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Sustainable School Management Strategy and Government and Community Involvement in Shaping Student Character

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Abstract

This study aims to evaluate the implementation of government and community involvement in shaping technology-based student character, as well as formulating sustainable school management strategies through SWOT analysis. Using qualitative and quantitative approaches, data were collected through in-depth interviews, surveys, and documentation from Adiwiyata schools in Probolinggo City. The results of the study indicate that government involvement in providing policies, funding, and technology infrastructure has a significant impact on supporting the formation of environmentally conscious student character. In addition, community involvement through community-based activities and collaboration with schools strengthens the implementation of environmental programs. SWOT analysis identifies strengths, weaknesses, opportunities, and threats that influence the implementation of technology-based policies, resulting in innovative and adaptive school management strategies. This study offers a strategic model for the sustainability of technology-based environmental education that can be adopted by other schools.

Keywords: *Sustainable School Policy; Educational Technology; Student Character*

Introduction

Environmental-based character education is an important agenda in facing global challenges related to sustainability (Marouli, 2021). In an era of increasingly real climate change and environmental degradation, the need to create a generation that is aware of the importance of environmental conservation is becoming increasingly urgent. Adiwiyata Schools as a national program in Indonesia have attempted to

integrate sustainability values into the education process with the aim of forming students who not only care about but are also active in protecting the environment (Nada et al., 2021).

The Adiwiyata program is designed to address the need for holistic environmental education. Through the development of environmentally friendly school policies, the implementation of environmentally-based curricula, and the active participation of the entire school community, this program seeks to create an educational ecosystem that supports sustainability (Richter & De Sousa, 2019). However, the implementation of this program faces increasingly complex challenges, including limited resources, technological developments, and the need for closer collaboration between stakeholders.

This study aims to evaluate the extent of the role of the government and society in supporting technology-based student character formation. In addition, this study also focuses on the development of sustainable school management strategies through SWOT analysis. With this approach, it is hoped that strategic solutions can be found that can increase the effectiveness of the Adiwiyata program, as well as provide a real contribution to creating an education system that is adaptive to global challenges.

Literature Review

Environmental education is one of the effective strategies in building students' awareness of sustainability issues. According to Braun et al., (2018), environmental education does not only focus on transferring knowledge, but also aims to change students' attitudes and behavior to be more concerned about the environment. In this context, the role of schools is crucial in creating a learning ecosystem that supports these goals (Giovannella et al., 2020).

Adiwiyata, as an environmental education program in Indonesia, is oriented towards forming the character of students who care about and have an environmental culture (Febriani et al., 2020). This program emphasizes four main aspects, namely environmentally friendly school policies, implementation of environmentally-based curriculum, management of environmentally friendly supporting facilities, and participatory management involving the entire school community (Kemendikbud, 2020). Thus, the integration of technology in this program can expand the scope of its impact.

The use of technology in education has grown rapidly, especially in supporting interactive learning. According to Puspitarini & Hanif (2019), technology can increase students' learning motivation by providing interesting and relevant media. In the context of environmental education, technology can be used to simulate the impact of environmental damage, provide real-time data, or facilitate community-based projects digitally (Andrachuk et al., 2019).

Government involvement in supporting environmental education is also very important. Dearing & Cox (2018) in the Diffusion of Innovations theory states that innovation, including technology, can spread faster if supported by adequate policies. The government can act as a facilitator through regulation, funding, and training for educators, thereby encouraging the adoption of technology in environmental learning (Darko & Chan, 2018).

Community participation in environmental education adds a collaborative dimension that enriches the learning process. According to Franco & Tracey (2019), local community involvement not only strengthens environmental values in students but also creates a collective awareness that supports sustainability. With the integration of technology, community participation can be optimized through digital platforms that facilitate communication and collaboration (Thelma et al., 2024).

SWOT analysis is a tool often used in formulating management strategies. According to Phadermrod et al., (2019), this analysis helps organizations identify internal and external conditions that

affect their performance. In the context of education, SWOT analysis can be used to evaluate the readiness of schools to implement technology-based policies for sustainability.

Theoretically, digital literacy is one of the important aspects in the implementation of technology in education. Leaning (2019) explains that digital literacy includes the ability to understand and use information from various digital formats. In the context of environmental education, digital literacy is needed to ensure that students, teachers, and the community can utilize technology effectively to support sustainability goals.

Research Methods

This study used a mixed methods approach to obtain comprehensive and in-depth data. This approach allows the combination of qualitative and quantitative data to provide a more holistic understanding of the implementation of technology-based policies (Abedi, 2023). Qualitative data were collected through in-depth interviews with principals, teachers, and local government representatives, as well as through direct observation at five Adiwiyata schools that were the subjects of the study.

Quantitative data were obtained through a survey involving students and parents (Hill et al., 2018). This survey was designed to evaluate the effectiveness of technology-based programs in shaping students' environmentally conscious character. The use of quantitative data helps to objectively measure the perception and level of success of the program from the perspective of students and the community. The results of this survey provide a numerical picture of the impact of policy implementation on student character (Alhabeeb & Rowley, 2018).

A SWOT analysis was applied to identify factors that influence the success of technology-based policy implementation (Rahimirad & Sadabadi, 2023). This analysis involves mapping the strengths, weaknesses, opportunities, and threats that exist in the school environment. The results of this analysis provide a strong basis for formulating adaptive management strategies that are oriented towards the sustainability of technology-based education.

Results and Discussion

1. Evaluation of Government and Community Involvement

The government plays an active role through supporting policies, such as providing a budget for the Adiwiyata program and developing technology infrastructure, including digital environmental applications. Teacher training in utilizing technology is also an important initiative. On the other hand, the community contributes through community-based activities, such as greening, recycling, and environmental education programs. However, this study found that the limited digital competence of teachers and students was a major obstacle. In addition, coordination between the government, community, and schools still needs to be improved to ensure the sustainability of the program (Dayagbil et al., 2021).

Based on the research findings, it is recommended to develop an integrated technology platform that can be accessed by all schools. This platform includes interactive learning modules, a dashboard for environmental monitoring, and an online discussion forum involving students, teachers, and the community. In addition, ongoing training for teachers and students in the use of environmental-based technology is an urgent need. Strengthening collaboration between the government, schools, and the community is also very important for the sustainability of the program (Ardoin et al., 2020). Regular communication forums can be a forum for designing and evaluating environmental programs together. With these steps, it is hoped that school-based environmental programs in Probolinggo City can achieve

more optimal and sustainable results. The government has a responsibility to increase the allocation of funds to support school-based environmental programs. One practical step is to increase the budget for teacher training in the use of environmental technology. With adequate training, teachers can become effective facilitators in integrating technology into daily learning. In addition to training, the government needs to provide adequate technological infrastructure in each school. This step includes the procurement of technological devices such as computers, tablets, and environmental-based applications. The provision of these devices must be followed by a mentoring program so that their use is in accordance with the needs of environmental education. The government can also work with the private sector to support technology adoption. Technology companies can be involved in developing environmental education applications that are in line with the national curriculum (Edsand & Broich, 2020). This collaboration can provide innovative solutions to the challenges faced in implementing technology in schools. Strengthening regulations is also needed to ensure that each school allocates time and resources for environmental programs. These regulations can include the obligation to report the progress of environmental programs regularly, so that the government can monitor and evaluate the success of the program more effectively. The government needs to take proactive steps in creating an ecosystem that supports the use of technology for environmental education. With strong support from the government, schools and communities can more easily achieve the goals of this program. Schools can play an important role by integrating environmental technology programs into the compulsory curriculum. One initial step is to include project-based learning that involves technology, such as waste management using digital applications (Jakab et al., 2019). This program not only educates students about environmental issues but also develops their technological skills.

2. SWOT Analysis and School Management Strategy

The SWOT analysis identified several key points:

1) Strengths: Adequate technological infrastructure, local government commitment, and community enthusiasm.
2) Weaknesses: Limited digital literacy of teachers, dependence on government funding, and resistance to change.
3) Opportunities: Support for education digitalization programs, partnerships with the private sector, and increased access to technology.
4) Threats: Inequality in access to technology in certain areas and inconsistent changes in education policies.

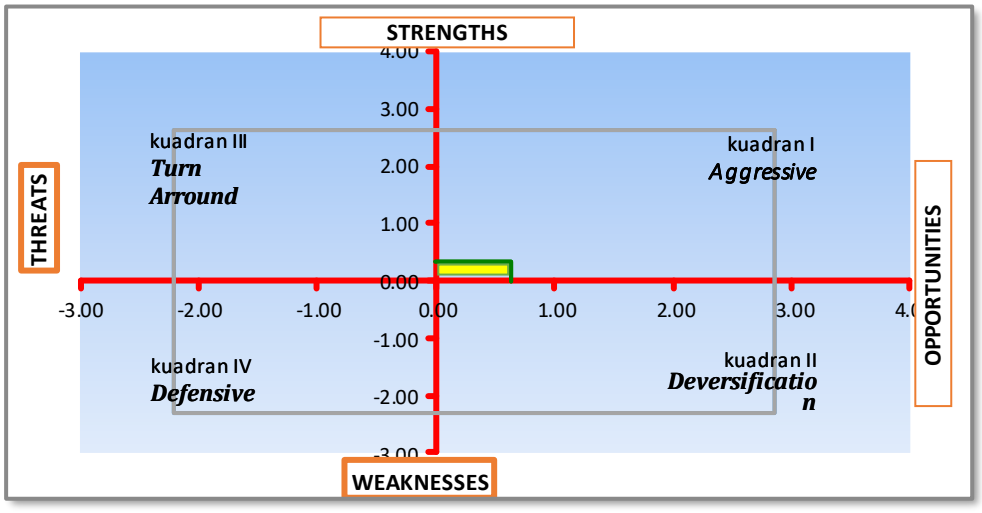

Figure 1. Probolinggo Education Strategy Position

This potential paves the way for Probolinggo City to become one of the national models in implementing the Adiwiyata Program based on environmental character education. Quadrant I in the SWOT analysis indicates the need to implement an aggressive strategy. This approach emphasizes strengthening internal aspects that are already good, such as school policies and student initiatives, while taking advantage of external opportunities, such as government support and partnerships with environmental communities (Hayter & Cahoy, 2018). An aggressive strategy also reflects the need to expand the scope and impact of the program through innovation and collaboration. Thus, Probolinggo City is very well positioned to strengthen the role of environmental education in forming students who care about and are committed to environmental sustainability. The development of student character with an environmental culture is not only oriented towards maintaining current achievements but also encouraging innovation in program implementation. This includes further integration of environmental values into the curriculum, strengthening extracurricular activities with an environmental theme, and empowering students as agents of change in society (Smith, 2019). These steps are needed to ensure the sustainability of the program which does not only depend on school policies alone but also on the active involvement of the entire school community. In addition, the implementation of this aggressive strategy must also be accompanied by effective resource management. The government and related parties need to ensure that there is sufficient budget allocation to support environmental activities, teacher capacity building, and the provision of environmentally friendly infrastructure in schools. Collaboration between schools, government, and communities is essential to create an educational ecosystem that supports the transformation of students' character towards a sustainable mindset (Zhuang & Liu, 2022). Based on this analysis, the proposed strategies include:

1) Strengthening Human Resources Capacity: Continuous training for teachers and students to improve digital literacy.

2) Funding Diversification: Developing partnerships with the private sector to support technology development.

3) Technology Integration in the Curriculum: Using technology for interactive environmental learning.

4) Monitoring and Evaluation: Implementing a data-based system to monitor program sustainability.

Conclusion

This study concludes that government and community involvement, supported by technology-based strategies, is key in shaping students' environmentally conscious character. The SWOT analysis provides strategic guidance to improve the sustainability of the Adiwiyata program. These findings provide theoretical and practical contributions to the development of sustainability-based education policies. This study offers a new approach to technology-based environmental education, which can be a model for other schools. In addition, the results of this study underline the importance of synergy between government, community, and schools in creating sustainable and responsive programs for the digital era.

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