

The Role of Nature Education in Building Students' Emotional Connections with the Environment

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ABSTRACT

Nature education has great potential in forming emotional connections between students and their environment. In today's educational context, where urbanization and modernization are increasingly dominant, it is important to refocus on direct experiences in nature. Through this approach, students not only learn about ecosystems and biodiversity, but also develop a sense of empathy and responsibility towards the environment. Direct experiences, such as camping, exploring the forest, or doing conservation projects, provide opportunities for students to actively engage with nature. This study aims to explore how nature education can strengthen students' emotional ties to their surroundings. Using the Systematic Literature Review (SLR) method, this study analyzes various existing literatures to understand the impact of nature education on students' attitudes and behaviors. The findings of this study indicate that experiences in nature not only increase environmental awareness but also create a deeper connection between students and nature. Students who engage in nature education tend to show positive attitudes towards environmental conservation and are more active in conservation activities. In addition, these experiences can also improve students' mental health by reducing stress and increasing emotional well-being. Thus, nature education not only functions as an educational tool, but also as a medium to form a generation that is more concerned and responsible for the environment, which is very important amidst the environmental challenges faced today.

Keywords: Nature Education, Emotional Relationships, Environment

INTRODUCTION

Education is often focused on cognitive aspects, with a great emphasis on academic achievement (Winatha, KR, & Setiawan, IMD, 2020). The influence of game-based learning on motivation and learning achievement. *Scholaria: Jurnal Pendidikan Dan Budaya*, 10(3), 198-206. However, in the context of the global environmental crisis, attention to learning involving nature is becoming increasingly important (Lasaiba, I., 2023). Many studies have shown that outdoor learning experiences can bring significant benefits to students, not only in academic terms but also in social and emotional development. With the decreasing interaction between humans and nature, there is an urgent need to design education that not only educates but also raises awareness and concern for the environment (Setiadi, FM, Maryati, S., & Mubharokkh, AS, 2024). In the midst of the current global environmental crisis, such as climate change, pollution, and ecosystem damage, a more holistic and nature-involved approach to education is increasingly relevant (Purnawanto, AT, 2024).



Through interaction with the environment, students can develop a sense of care and responsibility for nature. This is important, especially amidst challenges such as climate change, pollution, and ecosystem damage (Humaida, N., 2024). By designing a curriculum that involves outdoor activities, we not only increase students' understanding of environmental issues but also help them build social skills, such as collaboration and empathy (Nastiti, PT, & Wathon, A., 2019). Education that emphasizes nature experiences can foster deep ecological awareness and encourage students to become agents of change. Thus, education must move towards a more integrated approach, which not only prepares students for the academic world but also to become responsible and environmentally conscious citizens (Tapung, M. 2024).

With human-nature interactions decreasing in this era of urbanization and digitalization, there is an urgent need to develop educational models that not only prepare students for academic achievement but also build environmental awareness. Education designed with interaction with nature in mind can help students understand the importance of protecting the environment and foster a sense of caring for the planet we live on (Angela, VF, 2023). This is important so that future generations will not only have high academic knowledge but also have a moral and emotional responsibility towards the sustainability of the earth. Education that involves nature not only creates more environmentally conscious future leaders but also inspires the collective action needed to address complex environmental challenges. (Nurjaman, K. et al., 2023). Thus, it is important for educators and stakeholders to be aware of and implement educational methods that can foster environmental awareness among students, while facilitating their personal growth.

Nature education is an approach that utilizes the surrounding environment as a learning tool. Through direct experience, students can feel the beauty and complexity of nature, which in turn can form a deep emotional connection with the environment (Suralaga, F., 2021). This connection is very important because it creates a greater sense of responsibility for environmental conservation. When students engage directly with nature, they are more likely to develop positive and sustainable pro-environmental attitudes (Hayati, RS, 2020). This experience provides an opportunity for students to understand the complexity of ecosystems and the interactions between various elements in the environment. For example, by observing the life cycle of plants or animal behavior, students can learn about the importance of each species in maintaining the balance of nature. This direct involvement helps them build a stronger emotional connection with the environment, which is important for creating a sense of ownership and responsibility (Bhoki, H., & Are, T., 2024).

The emotional connection formed between students and the environment greatly influences their attitudes towards nature conservation. When students feel connected to their environment, they are more likely to develop pro-environmental attitudes, such as maintaining cleanliness, reducing plastic use, and engaging in conservation activities. (Sanjaya, AA, et al., 2023). In other words, nature education not only educates students about environmental issues, but also shapes their character and concern for sustainability, which is very important amidst today's global environmental challenges. (Naldi, A., Mursyid, FH, et al., 2023).

Several studies have shown that education involving outdoor experiences can increase students' interest in science and the environment. For example, students involved in outdoor activities show an increased understanding of ecosystems and environmental issues (Suwartiningsih, S. (2021). Several studies have shown that education involving outdoor experiences can increase students' interest in science and the environment. Students involved in outdoor activities, such as nature observation,

tree planting, or exploration of local ecosystems, show an increased understanding of the relationship between humans and nature. These experiences not only increase their cognitive knowledge but also deepen their sense of responsibility for the environment. (Sriandila, R., et al., 2023).

Nature education also encourages students to think critically about the impact of their actions on the planet. By educating students about issues such as climate change, habitat loss, and pollution, they become more aware of the challenges facing the environment and more motivated to contribute to solutions (Lasaiba, I., 2023). These interactions instill a sense of pride and ownership for the environment, which is important in encouraging future pro-environmental actions. Activities such as plant observation, introduction to local fauna, and participation in conservation projects provide students with opportunities for active and in-depth learning (Tim, MKU, & UNNES, P., 2014). These experiences help them internalize knowledge and build stronger relationships with their environment. In addition, nature education also provides opportunities for students to engage in collaborative learning. Activities conducted outside the classroom often involve teamwork, where students must communicate, collaborate, and support each other. Through these interactions, students learn not only about the environment but also about the importance of social relationships and cooperation. The social skills acquired during these outdoor activities can contribute to students' overall emotional and social development (Wulan, W., & Wathon, A., 2021).

In the study *Learning with Nature as a Form of Implementation of Ecoliteracy in Nature Schools*, it shows that Learning with Nature (BBA) is learning not only learning in nature, but learning to utilize the surrounding nature by maintaining, caring for nature, so that in BBA there is direct interaction with God's creatures called the universe and the media used is also more on utilizing the surrounding nature (Rachmawati, A., 2021). Meanwhile, in the study of utilizing nature-based environments as a learning resource for class V at SD 1 Trirenggo Bantul, the study showed that in the learning process, educators only use the physical or abiotic natural environment as a learning resource consisting of; water, soil, sand, large and small gravel. The steps for utilizing the environment as a learning resource are planning, organizing, implementing, and assessing. The obstacles that occur in the learning process are that students do not follow the instructions given by the educator when making observations. The solution taken by the educator is that the educator reprimands, advises and reminds students (Anindita, N., & Sidabutar, M., 2020).

Students' emotional involvement in nature education can also be seen from their increased self-confidence and independence. When students face challenges in nature, they learn to overcome obstacles, which helps build character and resilience. This process is important for students' personal development and can contribute to their mental health. In other words, nature education not only educates but also shapes students' personalities into better individuals who care more about the environment (Erliani, S., 2017).

With this background, it is important to further explore how nature education can be implemented in the educational curriculum in schools. This study aims to provide deeper insight into effective methods for integrating nature education into students' learning experiences. In addition, a better understanding of the influence of nature education on students' emotional connection to the environment can help educators design more appropriate and effective programs. Interaction with nature has been shown to reduce stress and improve mental health, providing a positive calming effect. With a strong emotional attachment to the environment, students tend to become

individuals who are more concerned and responsible for nature conservation. Thus, nature education not only educates, but also shapes students into better individuals and more sensitive to environmental issues around them.

Given the importance of the role of nature education in building students' awareness and concern for the environment, this study is expected to contribute to the development of a more holistic and sustainable curriculum. By integrating nature education into the education system, it is hoped that students will not only become intelligent learners but also become citizens who are responsible for the environment.

METHOD

This study uses the Systematic Literature Review (SLR) method to collect and analyze relevant literature on nature education and its impact on students' emotional relationships with the environment. Through SLR, various previous studies will be analyzed to identify patterns, findings, and recommendations that can be taken. This process involves collecting scientific articles, books, and other sources related to this topic, followed by a critical evaluation of the quality and relevance of each source. Meduri, NRH, et al., (2022).

By using SLR, it is expected that this study can provide a comprehensive picture of the role of nature education in building students' emotional relationships. This analysis will also help identify gaps in previous research and provide direction for further studies. The results of this SLR are expected to provide a strong basis for recommending best practices in nature education in various educational contexts. The results of this SLR are expected to provide a strong basis for recommending best practices in nature education. By understanding the various approaches and strategies that have been proven effective in building students' emotional relationships with the environment, educators can design better and more relevant programs. These recommendations can be applied in various educational contexts, both in formal schools and in out-of-school programs, thus supporting students' holistic development. Sausan, AN, et al., (2023). Thus, SLR not only serves to collect information, but also contributes to the development of new knowledge and better practices in nature education, helping to create more meaningful and impactful learning experiences for students (Putri, ARW, et al., 2024, July).

RESULTS AND DISCUSSION

The results of the literature analysis indicate that nature education is consistently associated with increased emotional engagement in the environment among students. Many studies have shown that students who engage in outdoor learning experiences tend to have more positive attitudes toward environmental conservation. For example, several studies have found that students who participate in nature education programs report increased awareness of environmental issues and are more likely to engage in conservation activities after experiencing learning in nature.

Learning experiences in nature not only increase students' knowledge of ecosystems, but also create a deeper emotional connection between them and their surroundings. Students who experience the positive impacts of interacting with nature are often more motivated to protect and preserve their environment (Hayati, RS, et al., 2023). For example, research shows that students who engage in activities such as tree planting or beach cleanups become more active in conservation activities after the experience. Nature education provides a relevant context for students to understand the relationship between individual actions and their impact on the environment. When students learn about ecosystems through direct experience, they can see for themselves

how each component interacts and the importance of maintaining the balance of nature. This encourages them to feel more responsible for their actions.

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Students who experience these kinds of activities tend to be more motivated to preserve and protect the environment. Research shows that after being involved in conservation activities, they become more active in environmental protection efforts, such as participating in community activities or environmental campaigns. This suggests that hands-on experience can increase their sense of responsibility and concern for environmental issues. In addition, nature education provides a relevant context for students. By learning about ecosystems through hands-on experience, they can see how different components—such as flora, fauna, and environmental elements—interact with each other.

This engagement is rooted in the emotional experience they have when interacting with nature. When students see the positive impact of their actions, such as seeing the plants they planted grow or a cleaner environment after a cleanup, they feel more connected and responsible for environmental sustainability. This creates a positive cycle where their actions not only benefit the environment but also strengthen their personal awareness and motivation.

In addition, nature education provides a relevant context for students to understand ecosystems. By learning through direct experience, they can see how different components of the environment—such as flora, fauna, and physical elements—interact and influence each other. This understanding not only deepens their academic knowledge but also fosters a respect and curiosity for nature. Students can understand that every action, whether big or small, has consequences for the balance of the ecosystem. In this way, nature education serves as a bridge between theoretical knowledge and real-world practice, creating a generation that is more aware and responsible for their environment (Harefa, D., & Sarumaha, M., 2020).

This understanding helps students realize the importance of maintaining the balance of nature and the impact of their individual actions. When students understand that every action, no matter how small, can affect the environment, they are more likely to make sustainable choices. In this way, outdoor education not only educates, but also shapes attitudes and behaviors that are more environmentally conscious. Thus, nature education not only provides theoretical knowledge, but also encourages students to be

actively involved in environmental conservation. These findings indicate the need for the integration of nature education into the formal curriculum to build a generation that is more environmentally aware and involved in conservation efforts. This is important to create a society that not only understands environmental issues but is also committed to addressing them.

Furthermore, the analysis also revealed that nature education can contribute to the development of students' social skills. Outdoor activities often involve teamwork and interaction with peers, which helps students develop communication and collaborative skills. These results suggest that nature education is not only beneficial in an academic context, but also in the development of interpersonal skills that are important for students' social lives.

Nature education not only provides an understanding of ecosystems, but also contributes significantly to the development of students' social skills. Outdoor activities often involve elements of teamwork and collaboration, encouraging students to interact and work together with their peers. Through activities such as tree planting, beach cleanups, or other ecological projects, students learn to communicate, listen to others' opinions, and solve problems collectively. These interactions help students develop effective communication skills. They learn how to convey their ideas, give constructive feedback, and respond empathetically to others' views. These skills are essential not only in academic contexts but also in everyday life, where the ability to collaborate and communicate well is essential.

In addition, the experience of working in groups also increases self-confidence and leadership. Students involved in outdoor activities often have the opportunity to take initiative and lead groups, which helps them develop leadership skills that are useful in many aspects of life. Thus, nature education serves as an effective tool to facilitate the development of important interpersonal skills. These skills not only support academic success but also prepare students to function well in an increasingly connected and complex society.

In a psychological context, many studies have shown that nature experiences can reduce stress and improve students' mental health. Direct interaction with the natural environment has been shown to have a calming effect, which has a positive impact on students' emotional well-being (Islami, G. (2024). Thus, nature education plays a role not only in cognitive learning, but also in the psychological well-being of students, making it an integral part of a holistic education. Nature experiences have significant psychological impacts, which have been shown in various studies. Direct interaction with the natural environment can reduce stress and improve students' mental health. When students spend time outdoors, they often experience a calming effect that can help reduce anxiety and improve mood (Uno, HB, & Umar, MK, 2023). The natural environment, with its visual beauty and serenity, can provide a space for students to release the stress they experience in their daily lives, including academic demands. Outdoor activities, such as walking in the park, camping, or even just sitting in nature, have been shown to improve emotional well-being and concentration. Furthermore, these experiences help students develop a more positive relationship with themselves and their environment. A sense of connectedness to nature can enhance a sense of identity and purpose, which are essential for healthy psychological development.

Beyond improving emotional well-being, these experiences also help students develop more positive relationships with themselves and their environment. When they spend time in nature, they have the opportunity to reflect, interact with their surroundings, and find joy in simplicity. This sense of connection to nature can enhance

a sense of identity and purpose, which are critical to healthy psychological development (Ambarita, J., et al., 2023).

Connecting with nature gives students a sense of belonging. This can encourage them to appreciate the environment more and feel responsible for its preservation. Thus, outdoor experiences not only serve to improve emotional well-being but also to develop positive and proactive attitudes towards the environment. This is an important aspect of holistic education that addresses students' mental and emotional well-being while building their sense of identity and purpose. Thus, nature education not only contributes to cognitive learning but also plays a significant role in students' psychological well-being. Integrating outdoor learning experiences into the curriculum makes it an integral part of holistic education, which considers all aspects of a student's development—academic, social, emotional, and psychological. This suggests that effective education should encompass the development of skills and knowledge, as well as the overall mental health and well-being of students. Nature education has also been identified as an effective tool for fostering students' sense of ownership and responsibility for the environment. When students engage in projects aimed at preserving the environment, they begin to feel that they have a role in nature conservation. This sense of ownership contributes to the development of a strong emotional connection between students and their environment, which can continue into adulthood.

Finally, the discussion on the implementation of nature education in the curriculum shows that despite the many benefits, challenges remain. Limited resources, lack of training for educators, and rigid curricula are often barriers to the effective implementation of nature education. Therefore, it is important to formulate strategies that can overcome these challenges, so that nature education can be effectively integrated into the existing education system.

CONCLUSION

Overall, this study shows that nature education plays an important role in building students' emotional connection with the environment. Through learning experiences in nature, students not only gain academic knowledge but also develop positive pro-environmental attitudes. By integrating nature education into the curriculum, it is hoped that students can grow into individuals who are more concerned and responsible for the sustainability of their environment. Direct interaction with nature allows students to feel the impact of their actions and understand the importance of maintaining the balance of the ecosystem. With this experience, they become more emotionally connected to the environment, which in turn builds a sense of responsibility and concern for sustainability. Integrating nature education into the curriculum is a strategic step that is expected to help students grow into individuals who are more concerned about the environment. With the knowledge and attitudes formed through these experiences, students are expected to be able to actively contribute to efforts to maintain and preserve their environment, both at school and in their daily lives. This creates a more aware and responsible generation, who are able to face environmental challenges in the future. To achieve this goal, collaboration between educators, school administrators, and other stakeholders is essential. Creating a learning environment that supports student engagement with nature involves developing innovative programs, providing adequate resources, and supporting outdoor activities. With a coordinated approach, nature education can become an integral part of a holistic learning experience, shaping a generation that is more aware of their environmental responsibilities.

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