

Conventional Character Empowerment: A Critical Study On Students' Environmental Care Character Profile at Noemuti State High School

Yunawati Sele(*), Made Santiari

Biology Education Study Program, Faculty of Teacher Training and Education,
Timor University,
Sasi, Kefamenanu, Timor Tengah Utara Regency, Nusa Tenggara Timur Province,
Indonesia, Postcode 85613

*Corresponding author: yunawatisele@gmail.com

Submitted November 24th 2024 and Accepted February 09th 2025


Abstract

In the learning process, properly empowering students' environmental care character is a crucial endeavor. This study was conducted to analyze the effectiveness of empowering students' environmental care character, as measured by the environmental care character profile. This quantitative descriptive study used a student environmental care character questionnaire instrument. The results showed that the average value of students' environmental care character was 64.34, which was in the sufficient category. Out of the 52 participants in this study, only 14.29 demonstrated an average level of environmental care character in the good category. Other respondents, specifically 77.55 % and 8.16 %, had average values in the sufficient and less categories. This shows that the conventional approach has not been effective in empowering students' environmental care character. Other efforts are needed, namely 1) school commitment to integrate character values into the school's vision and mission including the implementation of various school activities, 2) teacher commitment to select, develop and implement learning models that provide opportunities for students to be actively involved in learning, for example problem-based learning models, project-based learning models, contextual learning models and outdoor learning, 3) Development and use of ICT-based media and learning resources that are integrated with environmental literacy and 4) increasing the involvement of relevant stakeholders such as parents, government and the community in efforts to empower students' environmentally conscious character.

Keywords: *Character Empowerment; Conventional; Environmental Care Character*



Jurnal Pembelajaran dan Biologi Nukleus (JPBN) by LPPM Universitas Labuhanbatu is under a Creative Commons Attribution-ShareAlike 4.0 International License (CC BY - SA 4.0)

 <https://doi.org/10.36987/jpbn.v11i1.6454>

INTRODUCTION

Character education is a topic that is receiving significant attention in the world of education today. [Amalia et al., \(2023\)](#); [Karimah et al., \(2023\)](#) explained that the implementation of character education is a major asset that can be used by students to face changes in various aspects of life that arise along with the rapid development of technology and changes in human civilization. Implementing character education is crucial to equip students with various positive attitudes and behaviors, preparing them for their future roles in the nation. Character education is a crucial component of national education, designed to foster not only students' interpersonal skills but also their capital and social sensitivity ([Astuti et al., 2023](#)). Consistent empowerment of the character of environmental care is crucial in this effort.

It can be interpreted as environmental care character as awareness, responsibility, and action to ensure sustainable environmental management. Environmental care character involves understanding and respect for nature and a commitment to play an active role in maintaining the quality and sustainability of nature for future generations. Students with good, caring character will have empathy, responsibility, awareness, and commitment to respect nature. Students exhibit a high level of concern and sensitivity towards the environment, enabling them to take practical steps towards its protection, including the resolution of environmental issues ([Lestari & Handayani, 2023](#); [Lubis et al., 2020](#)).

[Paryumi \(2021\)](#) explained that character education is a lifelong process and involves various parties, including schools and teachers. Schools need to systematically integrate the empowerment of environmentally conscious characters into their educational process. [Najmuddin & Aprilianty \(2020\)](#); [Jianpeng et al., \(2017\)](#) explained that as an educational institution, schools have the responsibility to organize optimal school management, including integrating character empowerment efforts in the vision, mission, and various school activities. Teachers, as an important part of the school, also have the responsibility to ensure the empowerment of student characters, including environmental care characters, in learning. Teachers can choose, develop, and implement innovative models, media, and learning resources by utilizing advances in technology and information. It is hoped that it will provide students with the chance to engage in tangible learning experiences.

The researchers of this study conducted an initial analysis with teachers at Noemuti State High School, a public school on the border of the Indonesia and Timor Leste, to gain a preliminary understanding of the efforts to empower students' environmental care character. The results of the initial analysis showed that teachers have a good understanding of the concept of environmental care character education, which aims to provide students with knowledge and awareness of the importance of protecting the environment. Teachers emphasized the importance of integrating environmental care character empowerment into learning. Teachers have so far assigned students the responsibility of serving as class cleaning officers, cleaning the school environment, and participating in planting activities.

The initial analysis reveals that teachers still carry out the empowerment of students' environmental care character in a conventional manner, without providing an overview of integrated learning efforts. Several previous reports, including those by

Anggayani et al., (2023); Muflihaini & Suhartini (2019); Sari et al., (2021), demonstrate that teachers play a crucial role in integrating students' environmental care character through the selection of approaches, models, and learning resources specifically designed with this concept in mind, including environmental literacy. The studies by Aprilia et al., (2023); Marianingsih et al., (2021) are noteworthy. Therefore, the purpose of this study was to analyze the effectiveness of conventional empowerment on students' environmental care character. The environmental care character profile served as the basis for the analysis. We can use the study's results to develop more integrated learning that supports environmental care character education in depth.

METHOD

This research was conducted at Noemuti State High School, located in North Central Timor Regency, East Nusa Tenggara Province. This research was a quantitative descriptive study. According to Sudirman et al., (2023) the objective of quantitative descriptive research is to objectively describe certain phenomena through the collection of quantitative data. In this study, this study employed the quantitative descriptive research method to analyze the environmental care profile of students, aiming to uncover information about the traditional empowerment of environmental care characteristics.

Participant

The population in this study were all students at Noemuti State High School and respondents in this study were 52 students of first grade-class X IPA. The determination of respondents was done randomly.

Instrument

The instrument used in this study was the environmental care character questionnaire instrument developed and validated by Paryumi (2021). The questionnaire was compiled based on five indicators of students' environmental care character: 1) waste management indicator, 2) energy attitude indicator, 3) water, air, and soil attitude indicator, 4) flora and fauna attitude indicator, and 5) human and social environment indicator. These five indicators were then developed into 25 questionnaire statements for students to respond to in this study.

Data collection

This study collected data by distributing a questionnaire on students' environmental care character, which consisted of 25 statements, each representing 5 indicators. Respondents were given the opportunity to respond to each statement. Response options were made with a Likert scale consisting of 5 response options, namely strongly disagree, disagree, do not know, agree, and strongly agree.

Procedure

This study conducted in three stages: the initial stage, the implementation stage, and the final stage. The first stage involved gathering preliminary data on teachers' efforts to foster environmentally conscious character. There were two main questions given to teachers at Noemuti State High School, namely, 1) How do you understand environmental conscious character education in biology learning? 2) How is the method used to integrate environmentally conscious character education in biology learning? The data obtained from the initial analysis is stated in the introduction of this article, and it is one of the important bases for implementing this research. In addition to the initial analysis involving teachers, another thing that was done in the initial stage of this research was the preparation of research instruments in the form of student environmental conscious character questionnaires. Following the initial phase, the research proceeded to the implementation stage. Respondents distributed the questionnaires and filled them out during this stage. In the final phase, we conducted an analysis on the data gathered from the environmentally conscious character questionnaire. Figure 1 fully illustrates the research procedure.

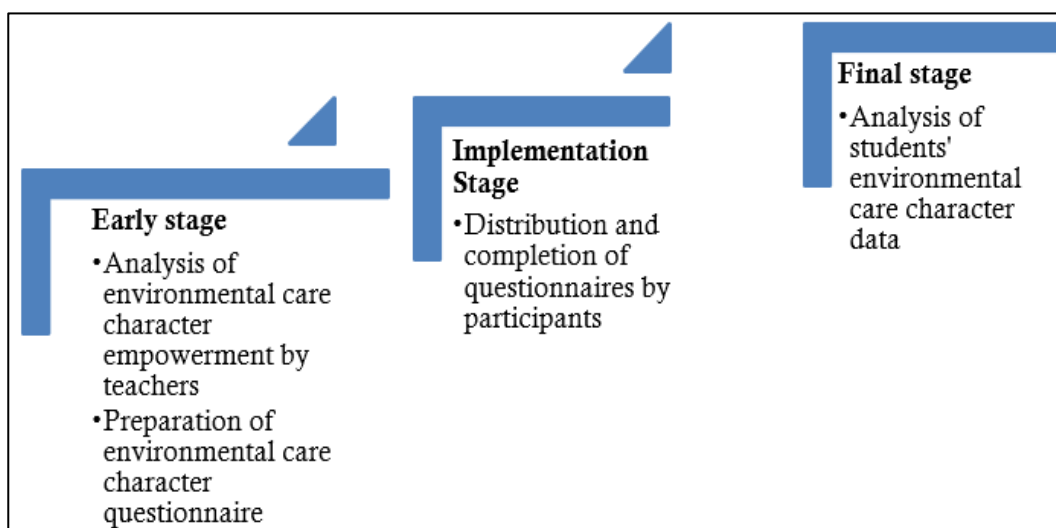


Figure 1. Research Procedure

Data analysis

This study analyzed the respondents' filled-out questionnaires both descriptively and quantitatively. It preceded the analysis with scoring, and then proceed to determine the environmental care character category. It determined the category by referring to the report of [Baroroh & Roshayanti \(2022\)](#), as shown in Table 1.

RESULT AND DISCUSSION

Based on data mining involving 52 respondents, it was obtained that the average value of environmental care character was 64.34, which was in the sufficient category. This indicates that while traditional empowerment has shaped students' environmental awareness, it has not yet reached its peak. Figure 2 shows that the

average value of each respondent. It shows that as many as 8.16 % of respondents, or 4 people, had an average value of environmental care character that was in the "less" category. As many as 77.55 % of respondents, or 40 people, had an average value of environmental care character that was "sufficient," and as many as 14.29 % of respondents, or 8 people, had an average value of environmental care character that was in the "good" category.

Table 1. Categories of Environmental Concern Attitudes

Number	Score Value	Category
1.	< 60	Not enough
2.	60-70	Enough
3.	> 70 –80	Good
4.	> 80	Very good

Source: [Baroroh & Roshayanti \(2022\)](#)

Students' environmental care character is not yet at its peak, indicating the need for serious and planned efforts to foster its strengthening. The reports of [Najmuddin & Aprilianty \(2020\)](#) support this finding, explaining that optimal school management can achieve optimal character empowerment. Mature and adequate planning is necessary, starting from the school's vision and mission, which are based on student character empowerment, and continuing through to the operational efforts to carry out these goals. Schools must integrate concrete steps into their learning and routine programs to instill student character. [Hanafiah et al., \(2024\)](#) explained that in addition to routine habituation, student character empowerment also needs to consider the rapid development of ICT today. It is expected that schools and teachers can utilize various technologies, including social media, to empower student character. Teachers can carry out student character empowerment, including environmental care, by using problem-based learning models and project-based learning.

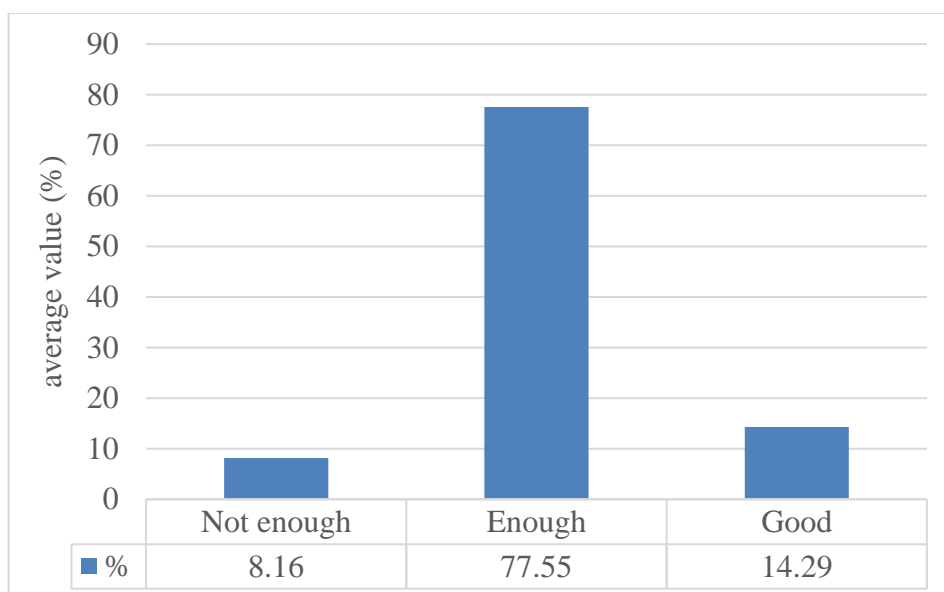


Figure 2. Environmental Care Character Indicators

Figure 3 presents the analysis of the average value of each environmental care character indicator. These data show that Indicator 1, the waste management indicator, falls into the less category with an average value of 57.69. Indicator 2, namely the attitude indicator toward energy, is in the good category with an average value of 70.71. Indicator 3, namely the attitude indicator towards water, air, and land, is in the sufficient category with an average value of 69.62. Indicator 4, namely the attitude indicator towards flora and fauna, is in the sufficient category with an average value of 64.52. And indicator 5, namely the human and social environment indicator, is in the less category with an average value of 55.

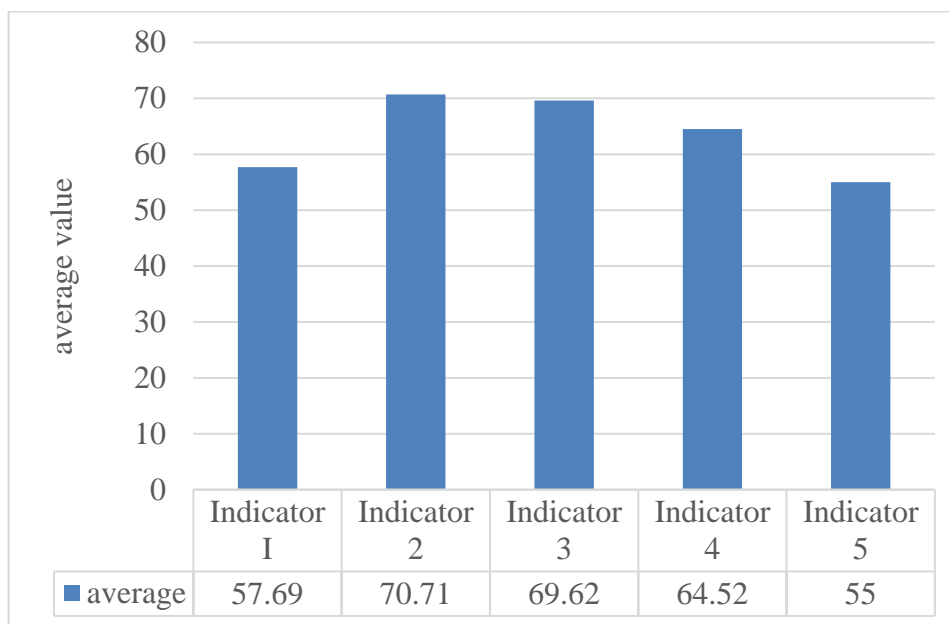


Figure 3. Average of Each Environmental Care Character Indicator

The indicator of attitude towards energy, which falls into the good category, has the highest value when compared to the average of each indicator. This can indicate that students have understood and used energy wisely and efficiently. The other four indicators are still sufficient or less. This indicates that, although the implementation of conventional empowerment can provide basic understanding and awareness for students, it must be carried out sustainably with nonconventional empowerment efforts that use ICT, including various related parties.

As previously described, it is known that conventional efforts to empower environmental care characters are often carried out by teachers by giving students responsibility to be involved in class cleaning duties, being involved in cleaning the school environment, and being involved in planting activities. The implementation of these activities aims to help students understand their responsibility for the sustainability of life and environmental quality. However, the current approach falls short as it doesn't provide students with additional responsibilities to enhance their self-awareness. Personal awareness, rather than solely adhering to the rules and requests of teachers, should form the basis of responsibility.

[Khasana et al., \(2023\)](#); [Setyowati \(2013\)](#) explained that teachers need to integrate environmental character values into learning. This integration is carried out

in various ways and variations that provide opportunities for students to gain concrete learning experiences in accordance with the environmental context. We should also provide students with opportunities in project learning and problem-based learning, enabling them to analyze and make decisions to address environmental problems. [Oktavian \(2015\)](#); [Santika et al., \(2022\)](#) explained that the selection and implementation of learning models also affect the empowerment of students' environmental character. Some learning models that can be carried out are problem-based learning models, project-based learning models, contextual learning models, and outdoor learning. It is suggested to consistently and continuously implement these learning models to give students the chance to engage directly with the environment, understand their place in it, and understand their roles and responsibilities in maintaining sustainable environmental management.

Teachers also make an important effort to incorporate environmental character values into media and learning resources that align with current ICT developments. [Nurulaeni & Suhada \(2024\)](#) reported that learning media, such as animated videos based on Canva, can foster environmental character development. In addition, [Aprilia et al., \(2023\)](#) reported the importance of integrating environmental literacy values in learning resources. Researchers report that using environmental literacy-based learning media and resources is a wise way to enhance students' environmental character ([Bahij et al., 2021](#)). The utilization of diverse media and educational resources offers students a range of alternative learning options, thereby enhancing their personal sensitivity and awareness. There are some needs to design, implement, and evaluate the use of technology in learning as effectively as possible to contribute to the development of student character.

[Arwen & Puspita \(2020\)](#) clarified that fostering students' environmental consciousness is not a straightforward task. Therefore, the research suggests that conventional methods of environmental character empowerment, such as classroom cleaning programs, school environmental cleaning programs, and planting programs, are fundamental steps in raising student awareness. However, it is crucial to implement this consistently and sustainably alongside other initiatives. To ensure the holistic empowerment and habituation of environmentally conscious characters [Faiz et al., \(2021\)](#); [Husin & Indriyani \(2022\)](#); [Paryumi \(2021\)](#); [Wardana & Rohani \(2024\)](#) explained the need for cooperation with various relevant stakeholders, including parents, the government, and the community.

CONCLUSION

The results of the study showed that the average value of students' environmental care character was 64.34, which was in the sufficient category. Out of the 52 participants in this study, only 14.29 had an average environmental care character score in the good category. Other respondents, specifically 77.55 % and 8.16 %, had average values in the sufficient and less categories. This shows that the conventional approach has not been effective in empowering students' environmental care character. Other efforts are needed, namely 1) school commitment to integrate character values into the school's vision and mission including the implementation of various school activities, 2) teacher commitment to select, develop and implement learning models that provide

opportunities for students to be actively involved in learning, for example problem-based learning models, project-based learning models, contextual learning models and outdoor learning, 3) Development and use of ICT-based media and learning resources that are integrated with environmental literacy and 4) increasing the involvement of relevant stakeholders such as parents, government and the community in efforts to empower students' environmental care character. In addition, further research is needed to explore the effectiveness of various innovative learning models in improving students' environmental care character. Further research is also needed to analyze other supporting factors, such as school culture, education policies, and the use of technology in strengthening the empowerment of environmental care character.

ACKNOWLEDGMENTS

The authors would like to thank the Institute for Research and Community Service (LPPM) Universitas Timor for providing financial support to this research. The authors also thank to to Noemuti State High School and various parties who have helped carry out this research.

REFERENCES

- Amalia, F., Pertiwi, A. A., & Sangadah, F. (2023). The Urgency of Character Education in Facing the Challenges of the Era Society 5.0. *Social, Humanities, and Educational Studies (SHES): Conference Series*, 6(1), 632–637. <https://doi.org/10.20961/shes.v6i1.71207>
- Anggayani, T., Ilhami, A., Ilahi, R., Marlisa, W., Hayati, I., & Sari, W. (2023). EEnvironmental Literacy-Based Modules on Ecosystem Material to Improve Students' Environmental Literacy. *Journal of Natural Science Learning*, 2(2), 1–7. <https://jom.uin-suska.ac.id/index.php/JNSL/article/view/737> [**In Indonesian language**]
- Aprilia, N., Irawati, H., Asri, G. A., Suharno, S., Wulandari, I., & Sula. (2023). Analysis of first grade Class X Senior High School Biology Textbooks Based on Environmental Literacy Aspects. *Bioedukasi (Jurnal Pendidikan Biologi)*, 14(1), 130–141. <https://doi.org/10.24127/bioedukasi.v14i1.7867> [**In Indonesian language**]
- Arwen, D., & Puspita, D. R. (2020). The Role of Technology on Students' Character Education. *Journal of Physics: Conference Series*, 1477(4), 1–5. <https://doi.org/10.1088/1742-6596/1477/4/042070>
- Astuti, M., Herlina, Ibrahim, Prasilia, H., Sintia, D., & Wulandari, T. (2023). The Importance of Character Education in Education. *Jurnal Insan Pendidikan Dan Sosial Humaniora*, 1(1), 141–151. [**In Indonesian language**]
- Bahij, A. Al, Yusuf, N., Qurrotaini, L., & Maharani, K. (2021). Which Factor Influences Environmental Care Characters More: Knowledge of Issue or Demographic Factors? *Profesi Pendidikan Dasar*, 8(2), 188–195. <https://doi.org/10.23917/ppd.v8i2.13940>

- Baroroh, E., & Roshayanti, F. (2022). Profile of Environmental Care Attitudes Students at SMA N 1 Batangan. *Unnes Physics Education Journal*, 11(1), 21–25. [**In Indonesian language**]
- Faiz, A., Soleh, B., Kurniawatu, I., & Purwati. (2021). Critical Analysis Review of Factors Hindering Character Education in Indonesia. *Jurnal Basicedu*, 5(4), 1766–1777. <https://doi.org/10.24114/jpbp.v27i2.24205> [**In Indonesian language**]
- Hanafiah, Kushariyadi, Wakhudin, Rukiyanto, B. A., Wardani, I. U., & Ahmad, A. (2024). Character Education's Impact On Student Personality: Curriculum And School Practices Review. *At-Ta'dib*, 19(1), 51–69. <https://doi.org/10.21111/attadib.v19i1.12047>
- Husin, A., & Indriyani, D. S. (2022). Character Education Cares about the Environment in the Family. *International Journal of Innovation, Creativity and Change*, 16(1), 219–232.
- Jianpeng., L.Y &, Qiuhe, S. (2017). Effect of Perceptions of the Learning Environment and Approaches to Learning on Chinese Undergraduates Learning. *Journal Studies in Educational Evaluation*. 55(1), 125-134.
- Karimah, A., Sulthoni, A., & Atok, R. Al. (2023). The Urgency of Character Education in the Life of Society 5.0. *Proceedings of the International Conference on Education 2022 (ICE 2022)*, 73–81. https://doi.org/10.2991/978-2-38476-020-6_8
- Khasana, N., Pambudi, D. I., & Masaei, N. (2023). Implementing Effective Strategies to Foster Environmental Care Character among Students. *International Journal of Learning Reformation in Elementary Education*, 2(02), 86–94. <https://doi.org/10.56741/ijlree.v2i02.312>
- Lestari, I., & Handayani, N. (2023). The Importance of Character Education in Student , Especially High school level SMA/SMK in the Digital Age. *Jurnal Guru Pencerah Semesta (JGPS)*, 1(2), 101–109. <https://doi.org/10.56983/gps.v1i2.606> [**In Indonesian language**]
- Lubis, P. W. S., Muzanna, S. R., & Firdausiyah, I. (2020). Profile of Environmental Care Attitudes of High School Students in Aceh. *Jurnal Dedikasi Pendidikan*, 4(1), 34–42. <http://jurnal.abulyatama.ac.id/index.php/dedikasi> [**In Indonesian language**]
- Marianingsih, P., Firdausy, A., Nestiadi, A., & Leksono, S. M. (2021). The Content of Environmental Literacy Aspects in Biology Textbooks for first Grade X High Schools. *Biodidaktika: Jurnal Biologi Dan Pembelajarannya*, 16(2), 50–64. [**In Indonesian language**]
- Muflihaini, M. A., & Suhartini. (2019). Implementation of environmental care character education value on biology subject through adiwiyata. *Journal of Physics: Conference Series*, 1241, 1–8. <https://doi.org/10.1088/1742-6596/1241/1/012028>
- Najmuddin, H. A., & Aprilianty, L. (2020). The Analysis of Learning Strategies for Character Development of Students During Covid-19 Pandemic. *Jurnal Tatsqif*, 18(2), 136–150. <https://doi.org/10.20414/jtq.v18i2.2834>

- Nurulaeni, F., & Suhada, N. N. (2024). Environmentally Caring Characters in Students Through Animated Videos Assisted by the Canva Application. *Journal of Innovative Science Education*, 13(2), 47–54.
- Oktavian, C. N. (2015). Application of Project-Based Learning Model to Develop Learners' Concern for the Environment. *Gea Jurnal Pendidikan Geografi*, 15(2), 15–30. <https://doi.org/10.17509/gea.v15i2.3544> [*In Indonesian language*]
- Paryumi, P. (2021). Character Profile of Environmental Care of Class X Students of SMA Negeri 1 Karangrayung, Grobogan Regency. *Jurnal Kualita Pendidikan*, 2(3), 217–224. <https://doi.org/10.51651/jkp.v2i3.148> [*In Indonesian language*]
- Santika, I. G. N., Suastra, I. W., & Arnyana, I. B. P. (2022). Building Environmental Care Character in Elementary School Students through Science Learning. *Jurnal Education and Development*, 10(1), 207–212. <https://doi.org/10.36987/jpms.v9i1.3771> [*In Indonesian language*]
- Sari, N. H. P., Susilowati, S. M. E., & Rudyatmi, E. (2021). The Environmental Caring Character through Biology Learning in Senior and Junior High School. *Journal of Biology Education*, 10(1), 1–8. <http://journal.unnes.ac.id/sju/index.php/ujbe>
- Setyowati, L. (2013). Integrating Character Building into Teaching to Enhance. *Journal on English as a Foreign Language*, 3(1), 1–10.
- Sudirman, Kodolayuk, M. L., Sriwahyuningrum, A., Cahaya, I. M. E., Astutu, N. L. S., Setiawan, J., Rahmi, S., Nusantari, D. O., Indrawati, F., Fitriya, N. L., Aziza, N., Kurniawato, N., Wardhana, A., & Hasanah, T. (2023). Metodologi penelitian 1 : deskriptif kuantitatif. Bandung: CV. Media Sains Indonesia. 226 page. [*In Indonesian language*]
- Wardana, T., & Rohani, R. (2024). Profile of Strengthening Character Education in Biology Learning of First Grade (10 Th Class) Senior High School in MAN 1 Medan. *Jurnal Pembelajaran Dan Biologi Nukleus*, 10(3), 771–783.

How To Cite This Article, with APA style :

Sele, Y., Santiari, M. (2025). Conventional Character Empowerment: A Critical Study On Students' Environmental Care Character Profile at Noemuti State High School. *Jurnal Pembelajaran dan Biologi Nukleus*, 11(1), 103-112. <https://doi.org/10.36987/jpbn.v11i1.6454>

Conflict of interest : The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Author contributions : All authors contributed to the study's conception and design. Material preparation, data collection and analysis were performed by all authors. The first draft of the manuscript was submitted by [Yunawati Sele]. All authors contributed on previous version and revisions process of the manuscript. All authors read and approved the final manuscript.