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A Brave to Green: Are There Environmental Literacy Problems in Rural Areas Public Elementary Schools?

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Abstract: This study aims to describe the actual condition of environmental literacy of public elementary schools students in rural areas. The research design uses a quantitative survey method. The research participants were 39 teachers in 15 public elementary schools in Sukabumi, West Java. The questionnaire used as an instrument to collect data. The results indicate that there are environmental literacy problems for public elementary schools students in rural areas. The results of this study found that there were factors causing low environmental literacy among students in public elementary schools in rural areas. Based on the data obtained, there are six causal factors regarding clean and healthy living, limited learning resources for students, lack of teacher approaches and strategies in introducing environmental education, low student concern for the environment, community involvement in protecting the environment, and the impact of natural disasters that occurred in the rural area.

Keywords: Environmental literacy; Public elementary schools; Rural areas

Introduction

The internalization of sustainability values at this time seems to be one of the educational trends in the 21st century, this happens as a result of the changing conditions of the earth. Various global problems related to the conditions of the earth, humans and the environment that are emerging today, such as energy crises, natural disasters, high prices of basic necessities, global warming, and climate change, indicate that there may have been environmental changes that resulted in the destruction of the environment itself. by the indifference of human attitudes towards the surrounding environment. Accordingly, the creation of sustainable values based on the global environmental issues on the United Nations agenda are as follows: "By 2030, make sure that all students have the knowledge and skills necessary to advance sustainable development, including through instruction on sustainable development, sustainable lifestyles, gender equality, human rights, and the promotion of a culture of peace and nonviolence. They should also be taught about global citizenship, respect for cultural diversity, and the role that culture plays in sustainable development" (UNO - United Nations, 2018).

To be able to gain an understanding of the complete value of sustainability and realize it in the form of awareness, it is not as easy as turning the palm of the hand. The need for a deeper internalization process of these values, besides that it must be able to be integrated through many aspects of everyday life, one of which is the education aspect. Indonesia as a developing country will be affected by changes in the current condition of the earth in various sectors, including economic, social and environmental. There are efforts to minimize the negative impacts that will arise, it is necessary to develop and internalize sustainability values in schools that were introduced early on (Segara, 2015). This

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supports the advancement of environmental literacy skills in elementary schools is very important to be implanted, one of which is an effort to internalize the values of caring for the environment that will be built so that they can be realized in everyday life.

Institutions in educational units are challenged by the fact that suggests that education for sustainable development is a new concept of education. According to Boutte (2008), however, these challenges can be faced proactively through schools (Mogaji & Newton, 2020). The internalization of sustainable values has been carried out by many countries with various focuses and specificities that are integrated with educational aspects, including the development of school programs (Hastangka, 2016; Kanyimba et al., 2015; Nolet, 2009), curriculum (Choi et al., 2009; Mathar, 2015) and student activities (Fredriksson et al., 2020). Whereas in Indonesia, what has been done is implementing the value of sustainability through ecopedagogy in integrated learning in elementary schools (Supriatna et al., 2018), building online schools as a disaster solution (Satrianawati & Fu, 2019), and creating a school adiwiyata program (Suwarto, 2020).

Based on the current conditions, it is stated that the knowledge and attitudes of students' environmental literacy in several studies have shown results that have not been maximized. The low achievement of mastery of knowledge based on scientific literacy PISA 2006 environmental content is only 35%, while in attitude it is only 54%. This shows that only half of the students have awareness, concern for responsibility and participation in environmental issues (Susilastri & Rustaman, 2015). According to Supriatna (2018), it is stated that the application of learning principles that are oriented towards sustainable goals in elementary schools is factually not optimal. This can happen, one of which is because the environment has not been used as a learning resource, there are no environmental-oriented learning indicators, and learning has not linked local and global issues that are currently happening (Supriatna et al., 2018). In line with this, the study of environmental literacy has not been integrated into the curriculum in elementary schools (Kusumaningrum, 2018). Meanwhile, Ihsan (2020) stated that the current environmental problems still cannot be resolved properly. In fact, ecological awareness is not only based on knowledge and understanding of nature/environment, but how to integrate ecological principles in life has not been internalized (Ihsan, 2020). Based on the problems above, the students' environmental literacy mastery is still low.

Data from the Ministry of Health's research shows that only 20% of the total Indonesian people care about hygiene and health. This means, out of 262 million people in Indonesia, only around 52 million people are concerned about the cleanliness of the surrounding environment and its impact on health (Source: CNN Indonesia April 23, 2018). Environmental literacy needs to be developed from an early age because in primary school age, students have good memory, so good habits will become habits (Alkaher & Goldman, 2018). Environmental literacy is not only taught through theory but requires collaboration between school members to make it happen. It's because the best habituation theory is the existence of an action (Madden & Liang, 2017).

The primary issue to be studied is based on the information already described in this study emphasizes that in the stages of the learning process in schools, aspects of environmental literacy have not been provided or trained. However, it is possible that this happened because of obstacles in the planning, implementation process or even support from the school and the surrounding community. This situation also applies not only in schools in cities, but in schools in villages or in remote areas even though they have the same problem tendency, namely environmental learning is only taught as memorizing theory without involving the process and growing awareness of love for the environment. This is where the teacher's role is needed as an agent of change in facilitating elementary school students to increase their understanding of environmental literacy and be able to internalize it in students' daily lives.

Another aspect is about the behavior of students who still do not have awareness in loving the surrounding environment, for example students often still litter, have not been able to maintain the cleanliness of the classroom when studying at school, do not care about the school environment that is not clean and healthy. Therefore, further exploration can be carried out to see aspects that arise regarding the main problems or issues regarding the environment for students in elementary schools in remote areas.

In this study, the researcher wants to describe the actual condition of learning of the knowledge of environmental issues, skills, affective and actions of elementary public schools students in rural areas and how are teachers' efforts to facilitate environmental literacy of elementary public schools students in rural areas.

Method

The design used in this research is quantitative research using survey method. According to Creswell (1994) states that surveys can produce quantitative data, attitudes and opinions of the population by studying samples from the population, this aims to carry out a

generalization from the sample to the population to obtain a conclusion that can represent attitudes and behavior as well as characteristics of the population (Ishtiaq, 2019). It aims to find out the actual picture of the current condition by collecting data from the point of view of teachers who teach in 15 elementary public schools in rural Sukabumi Regency, West Java. The subject are 39 instructors from elementary public schools participated in this study, consisting of grade 1 to grade 6 teachers who served as classroom teachers. The research instrument uses a questionnaire filled out by the teacher via Google form, then processing the data using Microsoft Excel to obtain representative research findings.

Furthermore, the stages of the procedure in this study consisted of several stages. The first stage, namely literature study, is intended to examine studies from published articles and books related to the research problem to be explored. The second stage, namely the survey stage, for this stage instruments have been prepared to be disseminated as a way of research data collection techniques. The survey conducted in this study was made in the Google form application, so that all data obtained can be accessed via the shared link. The third stage, namely grouping, processing and analysis of research data that has been collected. Stage four, namely the stage of drawing conclusions from the research data. The fifth stage, namely the stage of making a research report which is the final stage of the research. The research scheme can be described in the figure 1.

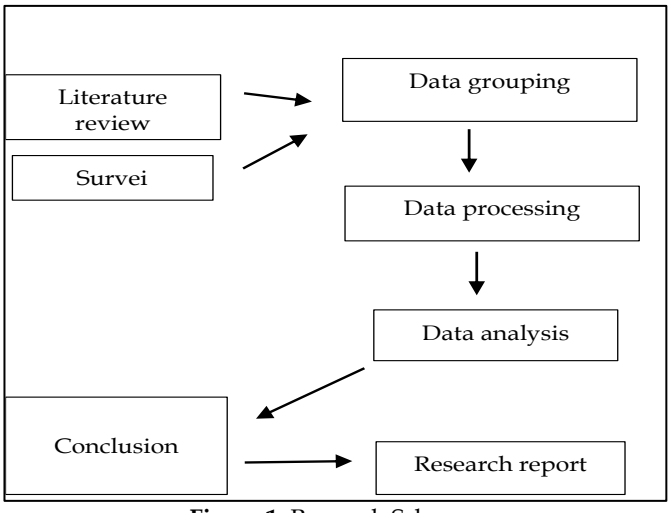

Figure 1. Research Scheme

Result and Discussion

The results obtained based on the actual current situation regarding environmental literacy in elementary school students in remote rural areas, indicate that the data from observations and primary data collection through research questionnaires on the analysis of initial research data needs are significant to the low environmental literacy of elementary school students. This description can be categorized into six aspects, including; the main issues related to environmental problems, learning resources, teaching approaches and strategies, obstacles faced when developing environmental literacy, the role of the surrounding community in protecting the environment, and natural events that have occurred regarding the environment in the last five years. The following is an explanation of the six aspects obtained.

Main issues related to environmental problems

The environment has various functions, one of which is a location where living things may exist. which consists of a complex living system. Thus, it is also inevitable that anything can happen, especially problems related to clean and healthy living and sanitation of the physical environment (soil, water and air). Figure 2 shows the percentages of the three main issues that must be immediately resolved to build students' awareness of their environment.

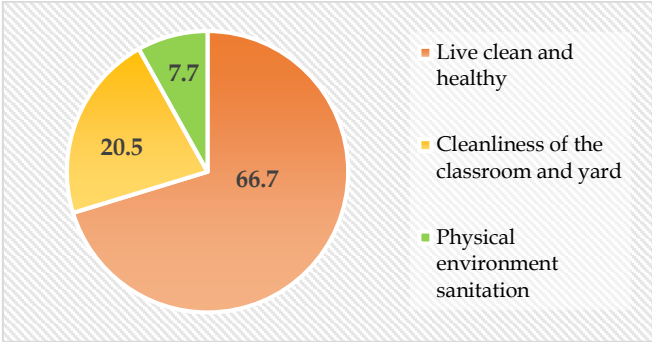

Figure 2. Main Issues Relating to Environmental Problems

Based on the data figure 2, it shows that the application of learning principles that are oriented towards sustainable goals in elementary schools is factually not optimal. This can happen, one of which is because the environment has not been used as a learning resource, there are no environmental-oriented learning indicators, and learning has not linked local and global issues that are currently happening (Supriatna et al., 2018). There are efforts to minimize the emergence of negative impacts, it is necessary to develop and inculcate sustainable values that are integrated in environmental education in schools that are introduced early (Kuruppuarachchi et al., 2021; Segara, 2015). Based on research (Gayford, 2002), photographed that there is a need for teachers to have an understanding of environmental education. The concept of environmental literacy is often associated with scientific concepts related to science (Gayford, 2002). In line with this, an important part of environmental literacy is part of science education (Kaya & Elster, 2019).

Learning resources

Learning resources used by teachers in facilitating students to develop environmental literacy are in the form of books which are categorized into five books, including thematic books, environmental education books, religious books, physical education and health books, guide books, and those that are not have learning resources. Figure 3 shows the percentage of use of learning resources by teachers while teaching knowledge about the environment.

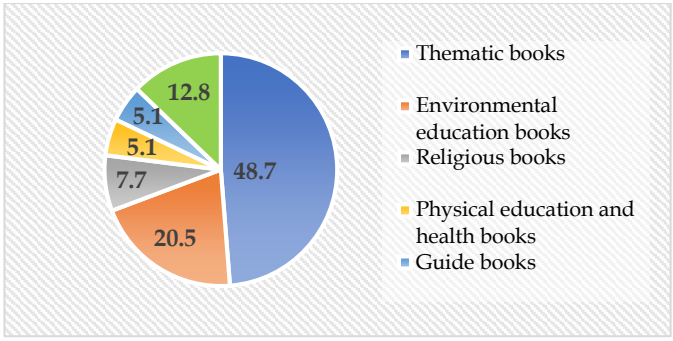

Figure 3. Learning Resources

The various learning resources used by teachers indicate that teachers are not yet fully optimal for studying environmental problems, although indeed for elementary school students, based on the data obtained, most of them use thematic books as a reference. In line with this, the study of environmental literacy has not been integrated into the curriculum in elementary schools (Kusumaningrum, 2018).

Teaching approaches and strategies

The teacher's efforts in introducing environmental literacy to students can be categorized into four approaches and strategies, including through class picket activities, clean friday programs, character education, and making rules. Figure 4 shows the percentage of teaching approaches and strategies that have been implemented in schools.

Teaching approaches and strategies are directly related to educational goals. Therefore, the aim of growing awareness of the environment must be adjusted to the purpose of environmental education, namely to form humans who have responsible behavior in interacting with the environment. The essence of environmental literacy in education can be implemented through instructional exercises, efforts to develop a learning environment are directed at increasing knowledge, consciousness, attitudes, values, and sustainable conduct in relation to the environment. Furthermore, demonstrating that concrete models are equivalent to virtual models in promoting learning (Stull et al., 2016).

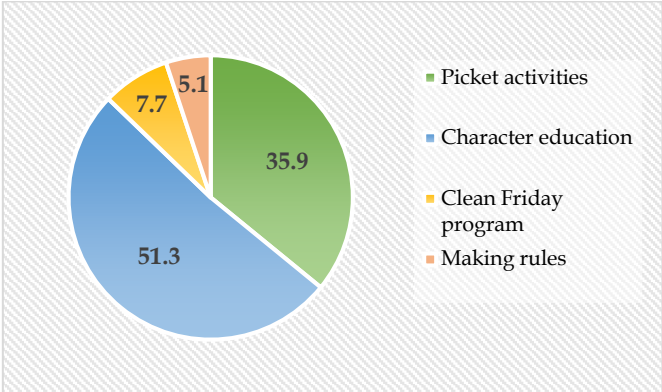

Figure 4. Teaching Approach and Strategy

The ability to understand the relevance of conserving the environment in sustaining a healthy, prosperous, and just ecosystem for both the present and future generations is the definition of environmental literacy. (Amin et al., 2019; Kamil et al., 2020; Syahmani et al., 2021). According to Liang et.al (2018) stated that the environmental literacy variable has three main elements that must be considered, namely intellectual (knowledge and abilities), emotional, and behavioral (Agfar et al., 2018; Liang et al., 2018; Maurer & Bogner, 2020). Meanwhile, according to Erdogan, et.al (2009) stated that the elements There are four parts to environmental literacy: knowledge, skills, affect, and action. (Erdoğan et al., 2009; Karimzadegan & Meiboudia, 2012).

Thus, learning should call for more student-centered teaching and problem-based learning active learning techniques. The involvement of teachers and students in knowledge about the environment is built through experience rather than passively learning predetermined knowledge (Locke et al., 2013). Important for teachers to create learning environments and plan activities that help students become independent and lifelong learners. Planning experiences that allow students to become increasingly autonomous through regular opportunities for individual and collaborative learning are important for student development (Aldridge, 2017).

Obstacles to developing environmental literacy

Base on the teachers information there are obstacles to developing environmental literacy include the lack of cleaning tools 5.1%, students lazy to picket or maintain the cleanliness of the school environment 15.3%, do not care about the environment or throw garbage out of place as much as 77%, and the difficulty of getting water clean and dryness as much as 2.6%.

This shows that the current environmental problems still cannot be resolved properly, generally the attitude of not caring about waste. Thus, the fact is that

ecological awareness is not only based on knowledge and understanding of nature/environment, but how to integrate ecological principles in life has not been internalized (Ihsan, 2020). In line with this, it is certain that there will be a decrease in the tendency of a a sense of obligation and environmental awareness (Agustin et al., 2021).

The role of the community around the school

The role of the surrounding community in protecting the environment in general is still categorized as good as much as 43%, not caring or not having a role as much as 35% and normal as much as 22%. Thus the community still cares about environmental problems.

Natural events that occur in the school environment

Natural events in the form of natural disasters that have occurred in the last five years that have hit the area around elementary schools include 35.8% of floods, 20.5% of landslides, 5.1% of earthquakes, 13% of floods and landslides, 25.6% of no disasters.

Figure 5. The Actual Condition of Elementary Schools in Rural Areas

Whether we realize it or not, every second of life contains the potential for humanitarian disasters that cannot be known by humans. Waste of energy, use of electricity, waste and waste problems is one of the behaviors that we still encounter today which shows the degree to which people are informed and aware of the environment is still low. The impact of the above also affects the real state of understanding and concern for the environment for elementary school students who are not yet optimal. The rationale and grounds for believing that environmental education, outreach, and awareness protect the environment are very necessary to maintain the value of sustainability in the future. Ecological intelligence is needed to understand the impact of human actions on the environment. Teachers must be able to equip students in addition to new abilities and sensitivity to the threats they will face in nature (Supriatna, 2017). Teachers must understand that students are creatures who have diverse potential, talents, interests, thinking abilities, and creativity. Thus, they must be given freedom and opportunity to make their choices. Problems found in the social environment and where they live are challenges that require solutions, where students' thinking skills are facilitated which will generate creative ideas. Based on that, the teacher must be creative in the learning process in the classroom with fun. This process is interpreted by the term creative pedagogy (Supriatna, N., & Maulidah, N., 2020).

Conclusion

Based on the findings of the six emerging aspects related to environmental literacy that have been described previously, it is certain that elementary schools located in remote rural areas require special attention, especially when it comes to understanding of environmental literacy, skills, affective and action. Thus the hope of teachers to improve learning through environmental literacy in increasing awareness of protecting the environment must be supported by the cooperation of the local government with schools and the role of the surrounding community so that gradually good environmental conditions will be created along with increasing environmental literacy.

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Author Contributions

Fanny Sumirat: Conceived the ideas or experimental design, Data curation, analysis and interpretation, Writing-Original draft. Udin Syaefudin Sa'ud: Provided advisor and review to scientific content of manuscript, Provived stylistic review to manuscript. Wahyu Sopandi: Provided advisor and review to scientific content of manuscript, Provived stylistic review to manuscript. Nana Supriatna: Provided advisor and review to scientific content of manuscript, Provived stylistic review to manuscript.

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Conflicts of Interest

Relating to the rules and policies of the school leadership.

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