

Application of Differentiated Pedagogy to Increase Students Ecoliteracy in Social Studies Learning

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ABSTRACT

This research aims to increase students' ecoliteracy in social studies learning. So far, not many teachers have implemented environmental-based learning in social studies learning in the classroom. The development of ecoliteracy is in accordance with the mandate of the UU NO 32 of 2009 and Environmental Management. Indicators of ecoliteracy abilities in this research include aspects of knowledge, attitudes and skills. The research location was carried out at SMP Negeri 5 Cimahi (Public Junior High school) which has environmental cleanliness problems. The research method used in this research is classroom action research using the Lewin model design interpreted by Kemmis. In its implementation, which coincides with the implementation of P5, there are 3 (three) cycles with a total of 12 actions, each of the three cycles has a different discussion concentration. The first cycle concentrates on the knowledge aspect with 5 actions, the second cycle concentrates on the attitude aspect with 4 actions, and the third cycle focuses on the skills aspect with 3 actions. As a result of this research, researchers obtained data on increasing aspects of attitudes towards the environment, getting an increase in scores from 1722.5 to 1820.0. Meanwhile, the score for the skills aspect has increased, it can be explained that research by developing ecoliteracy intelligence in social studies learning with a differentiated ecoliteracy approach has shown an increase in students' knowledge, attitudes and ecoliteracy intelligence skills. This shows that differentiated ecoliteracy learning can be a solution in solving problems in the classroom related to environmental problems.

INTRODUCTION

An environment is a place where living creatures live that has been created by God in one era to fulfill the survival of their creatures, including in the country itself, which has a very wide and rich living environment. However, behind the vastness of the living environment, there is behavior that lacks concern for the living environment, which causes its condition to become increasingly worrying (Doménech et al., 2023; Jacobs & Perez, 2023; Radhouane et al., 2022). There are indeed large quantities of resources in the environment around us, but we feel a scarcity of natural resources due to excessive use and even damage to them (Lee, 2023; Ryhtä et al., 2020). For example, when air is an important resource for the life of living creatures, we need it to breathe, only when there is air pollution because it is polluted do we become aware of this when a disaster occurs (Sastrawijaya, 2009).

The role of the Indonesian Government through the Ministry of the Environment, in particular has been to try to save the environment in the country, however, the vision and mission in efforts to save the environment often have to clash with the interests of national development which aims at

economic improvement and growth which will later be oriented towards the economy will then generate income for the Government, even though there should be synergy between the environment and economic life to form a good life. It is not justified to destroy our natural elements; we must preserve some representative natural elements so that in the future, we can use them someday (Sastrawijaya, 2009).

Even though several schools in the Cimahi City area already have plants for greenery and are provided with rubbish bins at several points with various types of rubbish bins, students' concern for the school environment is still considered to be lacking is proven by the fact that there is still rubbish under tables and around the room. Class as a result of several students in each class not carrying out class pickets every day, then sanitary, which is still visible in several women's graffiti in the men's toilet and several tables in the class. Even though reminders are provided outside the classroom at school, every Monday ceremony is always reminded of in the mandate and announcement. In the facilities and infrastructure, there are many organic and inorganic waste bins available to maintain cleanliness and health; a sink has been provided to wash your hands before and after carrying out any activity because when you touch something, it is suspected that there will be bacteria that have the potential to cause disease.

While existing studies have explored the intersection of environmental conservation and educational institutions, our research stands out due to its focused examination of the specific attitudes and behaviors of teachers and students at SMP Negeri 5 Cimahi (Public Junior High school). Unlike broader surveys, our study delves into the unique challenges and opportunities within this particular school community, avoiding the oversight of individual nuances (Barak, 2024; Nazari et al., 2023; Pan et al., 2023). We aim to bridge the gap between environmental concerns and the Indonesian school system, exploring eco-literacy and environmental care within SMP Negeri 5 Cimahi. This research seeks to uncover insights for targeted interventions and educational strategies. Additionally, it goes beyond observing environmental neglect by identifying underlying factors influencing the school community's environmental attitudes (Rahayu et al., 2023; Sofinatun, 2023; Stoten, 2023). Through examining the interplay between educational practices, community engagement, and environmental consciousness, our study provides a nuanced understanding to inform tailored approaches for fostering a culture of environmental responsibility within the school. Healthy, environmentally based development can grow and develop in line with planning. Development, in general, must be able to cover the needs and capabilities of the nation (Bram, 2014).

In essence, a clean, healthy, and shady living environment makes learning at school more comfortable and more enthusiastic. Once again, that is what made me interested in carrying out this research because the issue of eco literacy is not only the domain of the deputy principal in management but is a shared responsibility of the school community, especially as it can be linked to social studies learning which prioritizes concern for interaction between spaces which can bring benefits to all.

METHODS

The research method used was action research with a 3 cycle 12 action. In this study, researchers attempted to obtain data from the field in cycles or objects through observation and interviews with participants by asking questions related to eco-literacy, eco pedagogy, and school environmental management. The information obtained by the participants is then collected and analyzed. Bogdan and Taylow Moleong, (1989) define a qualitative approach as research that produces data in the form of oral and written data from various subjects and objects of observable behavior. Meanwhile, according to Creswell (2016), qualitative research is aimed at developing theories that are partial and not suitable for certain populations or samples, or existing theories that are not able to show the complexity of the problem.

The reason researchers use classroom action research or action research is that researchers really want to study data in a descriptive form from the results of action research with several cycles

that will be presented in the form of descriptions or words. The research aims to investigating eco-literacy teaching and learning activities at SMP Negeri 5 Cimahi because it emphasizes a collaborative and iterative approach. As the study aims to bring about improvements in eco-literacy practices, the cyclical nature of action research aligns well with the need for continuous reflection and refinement. This methodology allows for active engagement with teachers, students, and the school community, fostering a participatory process that is well-suited to explore the dynamic and evolving nature of eco-literacy in the context of social studies education.

RESULTS

The research used a class in VII F Junior High School 5 Cimahi. Based on the results of observations, the teacher only uses the lecture method in each meeting. Teachers really dominate the learning process and do not provide opportunities for students to develop their knowledge and explore their abilities and do not include elements of ecoliteracy at all, namely ensuring cleanliness in the classroom both before and after break times. The students' reactions varied, some were concentrating on listening, some were noisy and engrossed in their own activities such as eating in class to finish their meal during break time because they had not finished, working on previous learning assignments that had not been completed or playing with their classmates. Several times the teacher tried to remind the students to remain calm and pay attention to what he was explaining, but the students only obeyed the warning for a few minutes, then they became noisy again and did not pay attention to the teacher.

In the implementation of cycle 1 which focuses on the knowledge aspect. The basis for this research is the researcher's discomfort when conducting observations in class VII F at SMP Negeri 5 Cimahi. The researchers found that students did not have concern and empathy for sustainability in their school environment, especially in their classroom conditions. Muhaimin (2015) revealed that intelligent students are students who understand the context of themselves and their space, carry out adaptation as a lifelong process, make space a place to stand and a mirror for behaving in harmony with the various complex and unlimited dynamics of their lives.

In the implementation of first cycle, students are invited to find out some of the consequences of actions that have been carried out by society in daily life. Application of differentiated ecoliteracy in social studies learning. Students are made into groups that suit their learning style by arranging their sitting positions to face each other with their group members. Then the researcher provides topics that are related to environmental problems.

This is in accordance with what Hasan (2012) stated that there are 8 (eight) social studies learning objectives, including:

1. Develop students' abilities to think chronologically, critically and creatively.
2. Build social awareness in students
3. Build honesty, hard work and responsibility in students
4. Develop curiosity
5. Develop heroic and leadership values and attitudes
6. Develop communication skills
7. Develop the ability to search, process, package and communicate information.

In the learning process in class, the teacher provides topics related to the school environment, because in this research it is based on ecoliteracy so the teacher tries to connect it with life and conditions at school. Make connections between existing real problems in the school environment so that it can build students' knowledge about the environment which is closely related to social studies material regarding Indonesia's natural conditions with the P5 project.

Researchers obtained data using test instruments, the data researchers obtained were as follows:

Tabel 1. Test Instruments

1st Cycle	Score				
	1st act	2nd act	3rd act	4th act	5th act
	32,26 %	48,39 %	64,52 %	83,87 %	100 %

From the data above in the 1st action with an ability gain of 32.26%, it shows that the knowledge abilities of students in class VII F are not in line with what the researchers expected. Likewise, when implementing the second action, data was obtained at 48.39%. This shows that there is an increase in students' ability gains, but these gains are still below standard.

The low results from actions 1 and 2 are understandable because they are influenced by several factors, such as students not being used to learning with differentiated ecoliteracy. Differentiated ecoliteracy-based learning that is connected to environmental problems is not yet understood by students.

The 3rd action obtained an increase of 64.52%. This percentage shows an increase in students' skills in the skills aspect compared to previous actions. In this third action, students are getting used to learning with differentiated ecoliteracy in class and outside of class which is connected to environmental problems.

Meanwhile, the fourth action obtained a percentage of 83.87%. This shows that the students' abilities in the skills aspect are in accordance with what is expected. In the fourth action, students can adapt to differentiated ecoliteracy learning, which is part of project-based learning. In the 5th action, a percentage of 100% was obtained, which shows that all students already have ecological intelligence in the skills aspect.

Based on the results of the second cycle of research, in which 4 actions were carried out, the researcher obtained data using a questionnaire instrument, the score data that the researcher obtained were as follows:

Tabel 2. Questionnaire Instrument

2nd Cycle	Score			
	6th act	7th act	8th act	9th act
	1722,5	1706,5	1748,4	1820,0

In the 6th action, the score obtained was quite high, but the researcher decided to carry out further research. In implementing the 7th action, the score was 1706.5. The resulting score in this 7th action actually decreased compared to the score obtained in the previous action, so the researchers considered that the 7th action experienced a setback in the implementation of cycle II. So there must be improvements in the next action.

Next, in the 8th action, a score of 1748.4 was obtained from the calculation of the questionnaire that had been designed and filled in by each student. The final score of the 8th action increased compared to the 7th action which actually decreased. However, researchers will still carry out the 9th action to ensure that students' ecoliteracy intelligence in the attitude aspect will continue to increase.

The 9th action obtained a final score of 1820.0. Ecoliteracy intelligence in the attitude or awareness aspect with a score of 1820.0 means that students already have the attitude and awareness to love their environment more.

The researcher obtained data using a questionnaire instrument, regarding ecological intelligence in the attitude or awareness aspect. The researcher borrowed opinions from Supriatna (2016) who explained that ecoliteracy intelligence is also based on the affective aspect which consists of elements of emotion or feeling, awareness (awareness) and empathy. Empathy is usually shown by someone to another person or. In terms of ecoliteracy intelligence, empathy is not only exercised by humans but towards all living creatures or all forms of life or according to Goleman's (2010) terms, empathy for all forms of life.

Increasing the final score in the second cycle of research which concentrates on aspects of attitude or awareness, it can be concluded that students in class VII F are sensitive to maintaining classroom cleanliness, students care about being wise in using natural resources, students are clever at processing plastic waste.

Based on the results of the third cycle of research, in which 3 actions were carried out, the researcher obtained data using a questionnaire instrument, the score data that the researcher obtained were as follows:

Tabel 3. Questionnaire Instrument

		Score	
3rd cycle	10th act	11th act	12th act
	1703,2	1629,0	1781,3

In the 10th action, the final score was obtained at 1703.2 in the skills aspect of students in class VII F. The final score was obtained by researchers by giving questionnaires to students and answered by individuals. Calculation of result scores in cycle III uses a Likert scale.

The 11th action obtained a final score of 1629.0 in the skills aspect of students in class VII F. The final score in the 11th action decreased compared to the previous action. So the researchers agreed to improve the final score of the 11th action.

Implementation of the 12th action obtained a final score of 1781.3 in the skills aspect of students in class VII. The final score in the 12th action has increased compared to the 10th and 11th actions, so that in the 12th action, the implementation of cycle III has achieved the research target.

Ecological intelligence in the skills aspect, with a final score of 1781.3, means that class VII F students have real skills and actions in protecting and preserving the surrounding environment. In accordance with Supriatna's opinion (2016), awareness and empathy to save a damaged environment is based on aspects of affection. Meanwhile, actions to preserve physical nature and living creatures can illustrate psychomotor skills.

The achievement of this score can be concluded that class VII F students already have social skills to balance the environment by maintaining classroom cleanliness, students are frugal in using natural resources wisely, students have social skills related to the environment in the form of inviting school residents to protect the environment with the P5 work degree action at an expo in the school field, students have social skills by reducing plastic waste to produce more useful work, students have social skills related to the environment by showing the work of utilizing plastic waste during the P5 work degree.

This is in accordance with the aim of this action research which, according to Arikunto (2023) who explains that this action research aims to solve problems that occur in the classroom. To find answers to why this can be solved by taking action. As explained in the introductory chapter, the problems found by researchers were problems related to environmental awareness in the classroom. Then the researchers tried to solve this problem with action research.

CONCLUSION

From the results of this research, it can be concluded that the application of differentiated pedagogy to increase students' illiteracy in social studies learning is going according to plan. Each cycle there is quite good and significant development. Students also have the awareness to manage the school environment, especially in the classroom. They are also used to bringing bottles and misting supplies for eating and drinking at school.

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