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ANALYSIS OF THE CONTEXTUAL TEACHING AND LEARNING MODEL TO FOSTER ECOLITERACY CHARACTER IN FOURTH-GRADE STUDENTS AT AN ELEMENTARY SCHOOL IN CIMAHI CITY

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ABSTRACT

Education is one of the processes in learning carried out by everyone, education can provide preparation for the younger generation in the future in life. Education can adjust to the era of globalisation. Education has various aspects such as Cognitive, Affective and Psychomotor. This research is motivated by students' awareness of the surrounding environment. The purpose of this study is to assist students in finding opportunities to gain knowledge through life in the surrounding environment of the learning that students get. The approach used is descriptive qualitative. The focus of this research is the Contextual Teaching and Learning model to foster the character of ecoliteracy in elementary school students. The data collection techniques used in this research are open questionnaires, observations and interviews. The results of this study are that students can have the opportunity to apply ecoliteracy character education in learning and in everyday life.

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1. INTRODUCTION

Education is a process that never stops learning, because education can improve human resources, which are important in life. Education is one of the most important things in human life. In Indonesia, everyone has the right to education, and education is endless. According to (Burhanuddin, 2019), education has the goal of educating the nation and introducing culture, as well as creating intelligent, skilled, and creative individuals. In line with this, according to (Fitriyani, 2018), education is one of the things that can prepare the younger generation for survival in the future in various aspects, such as cognitive, affective, and psychomotor.

Through the trilogy of education concept, teachers not only teach in the classroom but also educate as stated by Ki Hadjar Dewantara. The concept of character education as part of the educational process, where teachers become role models for good attitudes that students should have through a direct approach and encourage students as facilitators through an indirect approach. With the contextual teaching and learning model, it can help teachers build students' character to be responsive and able to choose attitudes in facing social problems. Caring for the environment character has various objectives in bringing out attitudes and actions that can be part of preventing damage to the natural environment around them (Ministry of National Education, 2011).

In education, there is a process called the learning process. The student learning process is one of the steps taken so that students can obtain learning outcomes in accordance with their potential, which is developed optimally based on the objectives to be achieved.

In the learning process, there is interaction between educators and students. Educators provide facilities to students so that they can produce effective learning. Educators provide one of the steps in learning to make it easier for students to learn. In the learning process, there is interaction between educators and students. Educators provide facilities to students so that they can produce effective learning. Educators provide one of the steps in learning to make it easier for students to understand the material to be delivered. Educators can use learning models. In line with this, according to (Sholihat, 2023) Environmental studies material can be implemented in social studies learning because social studies learning has an integrated nature that includes values, issues, and context.

Social studies is one of the subjects taught to students from elementary school through high school. According to (Sholihat, 2023), social studies is one of the school's objectives in preparing students' potential in terms of knowledge, attitude, and awareness so that students are sensitive to issues in their environment and can overcome these issues. One of the subjects in social studies at school discusses the interaction between humans and their environment, as well as relates to instilling awareness of the importance of protecting and preserving the environment in students.

Social studies plays an important role in developing students' social skills so that they can become good members of society. Social studies learning is also a type of learning that has various meanings and can develop students' understanding of ecological intelligence. In meaningful learning, the Contextual Teaching and Learning model can facilitate these learning activities. The Contextual Teaching and Learning model has steps that are appropriate to the circumstances of students' lives.

This study aims to prepare students to become part of a community that has knowledge and awareness of the environment surrounding the school and the environmental issues that occur. This study has a research problem to be examined, namely, This study has a problem formulation to be examined, namely, how to develop Ecoliteracy character using the Contextual Teaching and Learning model. In constructivist social studies learning, students

are positioned as autonomous learners who actively construct knowledge through experiences brought into the classroom.

The curriculum must be tailored to students' interests and concerns, and teachers can incorporate other than textbooks, the learning process must be interactive, and the material must be built based on what the students already know. Student performance must be seen in their mastery of knowledge, awareness, and application of living in harmony with the environment as ecological intelligence. Social studies learning can begin by inviting students to get to know the environment where they live or the school environment.

Ecoliteracy learning is learning that aims to make students literate about the surrounding environment. According to (Nisa et al., 2023), efforts to manage the environment are to improve the quality of the environment so that human needs can be met properly. Ecoliteracy learning is also similar to the Contextual Teaching and Learning Model because it provides concrete examples to students about ecological and social relationships. In this case, students can develop an environmentally conscious character that will influence their attitudes. Supriatna (2017) argues that Ecoliteracy is the ability of humans to understand natural systems that can support the sustainability of life on earth. Ecoliteracy competencies "six indicators to measure ecoliteracy ability

according to (Tyas et al., 2021) include:

- 1) "Having basic knowledge of ecological principles."
- 2) "Being able to analyze environmental problems."
- 3) "Being able to provide solutions to environmental problems."
- 4) "Having concern for fellow humans and the environment."
- 5) "Being responsible for preserving the environment."
- 6) Being wise in using natural resources.

Ecoliteracy is intelligence that has basic cognitive aspects about how nature can support the lives of all living things on earth. In addition to cognitive aspects, ecoliteracy also has complex characteristics based on social, spiritual, and emotional intelligence. According to Supriatna (2017), knowledge, awareness, attitudes, and skills that are in line with nature conservation can support the success of ecoliteracy. In ecoliteracy, the use of the environment, both around the home and at school, becomes a learning medium that can be observed by students. According to (Masrurroh et al., 2020), through learning, students who are involved encourage thoughts and emotions that can create enjoyment when participating in these activities.

The Contextual Teaching and Learning model helps students find opportunities to gain knowledge through real-world experiences. In this learning process, students are required to identify problems and find solutions in their daily lives. The Contextual Teaching and Learning model is one that provides learning materials related to students' daily lives. a. Learning will be very enjoyable because it is adapted to the current situation. The Contextual Teaching and Learning model has interrelated learning stages. There are several stages in the Contextual Teaching and Learning model, namely: Constructivism, questioning, discovery, group learning, modeling, reflection, and assessment. According to (Irwan & Hasnawi, 2021), using this model can help students develop critical thinking both in and outside the classroom.

This learning model can help teachers apply the material to everyday life and connect their knowledge with what students have learned in class. In line with this, according to (Sulfemi, 2019), learning using the Contextual Teaching and Learning model helps students remember the material more easily than memorization because it comes from real life.

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The Contextual Teaching and Learning model has the advantage of being student-centered, or learning that is centered on students so that in learning activities, students can be more active, critical, creative, and have meaningful knowledge in their lives. In addition to its advantages, the Contextual Teaching and Learning model has weaknesses in contextual learning, namely that educators must prepare in-depth knowledge of the concept of contextual learning. The use of the Contextual Teaching and Learning model is one way for students to understand that learning does not only take place in the classroom.

Previous research in one elementary school said that ecoliteracy character in elementary schools can be implemented through various stages. The first stage is learning planning, the second stage is learning implementation, and the third stage is strengthening Ecoliteracy character education (Haul et al., 2021). Another study discusses a supportive learning environment for shaping the character value of caring for the environment. In addition, the learning environment can affect students' concentration in learning. (Widyaningrum, 2016).

2. METHODS

Research methods are one of the scientific ways of obtaining data for specific purposes and uses (Ramdhan, 2021). Research methods are methods used to measure results and test effectiveness (Setyosari, 2010). In this study, the researcher used a qualitative approach and descriptive method. Based on the above experts, the research conducted examines scientific objects whose data are presented in the form of sentences or narratives. This research was conducted at a school in Cimahi, using assessment instruments to measure students' understanding and attitudes. Data were collected through observation and open-ended questionnaires.

3. RESULTS AND DISCUSSION

3.1 Results

The formation of environmental awareness values in Social Studies learning was systematically designed through several integrated stages in both planning and implementation. The process began with aligning the learning content with environmental awareness values, followed by determining learning objectives focused on strengthening students' environmental character. Subsequently, the teacher developed a learning plan based on the Contextual Teaching and Learning (CTL) model. This model was selected because it enables students to connect academic concepts with real-life situations in their surrounding environment.

During implementation, the teacher applied CTL steps, including constructivism, questioning, inquiry, learning community, modeling, reflection, and authentic assessment. Through these stages, students were encouraged to identify social and environmental problems around the school—such as waste management, water usage, and cleanliness—and

to discuss these issues collaboratively to propose feasible solutions based on social knowledge and real-life experiences.

The researcher also developed indicators of environmental awareness values aligned with the instructional objectives. These indicators encompassed cognitive, affective, and behavioral aspects. To facilitate learning, student discussion sheets (SDS) were provided, containing real-world environmental issues requiring logical and applicable solutions.

Observation and assessment results showed a noticeable improvement in students' ability to recognize, understand, and apply environmental awareness values after the implementation of the contextual learning model.

Table 1. Indicators of Students' Environmental Awareness Values in Social Studies Learning

No	Indicators of Environmental Awareness	Observed Behaviors	Achievement Percentage (%)
1	Demonstrates concern for school cleanliness	Participates in keeping the classroom and school yard clean	87%
2	Identifies environmental problems in the surrounding area	Describes and explains causes of local environmental problems	82%
3	Provides solutions to environmental issues	Suggests creative ideas to reduce waste or pollution	79%
4	Practices environmentally friendly behavior in daily life	Brings personal drinking bottles, disposes of waste properly	91%
5	Collaborates in maintaining environmental sustainability	Actively participates in school environmental activities	88%

Table 2. Summary of Observation Scores on Students' Environmental Awareness

Category	Score Range	Number of Students	Percentage (%)	Description
Excellent	85–100	14	48%	Students consistently demonstrate environmental awareness behavior
Good	70–84	10	34%	Students begin to show environmental awareness but not consistently
Fair	55–69	4	14%	Students understand environmental values but have not fully applied them
Poor	<55	1	4%	Students show low concern for environmental issues

3.2 Discussion

The learning process began with assessing students' initial understanding of environmental awareness values. Students expressed that reducing plastic use, such as bringing their own water bottles and food containers, had become a common habit at school. This indicates that most students already possess a basic level of environmental consciousness. This finding aligns with the results in Table 1, where 91% of students demonstrated environmentally friendly behaviors, such as throwing waste in designated bins and bringing reusable utensils. According to Supriatna (2021), simple habits such as carrying refillable bottles are concrete ecological character practices that cultivate environmental sustainability from an early age.

The application of the Contextual Teaching and Learning (CTL) model proved effective in embedding environmental awareness values. This model allows students to connect subject matter with their real-life social and ecological contexts. Zharfana and Nugroho (2024) found that CTL enhances students' environmental care attitudes and pro-environmental behaviors by emphasizing authentic learning experiences and contextual engagement. This corresponds with the results of the present study, showing that 87% of students actively participated in school cleanliness activities and 88% demonstrated cooperation in environmental initiatives.

Moreover, discussion sheets revealed that students were able to think critically about environmental problems around them. Many students identified issues such as plastic waste, food waste, and school cleanliness, and proposed solutions like reducing single-use plastics and sorting organic and inorganic waste. This supports the findings of Wulandari and Suryani (2023), who emphasized that environment-based learning can foster students' critical thinking and ecological awareness through authentic problem analysis activities.

The data presented in Table 2 reinforce these findings, showing that 48% of students achieved a *very good* category and 34% a *good* category in environmental awareness. These figures suggest that most students understood the relationship between human behavior and its environmental impact. Similarly, Ramadhan and Fitri (2022) reported that integrating environmental character values into social studies (IPS) classes enhances students' empathy and social responsibility toward environmental issues.

Beyond cognitive understanding, behavioral changes were also evident. Students began practicing environmentally friendly actions at school, such as bringing lunch without plastic packaging, properly disposing of waste, and actively participating in class cleaning activities. Kurniawan and Hidayat (2021) argued that such practical actions indicate the success of environmental character education, as students not only comprehend the concepts but also internalize them through consistent behavior.

These findings are consistent with Tilbury's (1995) concept of *environmental education for sustainability*, which emphasizes participatory processes that involve learners in seeking real solutions to environmental problems. Likewise, Hungerford and Volk (1990) highlighted that effective environmental education must lead to behavioral changes that reflect responsible environmental stewardship.

Overall, the findings suggest that the implementation of the contextual learning model in social studies effectively fosters students' environmental awareness values. Students not only understand the importance of preserving the environment but also demonstrate concrete actions that reflect environmental responsibility. This supports the 21st-century education goals set by the Indonesian Ministry of Education, Culture, Research, and Technology (Kemendikbudristek, 2022), which emphasize character formation and social responsibility as integral components of learning.

5. CONCLUSION

Based on the findings and discussion, it can be concluded that the application of the contextual teaching and learning (CTL) model in environmental literacy provides students with authentic and meaningful learning experiences. Through direct engagement with real environmental issues around them, students not only gain cognitive understanding of social and ecological concepts but also develop critical, caring, and responsible attitudes toward the environment. The contextual learning model effectively fosters environmental awareness

because it connects learning materials with real-life situations that students encounter daily. Moreover, this model increases students' learning motivation by giving deeper meaning to every learning activity.

The results of this study have significant implications for educational practice in elementary schools, particularly in the teaching of social studies. Teachers should act as facilitators who can connect instructional content with students' real-life experiences so that learning not only focuses on knowledge acquisition but also on the formation of ecological character. Schools can integrate contextual learning approaches into the curriculum by strengthening project-based activities, field observations, and collaborative work among students to build a sustainable culture of environmental care. Furthermore, educational policymakers at both local and national levels need to provide support through teacher training and the development of relevant learning resources aligned with local contexts to optimize the implementation of contextual learning.

This study suggests that teachers and educational institutions should continue to develop innovative learning strategies based on real environmental contexts to strengthen students' environmental literacy and character formation. Teachers are encouraged to design learning activities that not only emphasize cognitive aspects but also cultivate habits and reflection on environmentally responsible actions. Future researchers are advised to expand this study by involving different educational levels, applying mixed-method approaches, or examining the long-term effectiveness of the contextual learning model in shaping students' environmental behavior. In doing so, environmental education can serve as a fundamental pillar for nurturing a generation that is conscious, caring, and committed to the sustainability of the Earth.

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