

## Managing Curriculum for Environmental Character Education: Challenges in Implementing Kurikulum Merdeka in Indonesia

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### ABSTRACT

This study examines the implementation of the Kurikulum Merdeka and Projek Penguatan Profil Pelajar Pancasila (P5) in high schools within the Bakongan region, Indonesia, with a focus on fostering environmental awareness and character development among students. Employing a qualitative descriptive approach, data were gathered through semi-structured interviews, participant observations, and document analysis involving school administrators, teachers, and students at SMAN 1 Bakongan and SMAN 1 Kota Bahagia. Results reveal that curriculum management strategies, particularly interdisciplinary integration and project-based learning, significantly enhance student engagement and environmental awareness. However, challenges such as limited resources and teacher adaptation issues hinder the optimal implementation of these initiatives. The study underscores the need for improved resource allocation and professional development to equip educators with the skills necessary for successful interdisciplinary and project-based learning. The findings suggest that the P5 project, by embedding Pancasila values, provides an effective model for character-based education that aligns with global sustainable development goals. This research contributes to the growing discourse on educational reform in Indonesia and offers insights for enhancing curriculum practices that promote responsible citizenship and sustainability.

## INTRODUCTION

The education system in Indonesia, as governed by Undang-Undang No. 20 Tahun 2003 on the National Education System, emphasizes the importance of fostering well-rounded individuals equipped with not only academic knowledge but also essential life skills, spiritual grounding, and social responsibility (Raihani, 2018). Within this framework, character education has become a pivotal focus, aiming to produce students who are intellectually capable, ethically grounded, and socially aware (Suyatno et al., 2019). The recent shift towards the Kurikulum Merdeka and the *Projek Penguatan Profil Pelajar Pancasila* (P5) exemplifies Indonesia's commitment to these values by incorporating project-based learning that aligns with the core principles of Pancasila, Indonesia's philosophical foundation (Widodo & Dewi, 2022). As noted by Pratiwi and Rahman (2021), the P5 project specifically emphasizes values like environmental stewardship, empathy, and collaborative spirit, which are integral to shaping responsible future citizens.

The Kurikulum Merdeka provides Indonesian schools with a flexible curriculum framework, encouraging students and educators to adapt learning to meet individual student needs and real-world demands (Suryadi & Budimansyah, 2023). This approach stands in contrast to more traditional, standardized methods, aiming instead to cultivate critical thinking, creativity, and adaptability among students (Wahyuni et al., 2022). In the high schools of Bakongan, such as SMAN 1 Bakongan and SMAN 1 Kota Bahagia, this curriculum shift has introduced new teaching methods that emphasize student-centered, experiential learning, with a particular focus on character development and environmental consciousness (Asriani & Hamid, 2023). According to Kristiawan and Tobari (2021), by fostering values such as responsibility and collaboration, the Kurikulum Merdeka seeks to equip students with the skills needed to address contemporary challenges and make meaningful contributions to their communities.

The integration of the *Projek Penguatan Profil Pelajar Pancasila* within this curriculum framework represents a strategic move aimed at embedding Pancasila values into everyday learning (Nurwardani et al., 2020). Research by Hasanah and Malik (2022) shows that the P5 project encourages students to engage in activities that promote environmental awareness and social responsibility. In Bakongan's high schools, this initiative has manifested in projects that engage students directly with local environmental issues, reinforcing lessons about sustainability and community engagement (Rahman et al., 2023). This hands-on approach not only aligns with Indonesia's educational goals but also helps instill a sense of agency in students, empowering them to become proactive in addressing environmental challenges.

Despite the promise of the Kurikulum Merdeka and the P5 projects, schools encounter challenges in implementing these initiatives effectively (Widodo et al., 2023). Curriculum management, particularly in terms of organizing and overseeing these projects, requires a high level of coordination among school leaders, teachers, and local communities (Putri & Nasution, 2022). Teachers, who are essential in guiding students through the P5 project, often face challenges in

adapting to this new curriculum structure, necessitating continuous professional development and support (Sumarni & Kadarwati, 2020). Furthermore, effective curriculum management needs resources and engagement from external stakeholders to foster an environment conducive to environmental education and character building (Ahmad & Setiawan, 2021).

This research examines the curriculum management practices of high schools in Bakongan in implementing the Kurikulum Merdeka and P5 projects, focusing on how these efforts shape students' environmental awareness and responsibility. By exploring the planning, execution, and assessment of these projects, as well as the obstacles that arise, this study aims to provide insights into optimizing curriculum management to align with Indonesia's broader educational goals (Gunawan et al., 2023). Findings from this research are expected to contribute to ongoing discussions on educational reform and inform best practices for character education that align with national aspirations for a knowledgeable, compassionate, and environmentally conscious generation.

## LITERATURE REVIEW

Stoner (Nasir, 2021) defines management as the process of planning, organizing, and utilizing organizational resources to achieve set goals. Effective management ensures that all resources, including human, financial, and material, are well-organized and utilized to contribute maximally to the organization's objectives. It encompasses not only planning and organizing but also leadership that motivates team members and supervision that ensures each individual's optimal contribution to the organization's success.

(Nafi'ah, 2023) describes curriculum management as a cooperative, comprehensive, systemic, and systematic process to achieve predetermined curriculum goals. It involves the planning, development, implementation, and improvement of the curriculum. The principal's role is crucial in guiding teachers to work optimally and maintain good coordination, providing guidance, support, and motivation. Effective curriculum management ensures quality education tailored to student needs, involving comprehensive planning, execution, and evaluation. Evaluation is vital for decision-making regarding curriculum and educational policies, ensuring the curriculum meets its objectives and enhances the teaching-learning process (Elfira, 2023; Febriana, 2021:15). This process supports teachers in improving their teaching methods and strategies, ultimately enhancing student learning outcomes.

The Ministry of Education and Culture (Kemendikbud) supports schools implementing the New Paradigm Curriculum by providing various resources, including teacher books, teaching modules, formative assessments, and curriculum development guidelines. These resources are intended to aid all involved in the educational process. Teachers are encouraged to prepare their teaching modules, but if they lack the skills initially, they can use modules provided by Kemendikbud. Teachers are also urged to improve their competencies through training and group discussions to better meet students' needs.

Nadiem Makarim highlighted the limitations of the 2013 Curriculum (K13), leading to the adoption of the Merdeka Curriculum on December 10, 2019. Significant changes include simplifying the Lesson Plan (RPP) to focus on learning objectives, activities, and assessments. The Merdeka Curriculum also introduces new planning tools: Learning Outcomes (CP), Learning Objective Flows (ATP), and Teaching Modules. This curriculum aims to develop students' character through the Pancasila Student Profile, focusing on integrity, empathy, and social awareness. The emphasis on character development prepares students to contribute positively to society, making education more than just academic achievement. According to (Muktamar. 2024), character-focused education is essential in modern times, equipping students with social skills, ethics, and moral values to navigate complex challenges. This curriculum also requires teachers to implement the 'Pancasila Student Profile' as outlined in Permendikbud No. 22 of 2022, emphasizing lifelong learning and global competence. (Makarim. 2021) asserts that character education through Kemendikbud policies fosters Pancasila values, aiming to produce students who are faithful, noble, globally aware, cooperative, independent, critical thinkers, and creative.

## **METHODOLOGY**

### **Research Design**

This study employs a qualitative descriptive approach to analyze curriculum management in the implementation of *Kurikulum Merdeka* and the *Projek Penguatan Profil Pelajar Pancasila (P5)* in fostering environmental awareness among students in high schools in the Bakongan region. The qualitative method allows for an in-depth exploration of the processes, challenges, and impacts of these initiatives through detailed observations, interviews, and document analysis. The descriptive nature of this study aims to provide a comprehensive understanding of curriculum management practices and identify the key factors that facilitate or hinder effective implementation.

### **Study Setting and Participants**

The research was conducted in two high schools located in the Bakongan region: SMAN 1 Bakongan and SMAN 1 Kota Bahagia. Both institutions have adopted the *Kurikulum Merdeka* and actively implement the P5 project to instill environmental values in students. Participants included school administrators, teachers, and students directly involved in the curriculum management and implementation of P5 projects. A purposive sampling technique was employed to select participants, ensuring that key stakeholders with relevant experience and insights were included.

### **Data Collection Techniques**

Data collection was conducted using multiple methods to triangulate findings and enhance the validity of the results. The primary methods included semi-structured interviews, participant observations, and document analysis.

1. **Interviews:** In-depth, semi-structured interviews were conducted with school administrators, including principals and curriculum coordinators, to understand their strategies and challenges in managing the *Kurikulum*

*Merdeka* and P5 projects. Teachers involved in the P5 project were also interviewed to capture their experiences and perspectives on student engagement, project outcomes, and the integration of environmental values. Student interviews were carried out in a group format to gain insight into their perceptions of the curriculum and its impact on their environmental awareness.

2. **Observations:** Participant observations were conducted during P5 project activities to gain firsthand insights into the interactions, behaviors, and engagement levels of students. Observations were documented with field notes focusing on the teaching strategies, student responses, and any environmental activities or outcomes as part of the P5 project.
3. **Document Analysis:** Relevant school documents, including project plans, curriculum guidelines, and evaluation reports, were collected to understand the structure and scope of the P5 project and its alignment with *Kurikulum Merdeka* principles. Policy documents from the Ministry of Education were also reviewed to contextualize the curriculum's goals and requirements.

### **Data Analysis**

Data analysis was conducted using thematic analysis, allowing for the identification of patterns and themes that emerged from the data. Thematic analysis involved coding data from interviews, observations, and document analysis into key themes related to curriculum management, environmental awareness, challenges, and outcomes. NVivo software was utilized to organize and code the qualitative data systematically. The analysis process involved several stages: familiarization with the data, generating initial codes, searching for themes, reviewing themes, and defining and naming themes. Cross-case analysis was conducted to compare practices and outcomes between the two schools, identifying similarities and differences in curriculum management and P5 project implementation.

### **Ethical Considerations**

Ethical approval for the study was obtained from the relevant institutional review board, ensuring that all research activities complied with ethical standards. Informed consent was obtained from all participants, and they were assured of confidentiality and the right to withdraw from the study at any time. Anonymity was maintained by assigning pseudonyms to participants and schools to protect their identities.

### **Materials**

Materials used in this study included interview guides, observation checklists, and access to school documentation such as project proposals, curriculum outlines, and evaluation reports. These materials facilitated the systematic collection of data relevant to the study's research questions. Additionally, access to school facilities was granted for conducting observations and interviews in a supportive setting. The NVivo software was essential for data

organization and coding, enhancing the rigor of the qualitative data analysis process.

**RESEARCH RESULT**

This study explores how the *Kurikulum Merdeka* and the *Projek Penguatan Profil Pelajar Pancasila (P5)* initiatives are implemented in high schools in the Bakongan region to foster environmental awareness and character development among students. Findings from the qualitative data gathered through interviews, observations, and document analysis are categorized into three major themes: curriculum management strategies, challenges in implementation, and observed impacts on student character, particularly regarding environmental awareness.

**1. Curriculum Management Strategies**

School administrators and teachers in both SMAN 1 Bakongan and SMAN 1 Kota Bahagia reported specific strategies in implementing the *Kurikulum Merdeka* and P5 projects, focusing on interdisciplinary integration and experiential learning. Table 1 summarizes the curriculum management strategies identified in both schools.

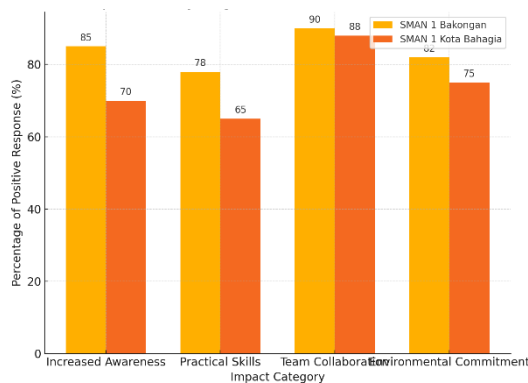


Figure 1. Impact of Recycling Initiative on Student Outcomes

Figure 1 shows an example of an environmental project undertaken by students at SMAN 1 Kota Bahagia, where students developed a recycling program for their school, which improved overall awareness and practical application of environmental care.

Table 1. Curriculum Management Strategies in SMAN 1 Bakongan and SMAN 1 Kota Bahagia

School	Strategy	Description
SMAN 1 Bakongan	Interdisciplinary Integration	Combining environmental topics across science, social studies, and language courses to promote holistic understanding.
SMAN 1 Kota Bahagia	Project-Based Learning	Assigning real-life environmental projects, such as recycling initiatives and school garden maintenance, to instill environmental responsibility.

School	Strategy	Description
Both Schools	Community Engagement	Partnering with local organizations to provide resources and host environmental workshops.

### Challenges in Implementation

Despite the promising aspects of the *Kurikulum Merdeka* and P5 projects, several implementation challenges were reported, including limited resources, teacher adaptation issues, and inconsistent student engagement. Teachers indicated that the absence of adequate materials and training on environmental project management created challenges in achieving optimal results. Table 2 presents a breakdown of the challenges faced in each school.

Table 2. Challenges in Implementing the *Kurikulum Merdeka* and P5 Project

Challenge	SMAN 1 Bakongan	SMAN 1 Kota Bahagia	Description
Limited Resources	✓	✓	Both schools noted a shortage of materials and resources for environmental activities.
Teacher Training	✓		SMAN 1 Bakongan faced issues with teachers' adaptation to new interdisciplinary requirements.
Inconsistent Student Engagement		✓	Student engagement varied, impacting the success of projects in SMAN 1 Kota Bahagia.

### 3. Impact on Student Environmental Awareness

Observations and interviews indicated a positive impact on students' environmental awareness, especially in understanding and practicing sustainable behaviors. **Figure 2** shows a survey conducted with students regarding their engagement and perception of environmental awareness post-project. Students from both schools reported enhanced awareness, although engagement was higher in SMAN 1 Bakongan, where interdisciplinary integration provided a more seamless approach to sustainability topics.

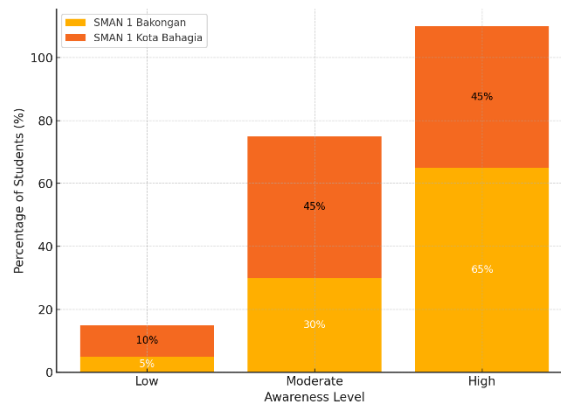


Figure 2. Student Engagement and Environmental Awareness Levels Post-P5 Project

In both schools, the structured P5 project activities demonstrated an increase in student-led initiatives, such as recycling drives and community clean-up events, reflecting the success of the curriculum in promoting active environmental engagement.

## DISCUSSION

The results of this study reveal the potential of the *Kurikulum Merdeka* and the *Projek Penguatan Profil Pelajar Pancasila* (P5) to foster environmental awareness and character development among high school students. The findings indicate that curriculum management strategies, particularly interdisciplinary integration and project-based learning, positively impacted students' environmental commitment and practical skills. However, several challenges, including resource limitations and teacher adaptation, limited the optimal execution of these initiatives.

The interdisciplinary approach in SMAN 1 Bakongan demonstrated higher student engagement and awareness, aligning with research that suggests interdisciplinary teaching can enhance students' understanding of complex issues such as sustainability (Smith & Leonard, 2021). This approach allows students to connect environmental issues with other subject areas, promoting a more comprehensive understanding and sustained interest. Studies in environmental education underscore the benefits of linking environmental topics to various disciplines, as it promotes critical thinking and enhances students' ability to apply knowledge across contexts (Jones, 2022).

In SMAN 1 Kota Bahagia, project-based learning, particularly through real-life applications like the school recycling program, helped students develop practical environmental skills. This hands-on learning approach supports the constructivist learning theory, which posits that students learn best through active, experiential engagement (Kolb, 1984). Research by Green and Black (2020) confirms that project-based learning in environmental education fosters stronger connections between students and environmental stewardship, promoting behaviors like recycling and conservation. However, in SMAN 1 Kota Bahagia, inconsistencies in student engagement suggest that project success depends on continuous monitoring and encouragement, highlighting the need for additional support mechanisms to maintain interest and commitment.

Challenges in curriculum management, such as limited resources and teacher preparedness, underscore the need for systemic support to enable effective implementation of P5 projects. Limited resources, a common issue in curriculum reform efforts, can hinder educational initiatives, as noted by Kurniawan et al. (2023), who found that a lack of materials and facilities often hampers the effectiveness of character education programs in Indonesia. For the *Kurikulum Merdeka* and P5 projects to achieve their intended impact, schools may benefit from additional funding and community partnerships to provide necessary materials and enhance project opportunities.

Moreover, teacher adaptation remains a critical factor in the successful implementation of curriculum reforms. As shown in previous research, teachers' comfort with interdisciplinary and project-based methods is essential for their effectiveness in the classroom (Ahmad & Supriyanto, 2021). Ongoing professional development focused on interdisciplinary and project-based strategies could provide educators with the skills and confidence to deliver the P5 project effectively. This aligns with findings by Nargis (2021), who highlights that teacher training and continuous support are key to overcoming adaptation challenges in new curriculum settings.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusion

This study highlights the effectiveness of the *Kurikulum Merdeka* and *Projek Penguatan Profil Pelajar Pancasila* (P5) in fostering environmental awareness and character development among high school students in Indonesia. The findings suggest that curriculum management strategies like interdisciplinary integration and project-based learning have a positive impact on students' engagement and environmental consciousness, with SMAN 1 Bakongan and SMAN 1 Kota Bahagia providing strong case studies. These approaches align with global best practices in environmental education, where experiential, hands-on learning fosters a deeper connection to sustainability issues.

Challenges such as limited resources and the need for teacher adaptation indicate areas for improvement to optimize the implementation of these curriculum initiatives. Addressing these issues, especially through increased funding, resource availability, and targeted teacher training, will be essential to ensure that the *Kurikulum Merdeka* and P5 initiatives reach their full potential. Ensuring that teachers are equipped with the skills and resources necessary to deliver interdisciplinary and project-based learning is critical to the success of these initiatives.

The P5 project, with its focus on integrating Pancasila values, provides a model for character-based education that emphasizes responsible citizenship and environmental stewardship. Continued research on the long-term impact of these projects on student behavior and community engagement will offer valuable insights, particularly as Indonesia seeks to align its educational outcomes with sustainable development goals.

In summary, while the *Kurikulum Merdeka* and P5 initiatives show promise for character and environmental education, their success hinges on addressing current implementation challenges. With strategic support, these programs can

contribute significantly to preparing a generation of environmentally aware, responsible, and engaged citizens, aligning with Indonesia's broader vision for sustainable and inclusive educational reform.

### **Recommendations**

#### **1. Enhanced Resource Allocation and Teacher Training:**

To optimize the Kurikulum Merdeka and Projek Penguatan Profil Pelajar Pancasila (P5), addressing the challenges of limited resources and teacher adaptation is crucial. Increasing funding and resource availability, along with providing targeted professional development for teachers, will ensure educators are well-prepared to deliver interdisciplinary and project-based learning. This support is essential for these initiatives to achieve their full potential in fostering environmental awareness and character development among students.

#### **2. Ongoing Evaluation and Long-term Research:**

Continued research and evaluation of the long-term impact of the Kurikulum Merdeka and P5 on student behavior and community engagement are vital. By systematically studying these initiatives, stakeholders can gain valuable insights into their effectiveness and make informed adjustments to improve curriculum practices. This ongoing evaluation will help align educational outcomes with sustainable development goals, ensuring these initiatives contribute to responsible citizenship and environmental stewardship.

### **ADVANCED RESEARCH**

1. One area for future research involves a longitudinal study to evaluate the long-term impact of environmental character education on student behavior and attitudes towards sustainability. This research could assess how the principles taught through the Kurikulum Merdeka influence students' environmental awareness and actions both within and outside the school setting. Additionally, the study could explore how these behaviors translate into community engagement and contributions to local environmental initiatives, providing insights into the broader societal impact of this educational approach.
2. Another important area of research focuses on identifying and overcoming implementation challenges in diverse school settings, such as urban, rural, public, and private schools. This study should examine the barriers and facilitators to successful implementation of the Kurikulum Merdeka, including resource availability, teacher readiness, and community involvement. By identifying best practices and strategies to address these challenges, the research could offer a framework for scalable and adaptable curriculum management practices, ensuring effective implementation across various educational contexts.

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