's ethnicity and a multiple-choice questionnaire for our friend's environmental material in class V at SDN 76/IX Mendalo Darat and SDN 6 Sungai Duren. The results of descriptive statistics in this study are a description of the character of students' environmental care and understanding of elementary school students' concepts on thematic subject matter theme 8, namely the friendly environment which will be presented in Table 5.

Table 5. Description of the environmental care character of elementary school students with indicators Having curiosity, being critical, and caring for the environment

School	Category	Interval	F	%	Mean	Med	Min	Max
SDN 76/IX	Very not good	7.00 – 12.25	0	0				
Mendalo	Not good	12.26 – 17.50	0	0	22.56	22.0	19.0	28.0
darat	Good	17.51 – 22.75	27	54%				

School	Category	Interval	F	%	Mean	Med	Min	Max
SDN Sungai Duren	Very good	22.76 – 28.00	23	46%	21.9	22.0	19.0	28.0
	Very not good	7.00 – 12.25	0	0				
	Not good	12.26 – 17.50	0	0				
	Good	17.51 – 22.75	43	86%				
	Very good	22.76 – 28.00	7	14%				

Furthermore, the table description of the environmental care character of elementary school students with indicators of efforts to repair natural damage that has occurred is in Table 6.

Table 6. Description of the environmental care character of elementary school students with indicators Efforts to repair the natural damage that has occurred

School	Category	Interval	F	%	Mean	Med	Min	Max
SDN 76/IX Mendalo darat	Very not good	8 – 14	0	0	23.9	24.0	20.0	27.0
	Not good	15 – 20	1	2%				
	Good	21 – 26	48	96%				
	Very good	27 – 32	1	2%				
	Very not good	8 – 14	0	0				
SDN 6 Sungai Duren	Not good	15 – 20	2	4%	23.5	23.5	20.0	27.0
	Good	21 – 26	45	90%				
	Very good	27 – 32	3	6%				
	Very good	27 – 32	3	6%				

Furthermore, the table description of students' responses to the character of caring for the environment of the inner tribe by beautifying classes and schools with plants is in Table 7.

Table 7. Description of students' responses to the character of caring for the environment of the inner tribe with indicators Beautifying classrooms and schools with plants

School	Category	Interval	F	%	Mean	Med	Min	Max
SDN 76/IX Mendalo darat	Very not good	5.00 – 8.75	0	0	15.8	16.0	12.0	18.0
	Not good	8.76 – 12.50	2	4%				
	Good	12.51 – 16.25	31	62%				
	Very good	16.26 – 20.00	17	34%				
	Very not good	5.00 – 8.75	0	0				
SDN 6 Sungai Duren	Not good	8.76 – 12.50	1	2%	15.8	16.0	12.0	18.0
	Good	12.51 – 16.25	34	68%				
	Very good	16.26 – 20.00	15	30%				
	Very good	16.26 – 20.00	15	30%				

Furthermore, the table description of student responses to the character of caring for the environment of the inner tribe by participating in maintaining environmental cleanliness is in Table 8.

Table 8. Description of students' responses to the character of caring for the environment of the inner tribe with the indicator Participate in maintaining environmental cleanliness

School	Category	Interval	F	%	Mean	Med	Min	Max
SDN 76/IX Mendalo darat	Very not good	7.00 – 12.25	0	0	22.3	22.0	17.0	26.0
	Not good	12.26 – 17.50	1	2%				
	Good	17.51 – 22.75	34	68%				
	Very good	22.76 – 28.00	15	30%				
	Very not good	7.00 – 12.25	0	0				
SDN 6 Sungai Duren	Not good	12.26 – 17.50	0	0	22.0	22.0	19.0	25.0
	Good	17.51 – 22.75	39	78%				
	Very good	22.76 – 28.00	11	22%				
	Very good	22.76 – 28.00	11	22%				

Furthermore, the table description of the understanding of students' concepts in thematic lessons on the theme 8 of our friend's environment is in the Table 9.

Table 9. Description of students' understanding of concepts in thematic lessons on theme 8 of our friend's environment

School	Category	Interval	F	%	Mean	Med	Min	Max
SDN 76/IX Mendalo darat	Very not good	0 – 5	0	0	15.8	16.0	12.0	18.0
	Not good	6 – 10	1	2%				
	Good	11 – 15	34	68%				
	Very good	16 – 20	15	30%				
SDN 6 Sungai Duren	Very not good	0 – 5	0	0	15.2	15.0	10.0	19.0
	Not good	6 – 10	3	6%				
	Good	11 – 15	30	60%				
	Very good	16 – 20	17	34%				

Furthermore, the description table for the normality assumption test to determine whether the data is normally distributed or not. Based on the results of the normality test was obtained by the Kolmogorov-Smirnov test, a significance value $>$ of 0.05 it can be concluded that the data is normally distributed. Then test the linearity of students' environmental care character, students' responses to the environmental care character of the inner tribe, and understanding of the concepts of elementary school students in thematic lessons. Based on linearity test, it is known that the Deviation from linearity value of Sig. $<$ 0.05, it can be obtained that the variable data for understanding the concept of students and the environmental care character of students in each school are linear and student responses to the environmental care character of the inner tribe and the environmental care character of students in each school are linear. Then, with the fulfillment of the assumption that the data is normally distributed and linear, further testing of the hypothesis can be carried out, namely the regression test. Student responses to the character of caring for the environment, the tribe of children in the character of caring for the environment, students and understanding of students' concepts in thematic lessons on theme 8 of our friend's environmental material on the character of caring for the environment students as shown in Table 10.

Table 10. Regression Test Results

Variable	School name	Sig.
Students' understanding of concepts*The character of students' care for the environment	SDN 76/IX Mendalo darat	0.0453
	SDN 6 Sungai Duren	0.0300
Student's response to the character of caring for the environment of the children's tribe in the character of caring for the environment of students	SDN 76/IX Mendalo darat	0.0325
	SDN 6 Sungai Duren	0.0340

Based on Table 10, it can be seen that the value of sig. $<$ 0.05 so that the result is that the understanding of students' concepts in the thematic lessons of the theme 8 of our friend's environment has an effect on the character of caring for the environment of students. Then the student's response to the environmental care character of the children's ethnic group also has an influence on the student's environmental care character. The results of interviews regarding student responses to the character of students' environmental care were obtained from elementary school students in grade 5, namely about what they know about sanitation and the environment. One of the students answered Sanitation, yes, school sewers, clean hand washing places, then in the classroom there were posters on maintaining cleanliness. Followed by other students' sanitation and conservation is an effort to preserve and maintain a good environment, knowing through posters maintaining cleanliness and being reminded by teachers to maintain cleanliness. Second, are there routine school activities in improving the character of caring for the environment, answered by one of the students "Yes, namely class pickets every morning, sweeping, watering plants, tidying benches and desks back when going home from school and there is community service on Saturdays for all school residents". Other students answered the same thing. Furthermore, the teacher held a briefing to protect and protect the environment? And do students apply it? The explanation from the students is that they often get directions such as at the time of the ceremony and are reminded by the teacher if they want to throw their trash into the trash box then during the thematic lessons on the environment as an application, we throw the garbage in its place. Other students have also answered that during ceremonies and morning exercises, the headmaster often remembers to take care of the surrounding environment by not making garbage and planting useful plants and taking care of it. And they apply the certificate of caring for class plants and at home.

Discussion

The character of caring for the environment is something that is important to be owned and maintained in order to maintain the sustainability of a simple life. Education in Indonesia is important in efforts to build character in accordance with the nation's culture, not only in schools through a series of learning activities, but also through life habits, such as being religious, honest, disciplined, tolerant, hard working, peace loving, responsible, and caring for the environment (Halek et al., 2021; Hidayati et al., 2020; Nada et al., 2021). Environmental care character education is an attitude that a person has to improve, maintain and manage the environment correctly and sustainably so that there are sustainable benefits (Wardani, 2020; Kosenchuk et al., 2019; Sitorus & Lasso, 2021). Environmental awareness is important to be carried out early on in students, so that they can understand and apply character education in the form of caring for the environment, in school life, as well as at home, in society, and generally on earth (Arent et al., 2020; Sari et al., 2021). The character of caring for the environment must be maintained in each individual so that the environment is maintained in its beautiful state.

Previous research stated that environmental care character must be implemented in the school environment at every level of education and in previous studies also obtained results. The results showed that environmental care character education in elementary schools was carried out through routine, spontaneous habituation, exemplary, conditioning, school culture, environmental health (Afriana & Hidayat, 2021; Naziyah et al., 2020). All school members need to raise awareness about the importance of caring for the environment and have initiatives to prevent environmental damage. Then in previous research, learning media was produced containing science class IV material about caring for living things and the content of environmental care characters in this media was described through animated illustrations about the sequence of events for deviant behavior towards the forest, air, water, and soil environment and in previous research. stated that the Ministry of Education should plan for character education to be offered as a separate subject for preschool and primary school children (Birhan et al., 2021; Mawan Akhir Riwanto & Nuning Budiarti, 2021). However, previous studies have not measured the effect of understanding the concepts of elementary school students in grade 5 on thematic lessons of theme 8 of our friend's environmental material on the character of caring for the environment of students and students' responses to the character of caring for the environment in the tribe of children in (SAD).

In previous studies it was argued that early childhood-focused environmental education is experiencing dynamic growth in research and practice due to persistent environmental challenges coupled with a growing interest in the stored benefits of rich natural experiences for children (Aliman et al., 2019; Ardoin & Bowers, 2020). So the current research is the update of previous research to measure the effect of students' understanding of concepts on thematic learning of theme 8 of our friend's environmental material on the character of caring for the environment in students and students' responses to the character of caring for the environment in the school environment. tribe of children in (SAD). Then the novelty of this research is the indicator used on the environmental care character variable. Students are curious, critical, and care about the environment, as well as efforts to repair natural damage that has occurred. Indicators of student response to the environmental care character of SAD used include beautifying classrooms and schools with plants as well as participating in maintaining environmental cleanliness and understanding concepts in the thematic material on the theme 8 of our friend's environment with the research method used, namely mixed methods. The implication of this research is a systematic understanding of concepts and inculcation of knowledge about preserving and maintaining a clean, healthy environment and will affect the character of students who care about the environment. Furthermore, with students' responses and knowledge of caring for the environment, ethnicity of children also influences students' awareness of the environment to maintain and preserve it. The limitations of this study are that the schools used are still in one district and the indicators on the student's environmental care character variable only use 2 indicators, namely Curiosity, being critical, and caring for the environment, and Efforts to repair the natural damage that has occurred. Then the indicators of student response to the environmental care character of SAD that are used are only 2, namely beautifying classes and schools with plants and participating in maintaining environmental cleanliness and for understanding student concepts on thematic material on theme 8 of our friend's environment. So, for further research, it is recommended to analyze the environmental care character of students between districts and the indicators used for the student's environmental care character variable using other indicators.

4. CONCLUSION

The conclusion of this study is that the understanding of students' concepts in the thematic lessons of the theme 8 of our friend's environment affects the character of students' environmental care. Then the student's response to the environmental care character of the children's ethnic group also has an influence

on the student's environmental care character. And the conclusion of the interview is that through learning about the environment delivered by the teacher in class, the students are able to grow the character of caring for the environment, such as students throwing garbage in its place and willing to take care of plants, watering and cleaning the surrounding environment. Then with the routine activities at school such as picket and community service also increase communication and student motivation in improving the character of students' environmental care. So the environmental care character of elementary school students is influenced by the student's response to external knowledge about the character of caring for the environment and students' understanding of the concept of environmental material.

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