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PROJECT-BASED ENVIRONMENTAL EDUCATION IN A NON-ADIWIYATA SCHOOL

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ABSTRACT

Environmental education in schools is commonly associated with the Adiwiyata Program; however, environmental values can also be developed through alternative learning approaches. One such approach is project-based learning, which allows students to engage directly with real environmental issues. This study aims to describe the implementation of project-based environmental education in a non-Adiwiyata school. The research employed a descriptive approach using questionnaires distributed to students, interviews with teachers, and observations of environmental learning activities at school. The findings indicate that environmental education was implemented through various project-based activities, including waste management, waste reuse, greening programs, and the development of environmentally responsible daily habits. Student participation was actively encouraged, while teachers played a facilitative role in guiding project implementation. Despite the absence of formal Adiwiyata status, the school demonstrated the ability to integrate environmental education into learning practices through project-based approaches. Several challenges were identified, such as limited time allocation, supporting facilities, and consistency of implementation. This study concludes that project-based environmental education has the potential to serve as an effective alternative for fostering environmental awareness and pro-environmental behavior in non-Adiwiyata schools.

Keywords: Environmental education, Project-based learning, Non-Adiwiyata school, Sustainable lifestyle

INTRODUCTION

Environmental issues, such as increasing waste volume, unsustainable consumption patterns, and low environmental awareness, remain challenges in various educational institutions. Schools play a strategic role in shaping students' knowledge, attitudes, and behaviors to foster greater environmental awareness. Environmental education not only aims to improve cognitive understanding but also instills values, attitudes, and habits that support environmental sustainability (Tilbury, 1995; UNESCO, 2017).

In Indonesia, environmental education in schools is often associated with the Adiwiyata Program, which aims to create environmentally conscious schools with a culture of caring for and nurturing environmental values through strengthening policies, curricula, and the participation of all school members. Although this program has made a positive contribution, not all schools are able to follow or meet the requirements set forth in the Adiwiyata program. This situation demonstrates that environmental education does not have to rely on a single program but can be developed through other, more flexible learning approaches tailored to the school's specific circumstances (Hamzah, 2013).

The implementation of the Independent Curriculum encourages student-centered learning and emphasizes meaningful learning experiences. One approach that aligns with these principles is project-based learning. Project-based learning provides students with the opportunity to engage directly in real-world problems, work collaboratively, and produce products relevant to everyday life (Kolb, 1984; Thomas, 2000).

In the context of environmental education, project-based learning enables students to develop environmental awareness and behavior through hands-on experiences, such as waste management, waste utilization, and reforestation activities. This approach is considered effective because students not only learn environmental concepts theoretically but also reflect on the impact of their actions on the environment (Stevenson et al., 2014).

In non-Adiwiyata schools, project-based learning has the potential to be an alternative for integrating environmental education into learning activities. This approach provides schools with the opportunity to develop contextual environmental activities without relying on formal Adiwiyata status. However, the practice of project-based learning in environmental education in non-Adiwiyata schools remains understudied, particularly at the junior high school level. Therefore, this study aims to describe the implementation of project-based environmental education in non-Adiwiyata schools as an effort to strengthen students' environmental awareness.

This study aims to describe the implementation of project-based environmental education in non-Adiwiyata schools, including the types of activities carried out, student involvement, and the roles of teachers and school staff in supporting these activities. Furthermore, this study also aims to identify the various challenges schools face in implementing project-based environmental education as part of efforts to foster students' environmental awareness and behavior.

METHOD

This study used a descriptive approach with qualitative methods supported by simple quantitative data. This approach was chosen because the study aimed to provide an in-depth description of the implementation of project-based environmental education in non-Adiwiyata

schools without testing causal relationships or comparing variables.

Research Location and Time

The study was conducted at SMP Negeri 15 Padang, a public junior high school that does not yet have Adiwiyata status and has implemented the Independent Curriculum since 2022. The study location was selected based on the consideration that the school has implemented project-based environmental education activities even though it has not formally participated in the Adiwiyata program. The study was conducted during the current semester of the 2024/2025 academic year.

Research Subjects

The study subjects included students involved in project-based environmental education activities, specifically through the implementation of the environmentally-themed P5 Project, as well as teachers who served as activity facilitators. In addition, the principal and education staff served as supporting data sources to obtain information regarding the school's policies and support for environmental activities.

Data Collection Techniques

Data collection was conducted using several techniques, namely: observation, conducted to directly observe the implementation of project-based environmental education activities, including student activities, teacher roles, and the use of school facilities and infrastructure; semi-structured interviews were conducted with mentor teachers and school officials to gather information regarding the planning, implementation, and challenges in implementing project-based environmental education; questionnaires were administered to students to obtain an overview of student involvement and perceptions of project-based environmental education activities. The questionnaire used a Likert scale with multiple-choice answers; documentation was used to supplement the research data by collecting school documents, activity photos, and student project products.

Data Analysis Techniques

The data obtained were analyzed descriptively. Qualitative data from observations, interviews, and documentation were analyzed through the stages of data reduction, data presentation, and conclusion drawing. Meanwhile, quantitative data from the questionnaires were analyzed by calculating the trends in respondents' responses to support the qualitative analysis results.

Data Validity

To ensure data validity, this study employed source and technique triangulation, comparing data obtained from observations, interviews, questionnaires, and documentation. Triangulation is expected to produce more accurate data and objectively describe the implementation of project-based environmental education.

RESULTS AND DISCUSSION

Implementation of Project-Based Environmental Education in Non-Adiwiyata Schools

Research results show that SMP Negeri 15 Padang has implemented project-based environmental education despite not yet having Adiwiyata status. The school began implementing the Independent Curriculum in 2022 and integrated environmental activities into project-based learning. These findings demonstrate that environmental education does not always have to rely on specific formal programs but

can be developed through contextual and participatory learning approaches.

The school has a vision and mission that supports the environment, namely realizing a green, waste-free, and smoke-free school. This vision serves as the basis for implementing various environmental activities at the school. According to Hamzah (2013), the success of environmental education in schools is greatly influenced by institutional commitment, reflected in the school's vision and policies.

Forms of Project-Based Environmental Education Activities

Project-based environmental education activities at SMP Negeri 15 Padang are implemented through routine programs and thematic project activities. Routine activities include collective clean-up activities (locally known as "gotong royong") (GOBER), school garden management (greenhouse), and the 3R (Reduce, Reuse, Recycle) campaign. Furthermore, the school implemented a more structured environmental project, utilizing used cooking oil to make soap as part of project-based learning.

The project was not only activity-oriented but also produced tangible products in the form of soap, lime grafts, and environmental and plant-themed posters. The presence of project products is a key indicator of project-based learning, as students are required to integrate knowledge and skills to produce meaningful work (Thomas, 2000). This aligns with Kolb's (1984) opinion, which emphasizes the importance of hands-on experience in the learning process.

Student Involvement and the Role of Teachers

Observations and questionnaires indicate that students are actively involved in project-based environmental education activities. Students not only follow instructions but also participate in the planning, implementation, and presentation of project results. Project activities, such as utilizing used cooking oil to make soap and managing plants through grafting, provide students with opportunities for active and collaborative learning.

The questionnaire results indicate that most students responded positively to project-based environmental education activities. More than two-thirds of students stated that the environmental project activities helped them understand the importance of maintaining a clean environment and managing waste more responsibly. Furthermore, the majority of students reported being actively involved during the project activities and would be willing to participate actively if similar activities were implemented on an ongoing basis. These findings indicate a positive trend toward project-based learning in environmental education in non-Adiwiyata schools.

Teachers act as facilitators, accompanying students throughout the process. Their role is no longer that of the primary source of information, but rather that of guides, providing guidance and feedback. This approach aligns with the principles of student-centered learning, a key characteristic of project-based learning (Bell, 2010). The principal's support in the form of policies and the role of staff and technical personnel in providing cleaning facilities also strengthen the sustainability of environmental activities in schools.

Supporting Facilities and Infrastructure for Environmental Activities

In terms of facilities and infrastructure, the school has basic facilities

to support environmental activities, such as separate waste bins, a school garden, and a greenhouse. The school does not yet have an internal waste bank, but has collaborated with the Environmental Agency (DLH). The presence of environmental posters and slogans in various parts of the school also serves as a visual reminder for the school community to maintain cleanliness and the environment.

However, research results indicate that waste management has not been implemented consistently. This suggests that the availability of facilities alone is not sufficient; it must be accompanied by sustainable management and strengthening of the school culture. According to Stevenson et al. (2014), the success of environmental education is greatly influenced by consistent practices and the involvement of the entire school community.

Challenges and School Efforts in Environmental Education

The main challenges faced by SMP Negeri 15 Padang are the failure to meet formal requirements for participation in the Adiwiyata program and the limited availability of certain facilities. However, the school continues to strive to implement environmentally friendly principles through various creative activities, such as utilizing recycled materials and developing environmental projects tailored to the school's potential.

These findings indicate that limitations are not the main obstacle to implementing project-based environmental education. Conversely, the flexibility of project-based learning allows non-Adiwiyata schools to continue developing environmental education contextually. This supports UNESCO's (2017) view that education for sustainable development can be applied in various formal educational contexts with an adaptive approach.

CONCLUSION

Based on the research results and discussion, it can be concluded that SMP Negeri 15 Padang, has implemented environmental education through a project-based learning approach although it is non-Adiwiyata school. The implementation of the Curriculum and environmentally-themed projects have enabled the school to integrate environmental values into the learning process in a contextual and participatory manner. Overall, the results of this study indicate that project-based environmental education can be implemented effectively in non-Adiwiyata schools and has the potential to be a first step toward strengthening a school's environmental culture. These findings suggest that the success of environmental education does not depend solely on the formal status of the program, but rather on consistent practice, community involvement, and a meaningful learning approach.

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