

Strengthening The Character of Environmental Care through Science Subject for Class IV Muhammadiyah 1 Elementary School, Sorong City

Madiyanah

Universitas Muhammadiyah Jakarta

Sri Immawati

Universitas Muhammadiyah Jakarta

Ambo Tang

Universitas Pendidikan Muhammadiyah Sorong

Article Information:

Keywords:

Environmental Care,
Elementary School,
Science Subject

ABSTRACT

This research aims to determine the strengthening of the character of caring for the environment and responsibility through science subjects for fourth grade students at Muhammadiyah 1 Elementary School, Sorong City, identifying the efforts made, and analyzing the supporting and inhibiting factors faced. The results of the research show that strengthening the character of caring for the environment is effective through the integration of environmental values in science and science learning. Through a collaborative approach between teachers, students, parents and the community, synergy is created in forming an environmentally caring character. The implementation of collaboration-based project management in this school is a strategic step in strengthening the Pancasila Student Profile. Clear communication, directed goals, and active participation are the keys to the success of the program. However, various challenges are also faced, such as a lack of understanding of project management concepts, limited funds, differences in student learning styles, and the influence of culture and the external environment. However, these challenges can be overcome with teacher training, technological support, and active community involvement. This research emphasizes the importance of a collaborative approach in science and science learning as an effective means of forming students' environmentally caring and responsible character.



This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. ©2019 by author.

Correspondence:

Author Madiyanah

Email: jurnalmadiyanah@gmail.com

INTRODUCTION

In recent years, environmental issues such as climate change, pollution, ecosystem damage, global warming, ecosystem damage that threatens the sustainability of the earth and the reduction of natural resources have become serious issues in various parts of the world including Indonesia. It has a very big impact and needs urgent resolution. Ongoing environmental damage not only threatens the balance of the ecosystem but also human life.

The role of education in developing an environmentally sensitive generation has great significance. Education can be an efficient tool to build environmentally conscious characters from a young age. Education plays an important role in fostering environmental awareness from an early age. Elementary schools, as the initial level of education, are the right place to form environmentally conscious characters in children, because at an early age children are in the character formation phase.

Character education is an educational initiative implemented in educational institutions to strengthen students' character, by involving educational institutions, families, and the environment. Strengthening in

the context of character education is defined as a strategic effort to strengthen the values, attitudes, and behaviors of students in accordance with norms that support personality development. Improvement involves various methods, such as incorporating character values into the curriculum, character-focused projects, and cultivating positive attitudes in schools (Husnunnadia & Slam, 2024).

In reality, the implementation of environmental character education at the elementary school level still experiences many obstacles, especially in science learning. This condition is in line with (Rahman, 2024), who emphasizes that limited training and insufficient institutional support remain major constraints in school learning implementation. Such as many schools that have not optimized the implementation of environmental character education, especially in science lessons. Elementary education is an important stage in the formation of children's character and morality, because at the elementary education stage children have a high level of curiosity and are easier to accept values that will shape their attitudes and behavior in the future so that children can form their characters well.

Natural and Social Sciences Education (IPAS) is a very important vehicle in promoting ecological values in the school environment. Science learning is learning that links all fields of science studies, namely Physics, Chemistry, and Biology. Science learning in elementary schools aims to develop scientific process skills, encourage understanding of concepts and develop positive attitudes towards science (Januarisman & Ghufro, 2016). In IPAS learning, not only learning about the theory of nature and the environment, but also participating in activities that can create empathy and a sense of responsibility for the environment.

Instilling character education in the environment from an early age can form a generation that cares about the importance of preserving nature as part of life. This is very important because future community behavior towards the environment is highly dependent on how they understand and practice environmental values in their daily lives. Hakim (2020) explains that efforts to strengthen environmental character through education, especially in elementary schools, are a strategic step towards forming environmental awareness.

LITERATURE REVIEW

This study fills the gap from previous studies that only focused on strengthening environmental character education in elementary schools and only focused on one aspect, namely character education in the context of elementary schools (Arnis 2022; Aini 2021; Fitriyani 2022; Abyena Hafza et al. 2023; Mia Septiani Hasibuan, Sapri Sapri 2023; Lu'luil Maknun and Dinda Aisyah 2023; Siti Masita et al. 2023; Anggraeni Dian Permatasari and E. Oos M. Anwas 2011); Manggu Ngguna Raji and Fransiskus Korosando 2024; Riska Rudini Siregar et al. 2023; Airnur Rohma and Anggita Diah Pramesti 2019; Halimatus Sa'diyah 2022; Suhali and Andi Haris 2022), so that the results of this study are expected to describe the character of caring for the environment in IPAS, understand character strengthening efforts, and understand the supporting and inhibiting factors in strengthening character as the research novelty.

The formulation of the problem that is the basis of this study is as follows: 1) How is the character of caring for the environment in the subject of science for grade IV of SD Muhammadiyah 1 Sorong City? 2) How to strengthen the character of caring for the environment in grade IV students of SD Muhammadiyah 1 Sorong City? 3) What are the supporting and inhibiting factors in strengthening the character of caring for the environment in Primary School of Muhammadiyah 1 Sorong City? So it is hoped that the study will be able to describe the character of caring for the environment, find out efforts to strengthen the character of caring, and understand the supporting and inhibiting factors.

METHOD

This education was conducted at Muhammadiyah 1 Elementary School, Sorong City. The number of students as a research sampling was 5 students out of 25 students in total in class IV.

The research method used was descriptive qualitative with an approach that aims to understand in depth about strengthening environmental care characters in shaping students' characters in accordance with the current curriculum development. According to (Herlina, 2018) this definition in the context of qualitative research is to illustrate the importance of in-depth explanations of human behavior. Descriptive data found in the form of written words or speech from individuals and observed behavior. This definition in the context of qualitative research is to illustrate the importance of in-depth explanations of human behavior.

In collecting data, researchers used primary data obtained directly from key informants through direct interaction, namely observation, interviews, group discussions. In addition, there is also secondary data that can be obtained through archives, documents, and other written sources that are considered relevant. Primary data is obtained from sources involving individuals or groups, namely the principal, class teacher, and students. In addition, secondary data sources are also obtained through documents, records, and written materials related to school policies, school programs, and student evaluation reports.

Interviews conducted in depth for the purpose of understanding the types of problems that are used as problem formulations by researchers. Through in-depth interviews, it is expected to obtain types of information that are in accordance with the needs with the arrangement of words and sequences that are

adjusted to the characteristics of each respondent. The type of interview that the researcher will conduct is a structured interview. The researchers interviewed were the principal, vice principal for curriculum, class teachers or homeroom teachers, and students. In this study, researchers continue to do so as long as they find new things that are considered essential by researchers.

Meanwhile, the documentation required is personal documents, official documents, references, photos, and recordings. This data can help researchers to test, interpret, and even predict answers to the focus of the research problem. With this documentation study, researchers can collect data or information from various written sources or from documents owned by informants.

Data analysis is carried out by examining phenomena or events as a whole, as well as the parts that form these phenomena and the relationships between the two. The data analysis process is carried out after the required data has been successfully collected. The qualitative data analysis that will be used by researchers in this study consists of three activities, namely data reduction, data presentation, and drawing conclusions.

RESULTS AND DISCUSSION

The results of the data analysis show several findings to answer the research problems as follows:.

Strengthening environmental care character through science subjects for grade IV of Muhammadiyah 1 Elementary School, Sorong City

Related to the strengthening of environmental care characters through science lessons at Muhammadiyah 1 Elementary School, Sorong City, based on the results of interviews conducted by researchers, the principal explained: that strengthening environmental care and responsibility characters is carried out through the planning stage including project definition, team formation, budget planning, teacher socialization, student activities, collaboration with parents or the community as well as supervision and evaluation. Thus, strengthening environmental care and responsibility characters can run according to plan and its success can be seen by measuring using habituation indicators, observation, analysis of learning outcomes, document analysis and feedback from stakeholders.

The same thing was conveyed by the principal, also conveyed by the fourth grade teacher of Muhammadiyah 1 Elementary School, stating: Strengthening environmental care and responsibility characters through science lessons for Class IV of Muhammadiyah 1 Elementary School, Sorong City, is carried out through an environmental-based program and integration of environmental education materials and clean living behavior through the integration of science lessons with materials on maintaining environmental sustainability.

The results of the data based on the sample questionnaire filling in students obtained the results of students' understanding of environmental care and responsibility characters through science lessons in general, students understand the purpose of implementing these characters.

From the results of the interview, it can be concluded that in strengthening the character of caring for the environment and responsibility through science lessons for Class IV of Muhammadiyah 1 Elementary School, Sorong City, it must begin with the planning stage. Socialization to teachers and parents is also an important step that should not be ignored. Through socialization, all parties can understand the goals and benefits of the activities to be carried out. Based on the results of the interview above, the author conducted research related to documents that support the results of the study and found documentation of the process of strengthening the character of caring for the environment and responsibility during the odd semester of the 2024/2025 school year. In addition, the author also found a module related to strengthening the character of caring for the environment and responsibility through science lessons in class IV.

Parties involved in strengthening the character of caring for the environment and responsibility through science lessons for grade IV of Muhammadiyah 1 Elementary School, Sorong City

Parties involved in Strengthening environmental care and responsibility characters through science lessons for grade 4 of Muhammadiyah 1 Elementary School, Sorong City, the principal said that teachers play a very active role in achieving character strengthening for students at school, especially in mentoring, supervising, supporting children, and also playing an active role in collaboration, especially cooperation with parents, the teacher council in planning and implementing programs. Teachers are responsible for directing and guiding students because teachers are facilitators and motivators. Students as the main subjects have a role in building skills and increasing understanding of the material. Partnerships with the surrounding community are also an important part of the success of the project. Partnerships that are experts in their

fields can provide support for project implementation, both as resource persons, places to learn, and even financial support.

The same opinion was also expressed by the class teacher that the role of parents, teachers and support from the principal will help achieve and strengthen the character of caring for the environment and the responsibility of students. Teachers work together with all stakeholders involved, in addition, the integration of caring for the environment with science lessons will motivate and foster a sense of caring for students. In implementing science learning, teachers help students find ideas so that the implementation of environmental care can be achieved. The existence of socialization and partnerships with the surrounding community is also an important aspect in the implementation of this project. Schools utilize social networks in the community to establish mutually beneficial cooperation. In addition, parents of students also have an equally important role in the implementation of strengthening environmental care.

Then, the fourth grade science teacher at Muhammadiyah 1 Elementary School, Sorong City, who was involved in strengthening the character of caring for the environment and responsibility also said that the success in strengthening the character of caring for the environment and responsibility through fourth grade science lessons at Muhammadiyah 1 Elementary School, Sorong, is very dependent on careful planning, effective communication, and good collaboration between team members. Every aspect, from determining the theme, preparing tools and materials, to evaluating the results, has an important role in achieving learning objectives. As a teacher who is directly involved in learning activities, it is important to always maintain focus and commitment to the success of the goals to be achieved, and be ready to learn and adapt to every challenge that arises.

Efforts to foster a character of environmental concern and responsibility in students, especially in class IV of Muhammadiyah 1 Sorong Elementary School

Based on statements from the principal and fourth grade teachers, this can be done through various strategies in science learning, namely Integrating Science Learning with Project-Based Learning, conducting extracurricular activities and environmental projects, role models from teachers and school staff, and providing awards and motivation to students who are active in maintaining the condition of their environment.

Supporting and inhibiting factors in strengthening environmental care and responsibility characters faced at Muhammadiyah 1 Elementary School, Sorong City

In the implementation of environmental care, it turns out that it is not easy and often faces various challenges that must be faced. As conveyed by the principal through the results of the interview, One of the main challenges in strengthening the character of caring for the environment and responsibility is the lack of basic understanding of the concept of caring for the environment and responsibility itself. Supporting factors include the existence of School Support and Policies The existence of a green school program or Adiwiyata activities that support the strengthening of the character of caring for the environment. School policies that require cleaning activities, waste management, and greening. The role of teachers and school staff is a very important part, teachers who provide examples in maintaining cleanliness and being responsible for the environment.

By identifying and understanding the challenges encountered, the right steps can be taken to create a learning environment that supports collaboration and strengthening the character of caring for the environment and responsibility through science lessons for grade IV, so that environmental awareness is created. In an effort to overcome these challenges, cooperation is needed between the government, schools, parents, and the community. Training for teachers, improving school facilities, and involving parents and the community in children's education are strategic steps that need to be taken. Thus, it is hoped that the young generation of Indonesia can grow into students who are not only intelligent, but also have strong characters.

CONCLUSION

This study aims to describe the character of caring for the environment, understand character strengthening efforts, and understand the supporting and inhibiting factors. This study was conducted at Muhammadiyah 1 Elementary School, Sorong City as a strategic step in strengthening the profile of Pancasila students.

Muhammadiyah 1 Elementary School, Sorong City has implemented a project management model for strengthening the profile of Pancasila students through clear communication, detailed objectives, and active participation. These are key elements that support each other in achieving the success of a project.

The challenges in implementing collaboration-based project management to support the strengthening of the profile of Pancasila students at Muhammadiyah 1 Elementary School, Sorong City are very complex and diverse. Starting from a lack of understanding of project management, differences in learning styles, financial support, to aspects of culture and trust between students. However, with the right approach, such as teacher training, technology integration, and community involvement, these challenges can be overcome.

REFERENSI

- Abd.Mukhid. (2016). Konsep Pendidikan Karakter dalam AL-QUR'AN. 20.
- Benny Prasetya. (2020). THE CRITICAL ANALYSIS OF MORAL EDUCATION IN THE PERSPECTIVE OF AL-GHAZALI, KOHLBERG AND THOMAS LICHONA. *Jurnal Pemikiran Islam*, 6(1), 20.
- Edy Surahman, M. (2017). Peran Guru IPS Sebagai Pendidik Dan Pengajar Dalam Meningkatkan Sikap Sosial Dan Tanggung Jawab Sosial <https://doi.org/https://doi.org/10.21831/hsjpi.v4i1.8660>
- Hakim, L. (2020). Pendekatan Kontekstual dalam Pendidikan Karakter di Sekolah. Jakarta: Prenada Media.
- Herlina, E. (2018). Kajian Strukturalisme Semiotik Dalam Novel Salah Pilih Karya Nur St. Iskandar. *Bahtera Indonesia; Jurnal Penelitian Bahasa Dan Sastra Indonesia*, 3(2), 67–69. <https://doi.org/10.31943/bi.v3i2.17>
- Huda, M. K., & Rajagukguk, S. (2020). Penguatan Karakter Peduli Lingkungan di Pesantren Modern Al Barokah Melalui Pengelolaan Sampah dan Pemanfaatan Biopori. *BEST Journal (Biology Education, Sains and Technology)*, 3(2), 198–204. <https://doi.org/10.30743/best.v3i2.3241>
- Husnunnadia, R., & Slam, Z. (2024). Pencegahan Bullying di Sekolah: Mengimplementasikan Pendidikan dan Kewarganegaraan Untuk Penguatan Hak dan Kewajiban Anak. *Jurnal Pancasila Dan Kewarganegaraan*, 9(1), 28–42. <https://doi.org/10.24269/jpk.v9.n1.2024.pp28-42>
- Jamilah, F. (2023). Liberalisme Perspektif Pendidikan Islam. 02(01), 78–85.
- Januarisman, E., & Ghufro, A. (2016). Pengembangan Media Pembelajaran Berbasis Web Mata Pelajaran Ilmu Pengetahuan Alam Untuk Siswa Kelas Vii. *Jurnal Inovasi Teknologi Pendidikan*, 3(2), 166. <https://doi.org/10.21831/jitp.v3i2.8019>
- Maharani, L., Rondli, W. S., & Darmuki, A. (2024). PELAJAR PANCASILA : PEMBELAJARAN BERPIHAK PADA MURID DALAM PENDIDIKAN ABAD 21. 11(2), 157–165.
- Mukminin, A., Iain, A.-A., Thahah, S., & Jambi, S. (2014). Strategi Pembentukan Karakter Peduli Lingkungan Di Sekolah Adiwiyata Mandiri. *XIX XIX(02)*, 227–252.
- Munawarsyah, M., & Fakhruddin, H. (2024). Character Education for Teenagers in the Era of Society 5.0 Thomas Lickona's Perspective. 5, 127–138. <https://doi.org/10.62775/edukasia.v5i2.984>
- Mustofa, T., & Amar Muzaki, I. (2022). Pendidikan Karakter Berbasis Pancasila. *HAWARI : Jurnal Pendidikan Agama Dan Keagamaan Islam*, 3(1), 134–139. <https://doi.org/10.35706/hw.v3i1.6800>
- Nurdiana, T., Sa'adah, N. A. F., & Nathasa, Z. (2024). PENGENALAN ECOLITERACY KEPADA ANAK USIA DINI : PEMANFAATAN METODE STORYTELLING DENGAN WAYANG DAUR ULANG Kebudayaan Republik Indonesia Nomor 22 Tahun 2020 Tentang Rencana. 8(1), 6–11.
- Nugraha, E., Setiawan, H., & Yulianto, S. (2019). "Pendekatan Interdisipliner dalam Pembelajaran IPAS." *Jurnal Pendidikan Interdisipliner*, 7(3), 89–97.
- Nurrochman, T., & Fauziati, E. (2023). Kajian Filsafat Pendidikan Perennialisme : Studi Pemikiran Robert Maynard Hutchins dalam Pendidikan Karakter di Sekolah Dasar. *Jurnal Pendidikan*, 32(1), 53–62. <https://doi.org/10.32585/jp.v32i1.3342>
- Panglipur, I. R., Diah, N., Lestari, S., Yudianto, E., Matematika, P., Pgri, U., & Jember, A. (n.d.). Analisis Teori Perilaku dalam Pembelajaran : Systematic Literature Review. 5(4), 5436–5444.
- Puspitasari, Yulianti, H., Pradipta, H., & Zulfiati, H. M. (2024). Penerapan Model Pembelajaran Berbasis Proyek Terintegrasi Ajaran Tri Nga Dalam Pembelajaran Ips Untuk Memperkuat Kepedulian Peserta Didik Terhadap Lingkungan. *Jurnal Pendidikan Dasar Flobamorata*, 5(2), 198–205. <https://doi.org/10.51494/jpdf.v5i2.1430>
- Rachmadyanti, P. (2017). Penguatan Pendidikan Karakter Bagi Siswa Sekolah Dasar Melalui Kearifan Lokal. *Jurnal Pendidikan Sekolah Dasar*, 3(2), 201. <https://doi.org/10.30870/jpsd.v3i2.2140>
- Rahman, P. K. (2024). Analysis of Teacher Preparedness for Using Technology in the Classroom Learning Process. *Indonesian Research Journal on Education*, 4(4), 276–280. <https://doi.org/10.31289/analitika.v14i1.6015>

- Rohmah, M. A., & Aulina, C. N. (2024). Implementasi Pembelajaran Berwawasan Kemaritiman Terhadap Kecerdasan Naturalistik Anak Usia 4-5 Tahun. *Jurnal Anak Usia Dini Holistik Integratif (AUDHI)*, 7(1), 1. <https://doi.org/10.36722/jaudhi.v7i1.2840>
- Ruwaida, H., & Hamidy, S. A. (2023). IMPLEMENTASI PROYEK PENGUATAN PROFIL PELAJAR PANCASILA dan PROFIL PELAJAR RAHMATAN LIL'ALAMIN (P5-PPRA) di MI ASSUNNIYYAH TAMBARANGAN. *Pendidikan Sosial Dan Humaniora*, 2(2), 11576–11584. <https://publisherqu.com/index.php/pediaqu>
- Saputri, R. A. (2019). Implementasi pendidikan karakter peduli lingkungan siswa SD Bakalan Kecamatan Sewon Kabupaten Bantul. *Jurnal Basic Education*, 8(15), 1424–1433. <https://journal.student.uny.ac.id/ojs/index.php/pgsd/article/view/15187>
- Taber, K. S. (2023). Educational Psychology. *Contemporary Trends and Issues in Science Education*, 56, 193–207. https://doi.org/10.1007/978-3-031-24259-5_14
- Tohri, A., Rasyad, A., Sururuddin, M., & Istiqlal, L. M. (2022). The urgency of Sasak local wisdom-based character education for elementary school in East Lombok, Indonesia. *International Journal of Evaluation and Research in Education*, 11(1), 333–344. <https://doi.org/10.11591/ijere.v11i1.21869>
- Violeta, F. M., & Prastowo, A. (n.d.). Penerapan Pembelajaran Behaviorisme Melalui Program Tahfidz , Pembacaan Al- Qur ' an & Literasi (TaPAL) Peserta didik di SMPN. 5(4), 5610–5619.