

Analysis of the mutual cooperation habituation program at SDN Nagrak in developing environmental awareness

Dicky Cep Taufiq* , Utomo , Annisa Dzahira Shofa

*Universitas Nusa Putra, Jl. Raya Cibolang Cisaat, Sukabumi, West Java, 43152, Indonesia
dicky.taufiq_pgsd20@nusaputra.ac.id**

Abstract: *Modernization of basic education is crucial for environmental character building, yet significant gaps remain about students' environmental apathy in the real world. This qualitative case study analyzes how a structured mutual cooperation (gotong royong) program at SDN Nagrak fosters students' environmental awareness and identifies supporting and inhibiting . Data were collected through observation, documentation, and semistructured interviews with the principal, teachers, and 30 students, with data reliability ensured through triangulation. Results indicate that the program, implemented in stages across daily, weekly, monthly, and incidental dimensions, appears to transform indifferent behavior into sustainable pro-environmental actions across cognitive, affective, and psychomotor domains. Key supports include strict regulations and committee support, while barriers include learner fatigue and differences in home culture. The study concludes that structured mutual cooperation is considered supportive of fostering collective environmental awareness, although long-term optimization requires consistent, ongoing reinforcement and alignment with the home environment.*

Keywords: *mutual cooperation habits; environmental care; character education; elementary schools; school culture*

Introduction

In the 21st century, education character at school base became the reference main to ensure that every individual can own awareness in love the environment with attitude care environment (Goodale, Gilmore, & Griffiths, 2025; Zainil, Kenedi, Rahmatina, Indrawati, & Handrianto, 2023) . Through the process of modernizing basic education, a role is important for generation-sensitive young men to sustain the environment (Kenedi, Helsa, Ariani, Zainil, & Hendri, 2019) . This is supported by direction policy curriculum independence that focuses on strengthening profile students Pancasila , especially in the dimension of morals glorious to natural with the value of mutual cooperation (Minsih et al., 2026) . Reality in the field shows the existence gap between idealism and behavior of real learners at school (Syahri, Widodo, & Sofwani, 2021) . Based on results observation early at SDN Nagrak found phenomenon the worrying environmental moral degradation among learners at SDN Nagrak . This is seen from habit-bad learners like regurgitating away rubbish careless , indifferent to condition cleanliness room class , and reluctant to participate in activity cleanliness provided by the school. If is ignored without existence intervention, it is feared will become A bad habits so that damage ecosystem school as room healthy and humanistic learning.

Overcome problem the required various study previously has Lots research that is carried out various habituation programs For overcome issue attitude care school environment basic. One of the effort in overcome problem the through realm cognitive that

is How create knowledge they about concern environment through Adiwiyata program (environmentally friendly school program) (Desfandi, Maryani, & Disman, 2017) . According to the Regulation of the Minister of Environment and Forestry of the Republic of Indonesia Number 5 of 2013 concerning the Adiwiyata Award, the Adiwiyata program is an award given by the government, provincial governments, and district/city governments to schools that have successfully implemented environmental awareness movements and environmental culture within schools by the Minister of Environment of the Republic of Indonesia . Schools can develop flagship programs with give intervention importance attitude care environment . Supported with study previously about The Adiwiyata Program is Zero Waste -Oriented in Developing Environmentally Caring Characters in Elementary Madrasah Students. succeed forming students' environmentally conscious character through structured habits reinforced by Islamic moral values and teacher role models (Maulani & Ratu, 2026) .

Effort concrete as form intervention social that is through mutual cooperation activities. Mutual cooperation activities are forms of cooperation in play a role active which shows pro-environmental attitude . Mutual cooperation activities can customized with condition each school , for example will scheduled every habituation Morning before enter class or determined day special to perform mutual cooperation activities . Mutual cooperation activities can be correlated with the Adiwiyata program through design by teachers with pay attention values as well as program objectives (Casmana, Dewantara, Timoera, Kusmawati, & Syafrudin, 2023). So, the important point in this study is not just giving theory or memorization about the importance of preserving the environment but inviting students to take real action through mutual cooperation (gotong royong) activities. Extensive literature on the Adiwiyata program highlights that its implementation predominantly relies on structural and formal approaches. For instance, recent studies emphasize that success is often measured by administrative budget allocations for physical environmental facilities (Rahman, Santosa, Basyir, Nur'aini, & Arifin, 2023). or the formal implementation of school-based management (MBS) involving committees and parents (Agung Nugroho, Karma Iswasta Eka, & Nur Aini Hidayah, 2023). However, these top-down and highly institutionalized routines face critical sustainability issues. As noted by Utaya and Wafaretta (Utaya & Wafaretta, 2021), pro-environmental habits established at school frequently collapse once students return to their homes and informal social circles due to a lack of organic community enforcement. This reveals a significant research gap: existing models rarely address how students' informal networks can independently sustain environmental consciousness. To bridge this gap, this study offers a reconstruction of a character habituation model that uses peer group dynamics. By leveraging these social networks, this model aims to transform students' individualistic, selfish habits toward the environment into a sustainable, collective awareness rooted in local culture.

Based on the background described above, the research questions in this study are directed toward addressing practical phenomena in the field, namely: How is the mutual cooperation (gotong royong) habituation program implemented at Nagrak State Elementary School? What are the supporting and inhibiting factors encountered during the implementation of this mutual cooperation habituation program? Through these research

questions, this study aims to explore, describe, and interpret the dynamics of the habituation program in depth. Rather than testing a treatment or measuring causal effects, this research focuses on understanding how the shared social routines within the school culture reshape students' daily environmental awareness and organic behaviors.

Method

This qualitative research employed a descriptive case study design to explore and interpret the dynamics of the mutual cooperation (*gotong royong*) habituation program at SDN Nagrak, Sukabumi Regency, Indonesia. The participants were selected using a purposive sampling technique based on specific criteria: direct involvement in the program's daily execution, strategic position in school management, and capacity to provide rich information regarding character shifts. The final cohort consisted of one principal (to provide data on structural regulations and policies), six teachers (to evaluate the execution of classroom routines), and 30 students across grades 1 to 6 (to reflect the real-world behavioral changes resulting from the program). This purposive selection ensured a comprehensive data spectrum to answer questions on both the structural implementation process and the resulting field dynamics.

Data collection was carried out through multiple techniques to facilitate data triangulation: continuous classroom and schoolyard observations, semi-structured interviews to deeply explore individual perspectives, and documentary analysis of school program designs. To ensure qualitative trustworthiness, data credibility was established via source and method triangulation alongside member checking with teachers to verify interview transcripts. Transferability was enhanced through dense description of the rural school context, while dependability and confirmability were maintained via a clear audit trail and peer debriefing during analysis. The gathered data were analyzed using Miles and Huberman's interactive model—comprising systematic data reduction (selecting, focusing, and categorizing thematic codes), data display (narrative descriptions and matrices), and continuous conclusion drawing and verification—guaranteeing rigorous, dependable, and reliable findings (Punch & Oancea, 2014).

Results and Discussion

The field investigation at SDN Nagrak revealed that the mutual cooperation (*gotong royong*) habituation program is systematically structured based on clear time dimensions to reshape student behavior. Empirical data collected through one month of continuous field observations and interviews showed that the school operates this program across four distinct layers: daily classroom pickets and the morning trash-picking routine (*Gerakan Pungut Sampah*), weekly mass clean-up sessions every Friday (*Jumat Bersih*), monthly classroom cleanliness evaluations tied to an active reward system, and incidental collective actions during school events. The field data confirmed that this structured time conditioning successfully transformed students' initial environmental indifference—such as leaving litter

under desks—into proactive habits, where students independently sort organic and inorganic waste and regulate energy use.

These empirical findings closely align with the core philosophy of collective action, where mutual cooperation activities are fundamentally understood not just as mere physical labor like cleaning, but rather as a highly structured medium for fostering active student (Widayati, 2020). In the context of 21st-century education, cultivating such organic awareness through repetitive school routines is highly required to ensure that every elementary student develops a lasting stewardship toward their environment (Sopin & Sanrattana, 2023; Worapun, Khamdit, & Siridhrungsri, 2022). Furthermore, this field-level transformation directly supports the current policy direction of the Merdeka curriculum in Indonesia, which explicitly prioritizes strengthening the Profile of Pancasila Students (Profil Pelajar Pancasila), particularly in developing noble morals toward nature through embedded local cultural values like gotong royong (Haryati & SD, 2022). By implementing these time-patterned routines, the school successfully operationalizes collaborative practices that effectively translate abstract environmental policies into concrete, daily student characteristics (Soipimai & Sanrattana, 2023).

Form concrete in Implementation of the mutual cooperation habituation program at SDN Nagrak through 3 dimensions time can in the form of activity daily, weekly, monthly and time based incidental (Arief, 2023). Habituation program daily realized through distribution picket fair class, movement collect rubbish after ceremony or before enter room class. The collection movement rubbish done a number of minute before activity Study started matter the Already reflect that in a way No direct habituation the will form A culture good and sustainable schools (Ismail, Khatibi, & Azam, 2022). On scale weekly school schedule Friday Clean which involves all over inhabitant school For nurse plants and public areas school. For awaken motivation student in love the environment as well as increase attitude care environment an appreciation program was held to class that is consecutive room his class clean with checking by each class teacher every daily and accumulated in the monthly program (Trisnani, Santoso, & Pd, 2026). the program in a way No direct become a flagship program as form of habituation program mutual cooperation activities for increase attitude care environment. While the program is of a nature incidental done moment welcoming certain momentum to become A activities without Can realized own objective For increase attitude care environment. Success implementation of habituation the based on consistency exemplary behavior from head active schools and teachers down to field so that student No feel ordered but invited For build room life comfortable together.

Table 1. Summary of Findings: Theoretical and Program Implications The Habit of Mutual Cooperation at SDN Nagrak

Discussion Topics	Key Field Findings	Program Implications
Time-Dimension Mechanisms	Program implemented progressively: daily classroom pickets/trash picking, weekly Jumat Bersih, monthly evaluations, and spontaneous incidental clean-ups.	Environmental maintenance shifts from an enforced chore into an embedded, automated routine within the school culture.
Character Strengthening System	Daily monitoring integrated into monthly class cleanliness competitions with symbolic awards/recognition.	Healthy peer competition increases students' collective intrinsic motivation and sense of classroom ownership.
Educator Role Modeling	Successful habituation depends on the active, visible participation of the principal and teachers alongside students.	Transformational dynamic from verbal commands to collaborative action, making students feel invited rather than ordered.
Sustainability & Internalization	Emergence of cognitive, affective, and psychomotor shifts, such as self-initiated waste sorting and energy regulation.	Abstract pro-environmental principles transform into long-term organic reflexes and personal character traits.

The attitude of mutual cooperation acts as a medium for reconstructing habituation programs in schools. base (Moreira, Coelho, Peixoto, Spain, & Azevedo, 2025) . Through this program , students' bad habits of being indifferent to classroom cleanliness and reluctant to participate in school cleaning activities can be gradually eliminated. The key point of implementing gotong royong in this study is not simply providing theory or memorization regarding environmental preservation but rather directly inviting students to take real action in the field. (Fu, Hutson, Thierer, Zhang, & Taylor, 2025) .

The impact of the mutual cooperation habituation program shows positive growth in three dominant student character traits through the cognitive, affective, and psychomotor domains. In the cognitive domain, students certainly demonstrate a more mature understanding of waste management and the importance of reforestation. Affectively, internalizing the value of mutual cooperation has succeeded in fostering empathy and reducing feelings of indifference in students when they encounter dirty environments such as in the classroom and at school. This behavioral transformation crystallizes in the psychomotor domain, where concrete actions such as sorting waste without being asked, caring for classroom plants, and maintaining efficient water use have now become reflexes or habits in the daily lives of students at SDN Nagrak. (McDonald, 2002) .

Based on the research findings, the program of habituating mutual cooperation activities at SDN Nagrak runs consistently. In the initial stage, students were not yet aware of the importance of protecting the environment. However, with continuous intervention, students' environmental awareness attitudes gradually change for the better. This shift is clearly reflected in the statements of the educators during interviews. "At first, it was very difficult to get the students to care. They would simply ignore the trash under their desks. But after we implemented a consistent daily routine and morning trash collection, their behavior

changed. Now, they automatically clean their rooms and even bravely remind their classmates if anyone litters." (Interview with Class Teacher, March 2026)

Based on field findings that the habituation program is implemented with design dimensions time . Attitude care students at SDN Nagrak especially 30 students who became focus main For investigated show significant variation between sixth class. Attitude care measured environment with knowledge and attitudes they in give action real in the form of they Already capable sorting rubbish in accordance with type , turn off the water tap that is not used and turned off lights at the moment Morning day For save energy. This show that habituation program mutual cooperation activities can give impact positive to knowledge as well as attitude student in aspect attitude care environment . This visual transformation from field observations was reinforced by the students' own statements during semi-structured interviews: "Now I know which bin is for plastic waste and which bin is for leaf litter. Every morning before class, my friends and I always check the schoolyard for scattered trash and pick it up together." (Interview with a Grade 6 Student, April 2026)

The results of one month of observations showed a marked change in student behavior. Students increasingly demonstrated a natural awareness of the various types of waste found in the school environment. Semi-structured interviews with homeroom teachers also supported these findings, indicating that the mutual cooperation program was perceived as broadening students' understanding of waste categorization. This combined data highlighted the positive transformation observed in students' daily discipline. Specifically, students demonstrated greater concern for their surroundings by independently checking for trash under their desks, consistently disposing of trash in designated bins, carrying out cleaning tasks as scheduled, and sorting waste by type.

Consistent improvement of environmental care attitudes from month 1 to month 3 through the mutual cooperation habituation program , it strengthens that the program very effective in addressing the problem of low environmental awareness at SDN Nagrak. Although this program walk effective, dynamics in the field still show existence factor supporters and inhibitors that influence optimization results. Factors supporters main covering commitment strict regulations from party management school, availability means adequate hygiene, as well moral support from committee school. Factors inhibitors found both internal and external. Internally, saturation periodically on oneself students and inconsistencies supervision a number of individual educator once in a while Still happen point in a way external challenge the biggest is existence collision culture , where refraction positive that has been formed at school often fade return moment student go home to their respective homes. Based on results interview with student that they part big No get directions as well as emphasis about importance guard environment at home. So that challenge external events that occur is effect habits that are formed from environment home and family.

This matter in line with statement on about importance environment House as one of the key achievement attitude care environment. Supported by the statement (Karwati, Ajizah, Tsuraya, & Muhajir, 2024) in his book with Family Education title give view that personality child started and shaped by parents at home. Environment House become key main how are parents teach skills life as well as habit positive that will reflect identity child .

Conclusion

This study concludes that the mutual cooperation habituation program at SDN Nagrak, implemented in a structured manner through daily, weekly, monthly, and incidental time dimensions, has proven effective in increasing students' environmental awareness in a sustainable manner. Through concrete actions in the field and the support of positive reinforcement in the form of awards, this program has succeeded in eroding students' indifferent behavior and transforming it into organic pro-environmental habits in the cognitive, affective, and psychomotor domains. Although the success of this program is supported by strong regulatory strictness, the availability of facilities, and real role models from the principal and teachers, optimizing the results still faces challenges in the form of periodic burnout among students, inconsistent supervision, and the lack of alignment of environmental care culture between the school and the students' home environment.

Acknowledgment

The authors would like to express their sincere gratitude to all individuals and institutions who contributed to the completion of this research. Special appreciation is addressed to the teachers, students, and schools involved in this study for their participation, cooperation, and valuable support throughout the research process. The authors also thank colleagues and academic peers who provided constructive suggestions and encouragement during the preparation of this manuscript. Their insights greatly contributed to the improvement of this study.

In preparing this manuscript, the Artificial Intelligence (AI) tool Trinkai.ai was used specifically for grammar checking and language refinement to improve the clarity and readability of the text. However, all ideas, analyses, interpretations, and conclusions presented in this study are solely the responsibility of the authors.

References

- Agung Nugroho, Karma Iswasta Eka, & Nur Aini Hidayah. (2023). School-Based Management in Adiwiyata Elementary School, Banyumas. *Jurnal Elementaria Edukasia*, 6(3), 1218–1230. <https://doi.org/10.31949/jee.v6i3.6202>
- Arief, M. M. (2023). Reshaping Habituation Program To Optimize Children Self- Development In Elementary. 01, 1–11.
- Casmana, A. R., Dewantara, J. A., Timoera, D. A., Kusmawati, A. P., & Syafrudin, I. (2023). Global citizenship: preparing the younger generation to possess pro-environment behavior, mutual assistance and tolerance awareness through school engagement. *Globalisation, Societies and Education*, 21(1), 15–32. <https://doi.org/10.1080/14767724.2021.2013167>
- Desfandi, M., Maryani, E., & Disman. (2017). Building Ecoliteracy Through Adiwiyata Program (Study at Adiwiyata School in Banda Aceh). *Indonesian Journal of Geography*, 49(1), 51–56. <https://doi.org/10.22146/ijg.11230>
- Fu, J., Hutson, B., Thierer, K., Zhang, X., & Taylor, J. (2025). Experiential Learning Assessment: A Dive Into the Literature. *Intersection: A Journal at the Intersection of Assessment and Learning*, 6(1), 3–20. <https://doi.org/10.61669/001c.131785>
- Goodale, A. Y., Gilmore, M. P., & Griffiths, B. M. (2025). 21st-century stewardship: infusing

- environmental stewardship education with global citizenship. *Environmental Education Research*, 31(2), 364–389.
- Haryati, S., & SD, S. P. (2022). *Buku dalam Bidang Pendidikan Profil Pelajar Pancasila Di Sekolah Dasar*. Cahya Ghani Recovery.
- Ismail, M., Khatibi, A. A., & Azam, S. M. F. (2022). Impact of School Culture on School Effectiveness in Government Schools in Abdol Ali Khatibi. *Participatory Educational Research (PER)*, 9(March), 261–279. Retrieved from <https://www.scopus.com/record/display.uri?eid=2-s2.0-85122203198&origin=resultslist&sort=plf-f&src=s&st1=%2522school+culture%2522&nlo=&nlr=&nls=&sid=948f8746ba64359792bc82a64c367fb8&sot=b&sdt=cl&cluster=scopusstage%252C%2522final%2522%252Ct%252Bscofreeter>
- Karwati, L., Ajizah, N., Tsuraya, G., & Muhajir, F. Q. (2024). *Pendidikan keluarga*. Bayfa Cendekia Indonesia.
- Kenedi, A. K., Helsa, Y., Ariani, Y., Zainil, M., & Hendri, S. (2019). Mathematical connection of elementary school students to solve mathematical problems. *Journal on Mathematics Education*, 10(1), 69–79. <https://doi.org/10.22342/jme.10.1.5416.69-80>
- Maulani, N., & Ratu, R. (2026). Zero Waste-Oriented Adiwiyata Program in Developing Environmental Care Character of Madrasah Ibtidaiyah Students. 10. <https://doi.org/10.20885/ijcer.vol10.iss1.art>
- McDonald, M. (2002). *Systematic Assessment of Learning Outcomes: Developing Multiple-choice Exams*. Jones and Bartlett Publishers. Retrieved from <https://books.google.co.id/books?id=MEPZD5ALOTIC>
- Minsih, Utami, R. D., Nurlaila, M., Uslan, Mujahid, I., & Helzi. (2026). The project to strengthen Pancasila student profile as an effort to manifest the character of environmental care. *Journal of Education and Learning*, 20(1), 316–326. <https://doi.org/10.11591/edulearn.v20i1.21338>
- Moreira, S., Coelho, V., Peixoto, C., Espain, A., & Azevedo, H. (2025). A universal socio-emotional learning programme for child adjustment and peer relationships. *International Journal of Emotional Education*, 17(1), 111–115. <https://doi.org/10.56300/OYEX7238>
- Punch, K. F., & Oancea, A. E. (2014). *Introduction to research methods in education*.
- Rahman, A., Santosa, S., Basyir, M. S., Nur'aini, I., & Arifin, Z. (2023). Implementation of the Adiwiyata School in Improving the Quality of Public Elementary School Education. *AL-ISHLAH: Jurnal Pendidikan*, 15(4), 5440–5448. <https://doi.org/10.35445/alishlah.v15i4.2299>
- Soipimai, W., & Sanrattana, W. (2023). Collaborative Practices to Empower Teachers' Capacities for the 21st Century. *World Journal of Education*, 13(1), 30. <https://doi.org/10.5430/wje.v13n1p30>
- Sopin, S., & Sanrattana, W. (2023). Teachers with Participatory Action to Enhance 21st Century Learner Skills. *World Journal of Education*, 13(3), 79. <https://doi.org/10.5430/wje.v13n3p79>
- Syahri, M., Widodo, M., & Sofwani, A. (2021). Environmental Awareness Of Character Building For Students Through The Waste Bank Education. *Journal of Southwest Jiaotong University*. Retrieved from <https://api.semanticscholar.org/CorpusID:246366933>
- Trisnani, E. E., Santoso, T. B., & Pd, M. M. (2026). *Psikologi Dan Perkembangan Peserta Didik Di Sd/Mi*. Penerbit Kbm Indonesia.

- Utaya, S., & Wafaretta, V. (2021). The vision, mission, and implementation of environmental education of adiwiyata elementary school in Malang City. *IOP Conference Series: Earth and Environmental Science*, 802(1). <https://doi.org/10.1088/1755-1315/802/1/012048>
- Widayati, S. (2020). *Gotong royong*. Alprin.
- Worapun, W., Khamdit, S., & Siridhrungsri, P. (2022). Teacher Perceptions toward Professional Learning Community on the Development of Thai Students' 21st Century Skills. *Journal of Educational Issues*, 8(1), 59. <https://doi.org/10.5296/jei.v8i1.19485>
- Zainil, M., Kenedi, A. K., Rahmatina, Indrawati, T., & Handrianto, C. (2023). The influence of a STEM-based digital classroom learning model and high-order thinking skills on the 21st-century skills of elementary school students in Indonesia. *Journal of Education and E-Learning Research*, 10(1), 29–35. <https://doi.org/10.20448/jeelr.v10i1.4336>