

Analysis of Environmental Literacy in Students of the Social Studies Study Program UIN Kiai Haji Achmad Siddiq Jember

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ABSTRACT. This study aims to understand the level of environmental literacy among students in the Social Studies Education Program at UIN Kiai Haji Achmad Siddiq Jember who have completed the course "Environmental Education and Sustainable Development." The research employed a quantitative descriptive method, using a questionnaire as the instrument to measure environmental literacy. The subjects of the study were selected through random sampling, involving 30 students from the total population. The level of environmental literacy was analyzed through four key aspects: environmental knowledge, Environmental attitudes, Cognitive skills, and environmentally responsible behavior. Based on the results of data processing and analysis, it is concluded that environmental literacy falls into the medium category. The average score for environmental knowledge was 47.63 (categorized as high). The score for environmental attitude was 16.46 (categorized as moderate). The score for cognitive skills was 15.5 (categorized as moderate). The score for environmentally responsible behavior was 33.93 (categorized as moderate). In general, the students' level of environmental literacy falls within the moderate category. These findings suggest that strengthening environmental literacy among students is necessary through innovative learning methods, enabling them to achieve a high level of environmental literacy. Family and environmental factors also play a significant role in fostering the development of environmentally conscious attitudes and strong environmental stewardship skills among university students.

Keywords: *Environmental Literacy, Social Studies Department, UIN Khas Jember*

ABSTRAK. Penelitian ini bertujuan untuk memahami tingkat literasi lingkungan pada mahasiswa Prodi Tadris IPS UIN Kiai Haji Achmad Siddiq Jember yang telah mengikuti matakuliah Pendidikan Lingkungan Hidup dan Pembangunan Berkelanjutan. Metode penelitian yang digunakan dalam penelitian ini adalah deskriptif kuantitatif dengan instrumen berupa angket tingkat literasi lingkungan. Metode penentuan subjek penelitian adalah menggunakan *random sampling*. Subjek dalam penelitian ini adalah mahasiswa yang berjumlah 30 orang mahasiswa dari total keseluruhan populasi yang ada. Tingkat literasi mahasiswa dianalisis dengan beberapa aspek yaitu pengetahuan lingkungan, sikap terhadap lingkungan, keterampilan kognitif, dan perilaku peduli lingkungan. Hasil penelitian menunjukkan bahwa tingkat literasi lingkungan mahasiswa termasuk kategori sedang. Nilai skor pengetahuan lingkungan sebesar 47,63 dengan kategori tinggi, nilai skor sikap peduli lingkungan sebesar 16,46 dengan kategori sedang, nilai skor keterampilan kognitif sebesar 15,5 dengan kategori sedang, dan nilai skor perilaku peduli lingkungan sebesar 33,93 dengan kategori sedang. Temuan tersebut menghasilkan kesimpulan bahwa diperlukan penguatan literasi lingkungan pada peserta didik melalui pembelajaran yang inovatif agar peserta didik memiliki literasi lingkungan yang tinggi. Faktor keluarga dan lingkungan juga penting untuk mendukung terciptanya sikap peduli lingkungan dan keterampilan menjaga lingkungan yang baik pada mahasiswa.

Keywords: *Analisis Literasi, Tadris IPS, UIN KHAS Jember*



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INTRODUCTION

The phenomenon of environmental damage caused by human activities is a significant issue that warrants discussion in all circles, including the realm of education, particularly at universities. Education that seeks to improve the character of caring for the environment in the realm of higher education should be considered, given the significant benefits it provides to students. Students as agents of change need to understand that the current environmental conditions around them are not good (Attaufiqi et al., 2024). A critical attitude and sensitivity to environmental conditions need to be developed through classroom learning activities. According to education, the environment needs to be integrated into every subject. This aims to instill knowledge, attitudes, skills, and character traits related to caring for the environment, and to foster in students a wise attitude towards the environment. The conscious attitude and knowledge generated from education about the environment is better known as Environmental Literacy. According to a person with environmental literacy, they possess an understanding, positive feelings, and basic skills related to the relationship between humans and the environment. Meanwhile, according to Environmental Literacy, a person's understanding is related to everything related to the environment, including recognizing environmental problems, finding solutions to these problems, and implementing them. Indicators of a person having an environmentally caring character include knowledge about the environment, cognitive skills related to the environment, attitudes towards the environment, and responsible behavior towards the environment. Learning that aims to foster environmental literacy at the student level is expected to solve the environmental problems that are occurring. Stated that environmental literacy is part of environmental education, which has the goal of preparing students to be able to solve problems and prevent environmental damage in order to realize a sustainable environment. Environmental literacy research has been widely studied as an effort to contribute to tackling environmental problems through education. (Kresnawati , 2014) (Ozsoy et al., 2012) (Spruce et al., 2019) (Blessing, 2012) (Hariyadi et al., 2021) (Hrastinski & Wilbur, 2016).

Some previous studies that also discussed Environmental Literacy at the student level included those conducted by researchers analyzing environmental literacy in Geography Education Students at the University of Nineteen November, Kolaka. The research method employed was descriptive research, utilizing data collection techniques that included surveys in the form of questionnaires and multiple-choice test questions administered to 221 students. The study's results concluded that students' environmental literacy falls into the moderate category. These results are evident in indicators of environmental knowledge, cognitive skills, environmental care attitudes, and pro-environmental behaviors. Another study conducted analyzed the Environmental Literacy Level of FKIP Mulawarman University Students with NELA Score Transformation. The research method employed was a descriptive research design, utilizing an environmental literacy test instrument that was subsequently analyzed using the NELA (National Environmental Literacy Assessment) score. The results of the study indicate that the level of environmental literacy among students falls into the moderate category, as observed from four aspects: knowledge, cognitive skills, attitudes, and behaviors towards the environment. (Hariyadi et al., 2021) (Nasution et al., 2021) (Firdaus et al., 2023).

This research aims to investigate the Level of environmental literacy among students in the Social Studies Study Program at UIN Kiai Haji Achmad Siddiq Jember who have participated in the Environmental Education and Sustainable Development Course. In this course, students are introduced to the concept of the importance of protecting the environment, which is the source of fulfilling basic human needs. Several materials related to the environment have been delivered

in class and have become the subject of discussion in each lesson. This study aims to analyze the environmental literacy level of students who completed a course spanning 16 meetings over one semester (Aripin et al., 2024).

Based on the research purpose, learning in higher education can serve as a means to enhance environmental education for students. Increasing environmental literacy is expected to enable students to play an active role in solving environmental problems within their community and share the knowledge they gain with others, thereby contributing to the collective effort. The difference between this study and previous research is that this study aims to analyze environmental literacy among students in the Social Studies Study Program who are prospective teachers. A social studies teacher has the responsibility to instill in students at the secondary school level the character of caring for the environment, using social studies education materials that are still related to the environment.

METHOD

The method section describes the steps taken to execute the research or study. Therefore, it is necessary to provide the reader with a detailed explanation of why the method used is reliable and valid in presenting the research findings. The research methods section should be able to explain the research methods used, including how the procedures are implemented, an explanation of the tools, materials, media or instruments used, an explanation of the research design, population and sample (research targets), data collection techniques, instrument development, and technique of data analysis. Writing subtitles in the method should be included in the paragraph, rather than using bullets or numbering. This study employs a quantitative descriptive method to describe environmental literacy among students of Social Studies at Tadris UIN Kiai Haji Achmad Siddiq Jember. According to Sukmadinata (2011), descriptive research aims to describe systematically and accurately the facts and characteristics of a particular population or field. The research was conducted in December 2024 on 120 students from the Social Studies Tadris Study Program at UIN Kiai Haji Achmad Siddiq Jember, who had taken Environmental Education courses, serving as the population for the research. The method used in this study for determining the sample is Random Sampling, where respondents are randomly selected, resulting in 30 students being chosen as research subjects.

The research data were collected using an environmental literacy questionnaire instrument, consisting of up to 32 statements distributed to a sample of students to measure environmental knowledge, attitudes towards caring for the environment, cognitive skills, and behaviors that support environmental care. The answer to the questionnaire instrument uses a Likert scale, which consists of several answer choices, namely: (1) Strongly Disagree; (2) Disagree; (3) Agree; (4) Strongly Agree. The indicators used to assess environmental knowledge, attitudes towards the environment, cognitive skills, and behaviors that support environmental care are presented in Table 1 below.

Table 1 Environmental Literacy Indicators

No.	Environmental Literacy Indicators	Activity Aspects
1.	Environmental Knowledge	<ul style="list-style-type: none"> - The Relationship Between Population, Resource Availability, and Environmental Damage - The Concept of Environmental Pollution - The Impact of Globalization on the Environment - Natural Resource Management - Renewable Energy - Sustainable Development
2.	Attitude of caring for the environment	<ul style="list-style-type: none"> - Interest in environmental issues - Attitude of Responsibility for the Environment

		- Attitude Towards The Use Of Eco-Friendly Products
3.	Cognitive Skills	- Identify Environmental Issues - Environmental Issue Analysis - Environmental Resolution Plan
4.	Environmental Care Behavior	- Recycling Activities - Waste Reduction Activities (Reduce) - Reuse Activities - Mutual Cooperation Activities to Protect the Environment - Minimal Waste Activities - Energy Saving Activities

Meanwhile, the range of environmental literacy scores for students of the Social Studies Study Program can be seen in the following table:

Table 2: Environmental Literacy Score Range

No.	Environmental Literacy Indicators	Score Range		
		Low	Keep	Tall
1.	Environmental Knowledge	12-23	24-35	36-48
2.	Attitude of caring for the environment	6-11	12-17	18-24
3.	Cognitive Skills	6-11	12-17	18-24
4.	Environmental Care Behavior	12-23	24-35	36-48

The data obtained in this study will be analyzed according to the predetermined scores using Microsoft Excel.

RESULT AND DISCUSSION

Results

Environmental literacy in students of the Social Sciences Study Program at UIN Kiai Haji Achmad Siddiq Jember was analyzed through several indicators, including environmental knowledge, attitudes towards environmental care, cognitive skills, and environmental care behaviors. A total of 32 statements were given to students who had taken the Environmental Education and Sustainable Development course. The answers obtained are then analyzed using Microsoft Excel and categorized according to the scores obtained. The level of environmental literacy is categorized into three levels, namely High, Medium, and Low.

The level of environmental knowledge among students in the Social Studies Study Program is analyzed using several predetermined indicators. Some of these indicators are student knowledge related to (1) the relationship between population, resource availability, and environmental damage; (2) Environmental Pollution; (3) the impact of globalization on the environment; (4) Natural Resources Management; (5) Renewable Energy; (6) Sustainable Development. Based on the analysis results, it is evident that the level of environmental literacy knowledge among students is in the high category. Students in the Social Studies Study Program who have taken the Environmental Education and Sustainable Development course have received reinforcement materials to strengthen their knowledge of the importance of environmental sustainability and responsibility. In addition to strengthening the material, students are also given discussion sessions to encourage active involvement in learning and sharing their opinions. This high level of knowledge serves as the foundation for developing a character that prioritizes environmental care and enhances students' abilities to contribute to environmental protection. The following table presents the results of the analysis of students' knowledge levels related to environmental literacy.

Table 3. Results of Environmental Knowledge Level Analysis in Students

No.	Environmental Literacy Indicators	Average Rate	Category
1.	Environmental Knowledge	47.633	Tall

Source: Processed Questionnaire Results Data

Based on the table above, it can be concluded that the level of student knowledge falls within the high category, with an average answer score of 47,633 among the respondents. This is because students have received reinforcement of the material, as well as the benefit of discussion sessions, making learning enjoyable and easy to understand. The material delivered during learning is basic knowledge that students must have in order to understand the importance of creating a sustainable environment. The presentation of case examples is also provided to enhance learning, allowing students to understand the importance of addressing the environmental damage around them immediately. It is hoped that after participating in the learning experience, students will become more sensitive and critical of current environmental issues.

Students' attitudes towards caring for the environment were analyzed using several indicators, including interest in environmental issues, a sense of responsibility towards the environment, and attitudes towards the use of environmentally friendly products. After receiving reinforcement of the material in the Environmental Education and Sustainable Development course, students began to have a positive attitude towards the surrounding environmental conditions. The attitude that arises is that students are becoming increasingly interested in reading and observing environmental issues that are currently happening. Students also begin to develop an awareness of their responsibility for their behavior towards the environment. The results of the analysis of students' environmental care attitudes are presented in the following table.

Table 4. Results of Analysis of Environmental Care Attitudes in Students

No.	Environmental Literacy Indicators	Average Rate	Category
1.	Attitude of caring for the environment	16.46667	Keep

Source: Processed Questionnaire Results Data

Based on the analysis results, it is evident that the students' environmental care attitude in the Social Studies Study Program at UIN Kiai Haji Achmad Siddiq Jember falls within the moderate category, with an average score of 16.46. A positive attitude towards the environment begins to emerge in student activities when they interact directly with the environment. This positive attitude is formed as a result of learning and experience. Fun learning and involving students through discussion are one of the factors that contribute to forming a positive attitude towards the environment. During the lesson, students are invited to think critically about the environmental damage phenomena that have occurred around them. The presentation of videos about environmental damage, pollution, and natural disasters caused by human actions fosters an empathetic attitude towards the surrounding nature in students. These feelings then give rise to a conscious attitude and responsibility to protect their surroundings.

Students' cognitive skills are assessed using several indicators, including the identification of environmental issues, their analysis, and the development of plans to address these issues. Students have been able to identify environmental issues that are currently occurring, thanks to news coverage in various media that they can read about. Some of the issues that are happening today, such as environmental pollution, natural disasters, and global warming, are fascinating topics to discuss in the classroom. Students are asked to analyze the causes and impacts of the phenomena they have identified. The activity aims to enable students to think critically to find deeper information about the phenomenon of environmental damage. The results of the search for information are then

discussed again in the classroom. The results of the analysis of students' cognitive skills are presented in the following table.

Table 5. Results of Analysis of Cognitive Skill Level in Students

No.	Environmental Literacy Indicators	Average Rate	Category
1.	Cognitive Skills	15.5	Keep

Source: Processed Questionnaire Results Data

Based on the results of the analysis carried out, the cognitive skills of students in the Social Studies Study Program of UIN Kiai Haji Achmad Siddiq Jember related to environmental protection actions fall into the moderate category, with an average score of student answers at 15.5. Students still lack the necessary skills to address environmental issues. Students are not accustomed to addressing environmental issues they have identified at the beginning of their learning. The lack of student involvement in environmental activities is one factor that contributes to students' limited knowledge on how to address environmental problems that may arise around them. Additionally, the lack of environmental education prior to taking the Environmental Education course in lectures is a factor that contributes to the students' skills not yet being optimal. Students have been aware that environmental damage has occurred, but have not been able to provide solutions to overcome the problem.

Environmental care behavior can be analyzed using several indicators, including recycling activities, reducing waste Activities, reusing activities, Mutual Cooperation Activities to protect the Environment, minimal waste activities, and energy-saving activities. The results of the research carried out show that the behavior of caring for the environment among students of the Social Studies Study Program at UIN Kiai Haji Achmad Siddiq Jember falls into the medium category. The results of the environmental care behavior analysis are presented in the following table.

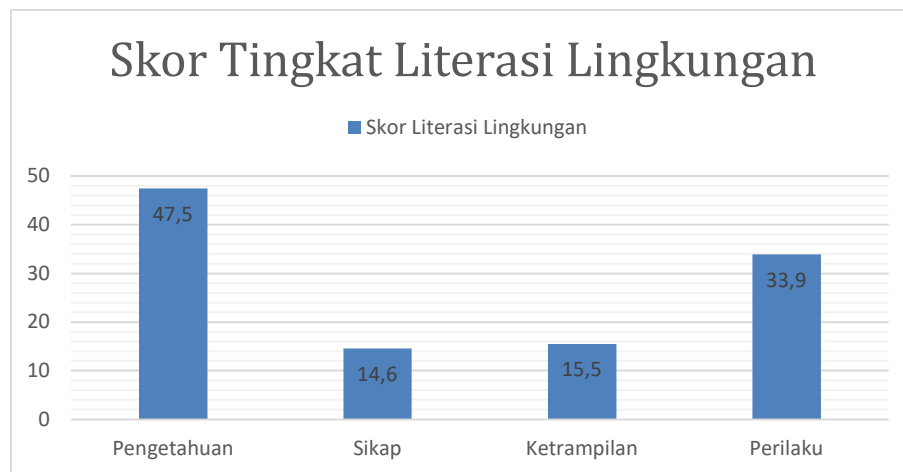
Table 6. Results of Analysis of the Level of Environmental Care Behavior in Students

No.	Environmental Literacy Indicators	Average Rate	Category
1.	Environmental Care Behavior	33.93	Keep

Source: Processed Questionnaire Results Data

Based on the analysis carried out, it is evident that the average score of student answers falls within the medium category, at 33.93. The first factor that affects the level of environmental care skills in students is the lack of role models or people around them who provide examples of environmentally responsible behavior. The condition of the community, which is still unaware of the importance of protecting the environment, means that students do not have role models whom they can model their behavior after. An environment that supports environmental care activities is also an important factor to create, so that students are motivated to engage in similar activities. In addition, the consumptive and practical culture prevalent among students at this time is an equally important factor, as environmental care behavior remains suboptimal. The instant lifestyle of students, for example, the use of single-use plastics in food and beverage places, is also a habit that cannot be eliminated today. According to the analysis results, it is evident that only a few students have begun to understand and implement environmental care actions. Some of the small actions taken by students include not littering, carrying reusable drinking bottles as an alternative to plastic, saving energy by turning off lights during the day, and conserving water. The results of the environmental literacy analysis, which encompass aspects of knowledge, attitudes, skills, and behaviors related to environmental care, are presented in the following graph.

Graph 1. Student Environmental Literacy Level Score



Source: Processed Questionnaire Results Data

Based on the results of the analysis carried out, it can be concluded that the level of environmental literacy possessed by students in the Social Studies Study Program of UIN Kiai Haji Achmad Siddiq Jember falls in the medium category. This can be seen from the aspects of knowledge, attitudes, skills, and behavior of students after participating in the learning activities of the Environmental Education and Sustainable Development course. The level of environmental knowledge in students is relatively high because they have studied and understood the material during learning. The material is presented through various learning resources and various learning media. This is so that students are more clearly shown that maintaining a sustainable environment is the responsibility of all human beings, including prospective teachers. The material presented became the basis for their thinking to be sensitive and critical of the environmental conditions that occurred around them.

The level of attitudes, skills, and behaviors of caring for the environment is still classified as a category because there is still a lack of supporting aspects outside of learning that also affect students' environmental literacy. Supporting aspects include the lack of exemplary figures whose behavior can be emulated, and the consumptive culture that is still inherent in students, making it difficult for them to eliminate habits such as plastic consumption and the use of other chemicals that are harmful to the environment. Support from family and community is a crucial factor that needs to be addressed to ensure environmental literacy among these students continues to increase. Therefore, environmental education should not only occur in the realm of schools or universities, but must also be supported by the family and community environment, which also have a role in promoting environmental protection. Environmental literacy is the key to forming a generation that is aware and responsible for preserving the natural world.

Discussion

The results of the environmental literacy analysis for students in the Social Studies Tadris Study Program at UIN Kiai Haji Achmad Siddiq Jember fall into the medium category. The results were obtained by combining the scores of each indicator used to assess the level of Student Environmental Literacy. The indicators used were assessments of environmental knowledge, environmental care attitudes, cognitive skills, and environmental care behaviors. This refers to the notion that environmental literacy or environmental awareness can be achieved by behaving responsibly, caring, and being aware of the environment's existence. The analysis revealed that students in the Tadris Social Studies program at UIN Kiai Haji Achmad Siddiq Jember were at the

stage of understanding the concept of the importance of maintaining a sustainable environment. (Cantrell & Hughes, 2008)

The high environmental knowledge score is due to a learning model that emphasizes the analysis of environmental issues in daily life. Students can visualize the material because it is relevant to current environmental conditions. This finding aligns with research conducted by the University of Wisconsin, which concluded that environmental knowledge is the most significant factor among other environmental literacy indicators. Knowledge indicators will serve as the basis for students to develop a positive attitude towards the environment and take responsibility for nature conservation. (Fitri & Hadiyanto, 2022)

Providing environmental knowledge is not enough to increase environmental literacy among students. Strengthening attitudes and skills also needs to be done by teachers so that students can apply the knowledge they get during learning into environmentally caring behaviors. The attitude of caring for the environment among students in the Social Studies Study Program at UIN Kiai Haji Achmad Siddiq Jember, as analyzed, falls into the medium category. Students are increasingly aware of the importance of being responsible for environmental sustainability after learning the material in the learning process. Students' curiosity is relatively high about what happens in the surrounding environment. Learning about environmental issues through interactive media, such as video screenings, is a supporting factor in increasing students' positive attitudes towards the environment. In line with the statement that environmental literacy will increase if a person has a high curiosity about environmental conditions. (Timur et al., 2013)

Students' cognitive skills, as determined by the analysis, fall into the moderate category. The learning that has been carried out requires students to identify the environmental issues currently occurring, analyze the causative factors and their impacts, and attempt to solve these problems. This aims to make students accustomed to being sensitive and critical about what is happening in the environment. The teacher is responsible for ensuring that the results of the problem analysis align with the topics discussed during the lesson. This aligns with the statement, which suggests that cultivating environmental care values can be achieved by encouraging students to think critically about the environment. This critical attitude fosters cognitive skills, which are also important indicators of environmental literacy improvement. (Nasution et al., 2021)

Environmental Care Behavior in students of the Social Studies Study Program at UIN Kiai Haji Achmad Siddiq Jember falls into the medium category. Behavior is a real action that students have when faced with environmental problems that are happening today. The behavior value is not optimal due to the environmental conditions that do not support the creation of high environmental literacy among students. An environment that supports environmental care activities is also an important factor, encouraging students to adopt the same practices. In addition, the consumptive and practical culture prevalent among students at this time is a contributing factor to the still suboptimal behavior in caring for the environment. The instant lifestyle of students, for example, the use of single-use plastics in food and beverage places, is also a habit that cannot be eliminated today. According to the analysis results, it is evident that only a few students have begun to understand and implement environmental care actions. Some of the small actions taken by students include not littering, carrying reusable drinking bottles as an alternative to plastic, saving energy by turning off lights during the day, and conserving water. The lack of direct practice is a contributing factor to the suboptimal environmental care behavior exhibited by students. This aligns with the statement, which emphasizes the importance of direct engagement with nature and scientific practice in encouraging environmentally responsible decision-making. (Doup, 2018)

CONCLUSION

The results of the study led to the conclusion that the level of environmental literacy among students in the Social Studies Study Program at UIN Kiai Haji Achmad Siddiq Jember falls into the moderate category. Although their level of environmental knowledge is in the high category,

their attitudes, skills, and behaviors related to caring for the environment are still classified as moderate. This illustrates that students are already aware of environmental problems that need to be addressed immediately. However, their awareness is limited to theory and has not been effectively implemented in daily life. The importance of strengthening environmental literacy extends beyond the realm of education to the family and community environment, allowing attitudes and behaviors that promote environmental care to continue developing in everyone.

It is hoped that this research can be an illustration that the level of environmental literacy among students needs to be instilled from an early age. Learning should include the knowledge of loving the environment, enabling students to develop the knowledge, attitudes, and skills that support environmental sustainability. This research is still limited to describing how the environmental literacy of students changes after participating in the Environmental Education course. Further analysis of the influence of learning on increasing environmental literacy can be conducted to help readers understand the importance of environmental education today.

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