

# Strengthening Environmental Care Character through Contextual Approach in Science Learning

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**Abstract:** Strengthening the character of environmental care is an important effort to ensure the survival of all creatures in the future. However, currently the awareness of the importance of protecting the environment is still low in society, and schools have a very important role in developing this environmental awareness character. Environmental sensitivity includes attitudes and measures to prevent environmental damage and repair damage that has occurred. The environment not only plays a vital role for human life but is also important in the context of education in schools, affecting student success. This study aims to evaluate the use of contextualised learning approach in strengthening environmental awareness character in junior high school students. The research method used literature analysis from secondary sources. The results show that the contextual learning approach has a positive impact on strengthening students' environmental care character, allowing them to link learning with practical applications in daily life. This approach is also in line with efforts to realise the 'Merdeka Belajar' initiative initiated by the Ministry of Education, contributing to the realisation of national education goals.

**Keywords:** Character; Environment; Education; Science

## Introduction

The environment plays an important role in human life, and the same applies to the school environment, which plays a crucial role in student achievement (Santika, 2017). Students' abilities and potential can be enhanced through a conducive and positive environment. Developing strong environmental awareness in individuals does not happen spontaneously. Therefore, efforts are needed to inspire and empower children to care for the environment. In the context of education in Indonesia, it is important to integrate character education that promotes environmental awareness to the younger generation (Narut & Nardi, 2019).

Caring for the environment is consistent action in an effort to prevent damage to natural ecosystems and promote the sustainability of disturbed ecosystems (Irfianti et al., 2016). Corrective action is also taken in response to environmental damage that has occurred. A character education approach that promotes

environmental stewardship focuses on developing positive character and attitudes related to the environment. This is one of the strategies in tackling the decline of biodiversity. The purpose of environmental stewardship character education is to develop positive awareness, attitudes and behaviours towards the environment. It is hoped that through this education, the younger generation can grow into individuals who care and are responsible for environmental sustainability (Hasibuan & Sapri, 2023).

The establishment of character education was first introduced by a German pedagogue known as Forester (Efendi et al., 2020). Character education refers to the process that shapes a person's personality. Character is a fixed identity and characteristic, which is not affected by temporary situational changes. In other words, character consists of values that have been embedded into fundamental life habits for individuals, such as honesty, hard work, simplicity, and others. The quality of a person is measured by his or her character. The goal of character education is to achieve essential alignment

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between individuals and their behaviour and values. In this context, character education is carried out through the formation of values within the individual (Hasibuan & Sapri, 2023). The formation of values within the individual is done through the method of value internalisation, which is a process to modify individual behaviour by presenting values from the external world as part of the individual's internal values (Hakam & Nurdin, 2016).

Environmental awareness character education is one of the government's efforts in order to save the environment. It involves developing attitudes and actions aimed at preventing as well as repairing damage to the natural environment that occurs (Priyanka et al., 2022). According to Gusti (2022), Ratna Megawangi argues that character education aims to teach children to make wise decisions and apply them in their daily lives, so that they are able to have a positive impact on the surrounding environment. This approach, as defined by Daryanto and Suryatri Darmiatun (2013), includes a series of efforts from the school and involves parents and the community in helping children and young people form attitudes of care, integrity and responsibility.

Some aspects of environmentally concerned character that focus on preventing and repairing damage to the environment include: (1) caring for the environment, (2) reducing the use of plastic, (3) managing waste separately, (4) reducing carbon emissions, and (5) saving energy. In addition, efforts to repair environmental damage include actions such as: (1) planting trees, (2) recycling used goods, and (3) using environmentally friendly technology. To form a caring character towards environmental issues, it is important to instil it early on through interesting and memorable learning (Irfianti et al., 2016). In the context of character education that cares for the environment, the aim is to form a caring attitude towards the environment among students. This is important because environmental sustainability plays a crucial role in the survival of humans and other species. Therefore, in the learning process, it is important to integrate positive values and attitudes related to the environment, such as appreciating the beauty of nature, reducing the use of plastic, and keeping the environment clean (Desmawati, 2018).

Science learning at the secondary school level has a significant role in shaping students' attitudes and behaviour towards the environment. The purpose of science learning at the secondary school level is to provide basic knowledge and understanding of the natural environment, so that students can understand the importance of preserving the environment and biodiversity (Hisbullah, 2018). In addition, science learning at the secondary school level also provides opportunities for students to experience the

environment directly through outdoor activities (Surahman et al., 2014).

The development of characters who care about the environment in secondary schools must be integrated comprehensively in learning Natural Sciences (IPA). Environmental care character education aims to enable students to internalise an attitude of concern for the environment and have the skills to prevent environmental damage. In this context, science is considered very relevant because it can shape the character of students to care about the environment around them. Science learning will guide students to better understand the importance of preserving the environment (Hasibuan & Sapri, 2023).

To implement character education in learning, a strategy is needed that involves learning approaches and methods that encourage the formation of habits of attitude and behaviour in learners. In this learning process, learners are actively involved to solve problems by utilising their thinking ability according to their level of intelligence. One of the approaches used is contextual learning, where the role of the teacher as a facilitator is very important. The teacher is responsible for providing stimulation and motivation to learners, diagnosing and helping to overcome difficulties that arise during the learning process, and sharing experiences to support the deep understanding that learners gain through these learning activities (Aminah et al., 2022).

Teachers play an important role in improving the quality of education, helped by the use of contextual learning approaches that link various subject matter with real-world situations experienced directly by students. This allows students to integrate the knowledge they acquire in their daily lives. This contextual learning approach is considered essential in the classroom because most students still face difficulties in connecting what they learn with relevant benefits in their lives (Wahyu Bagja, 2019: 17). The Contextual Teaching and Learning (CTL) method is a learning approach that emphasises student involvement in finding and linking the subject matter with real situations in everyday life.

Based on this description, it can be concluded that the use of contextual learning approaches can be applied to strengthen character education in students in junior high school. Character education does not simply transfer knowledge, but rather emphasises students' ability to apply that knowledge in everyday life. Contextual learning emphasises on providing knowledge that is relevant to students' daily lives. Literature studies show that character education becomes more effective when delivered through a contextualised approach. Therefore, the focus of this desk research is to provide a comprehensive picture of the influence of contextualised learning approaches in

strengthening students' character education in junior secondary schools. The results of this desk research are expected to serve as a reference for teachers in implementing learning approaches that strengthen character education, particularly with contextualised approaches.

Method

Research is an activity carried out to obtain new knowledge or to solve problems at hand, carried out through systematic and logical scientific procedures. This research is an analytical study of the habits applied in primary schools related to human character, including attitudes and behaviours that reflect character education values. The method used in this research is literature study or library research. The researcher conducted a literature study by reading various literature sources to collect the data needed in writing the research (Arikunto, 2013). Secondary data used comes from textbooks, scientific journals, e-books, and other sources deemed relevant to the research problem (Nazir, 1998). The collected data will be analysed qualitatively using the Miles and Huberman qualitative data analysis model. According to the Miles and Huberman approach used by Sugiyono (Sugiyono, 2019), Qualitative data analysis is carried out interactively and continuously in four stages, namely data collection, data reduction, data presentation, and conclusion drawing and verification.

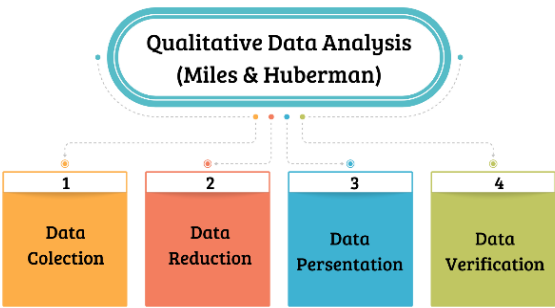


Figure 1. Qualitative Daya Analysis Miles & Huberman

The data collection process involves a series of systematic activities, including identification, selection of sources, application of techniques, and systematic recording. The data obtained also needs to be processed, as the data collected is still unstructured, mixed, and potentially biased.

Data reduction is an essential process in qualitative data analysis that helps researchers transform complex data into information that is easier to understand and analyze. By effectively reducing data, researchers can uncover meanings, identify patterns, and draw valid conclusions from qualitative data. In this study, the data

reduction process includes selecting relevant data to answer the research questions, summarizing the data, coding the data to represent concepts, grouping data with similar codes, and providing initial interpretations of the reduced data.

Data presentation is a crucial bridge between raw data and interpretation in qualitative research. Well-organized and systematic presentation of data in qualitative research helps facilitate understanding, analysis, and drawing conclusions. Miles and Huberman explain that the most commonly used form of data presentation in qualitative research is narrative text. In this study, the data presentation used is in the form of a narrative.

Data verification is a critical and systematic process aimed at ensuring the credibility and validity of the data that has been collected and analyzed in qualitative research. Verification is carried out to help the researcher derive meaningful insights from the data that has been gathered.

Result and Discussion

Environmental Care Character Education

Character is an aspect that underlies individuals from birth and develops through the life process. The development of an individual's character can move towards a positive direction or vice versa, which is greatly influenced by the environment the individual is in. Education plays an important role in this character building. According to Dalyono & Enny Dwi Lestariningsih (2017), character education in the context of education in Indonesia is based on the education of noble values that are an integral part of the rich culture of the Indonesian nation, which has always been well preserved as a foundation in shaping the personality of the younger generation (Handayani et al., 2021).

The purpose of character education is to shape and prepare the younger generation with positive and good behaviour in them. Character education, especially in the school environment, is often integrated with Religious Education and Civic Education (Ramdani E, 2017). Although character education is not an independent subject in the learning process in primary schools, it is integrated with relevant subject matter. This integration aims to create a conducive learning environment that supports the positive development of learners towards a better direction.

Character building requires the participation of various parties in order to permeate a child. One of the important parties is the school environment. Schools should not only convey character values, but also help students to understand, live, and act in accordance with these values (Aminah et al., 2022). Character

development cannot happen instantly, but rather through a long, careful and structured process. Based on views from the history of human thought, character education involves the stages of child development from early childhood to adulthood. According to the perspectives of psychologist Kohlberg (1992) and elementary educator Lockheed (1990), there are four stages in character education that must be passed: (a) the habituation stage to initiate children's character development; (b) the understanding and reasoning stage of students' values, attitudes, behaviours and characters; (c) the application stage of students' behaviours and actions in daily life; (d) the meaning stage, where students reflect on their attitudes and behaviours and assess their impact and benefits in their own and others' lives.

Some of the objectives of character education expected by the Ministry of National Education (2010, p. 9) include: (a) developing the potential conscience of learners as human beings and citizens who uphold the values of national culture and character; (b) shaping the habits and behaviour of learners in accordance with universal values and religious cultural traditions; (c) instilling leadership and responsibility in learners as the next generation of the nation; (d) developing the ability of learners to become independent, creative, and nationalistic-minded individuals; and (e) creating a school learning environment that is safe, honest, creative, friendly, and has a high sense of nationality and dignity. According to the Ministry of Education, there are eighteen character education values derived from religion, Pancasila, culture, and national education goals. These values include aspects of religion, honesty, tolerance, discipline, hard work, creativity, independence, democracy, curiosity, national spirit, love for the country, respect for achievement, friendship/communication, love of peace, love to read, environmental care, social care, and responsibility (Pamungkas et al., 2017).

One aspect of character that has a major impact is environmental stewardship. Environmental issues are still an alarming source of controversy and pose problems for our planet, which require immediate solutions. Environmental problems are not new but have existed since the beginning of the earth's history, which scientists say is about five billion years old (Al-Anwari Amirul, 2014). In this modern era, with technological advances, human activities in exploiting nature have increased significantly, which has an impact on widespread environmental damage. Therefore, the formation of an attitude of environmental care needs to start early, with efforts to prevent damage to the natural environment and develop strategies to repair damage that has occurred (Widyaningrum, 2016).

Various factors influence the formation of environmental care character, such as learning media used by teachers during the teaching and learning process with the science-edutainment approach (Fatkhriyah., 2014). It is important for teachers to choose a relevant theme in their teaching, as this can be directly related to the formation of environmental awareness character (Ariyani, Y. D., & Wangid, 2016). Environmental awareness is also strongly supported by the implementation of school curriculum policies, participation in community-based environmental activities, and the management of environmentally friendly facilities (Rokhman, F., Hum, M., Syaifudin, A. & Yuliati., 2014).

The importance of awareness to protect nature and the environment is recognised as a moral obligation and responsibility of every individual. According to the Ministry of Education (2010, p. 30) and the regulation of the Mayor of Yogyakarta (2011), environmental care character includes attitudes and actions that seek to prevent damage to the natural environment as well as efforts to repair damage that has occurred. Some steps that can be taken to instil the character of caring for the environment include maintaining cleanliness and environmental sustainability, providing a place for selecting garbage and washing hands, providing bathrooms and clean water, practising energy savings, separating types of organic and inorganic waste, and campaigning for awareness to maintain environmental cleanliness on an ongoing basis.

### *Contextual Learning*

In the learning process in the classroom, teachers have various choices in choosing the learning model that will be applied according to the material being taught. According to Ridha Aulia Putri (2021), there are many learning models that teachers can choose to support student learning activities, both in terms of affective and psychomotor aspects, including contextual learning models. The contextual learning model views that students will learn more effectively if their learning environment is scientifically designed, so that learning is not only a process of knowing, but also a process of direct experience and application of the concepts learned (Erwin Simon Paulus Olak Wuwur, Dedi Kuswandi, 2023).

Learning carried out by teachers is not just transferring knowledge to students, but also prioritising how students can give meaning to the material learned. Therefore, the strategy applied in learning is more emphasised than the end result of learning itself. Students will understand the meaning of learning, the benefits of learning, their current situation, and how to achieve these learning goals. They will realise that what they are learning has great relevance for their future



lives. With this awareness, students will feel motivated and have a high spirit to continue learning independently (Kurnia & Suryadharma, 2016). According to Muslich (2007), the application of contextual learning refers to an approach where teachers encourage students to link the knowledge they learn with their daily lives directly. Berns and Erickson (2001) explain that there are five approaches that can be used in contextual learning, namely: problem-based learning, co-operative learning, project-based learning, service-based learning, and work-based learning (Muslich, 2007).

Overall, the contextualised approach to learning aims for learners to acquire knowledge that is relevant to their daily lives, not just theories delivered in the classroom. This approach encourages students to be creative, independent, active and innovative in learning as well as in completing their tasks. Students are expected to integrate the subject matter with the real world to enhance their understanding and application of knowledge. Not only are teaching strategies key in shaping the character of environmental care, but effective school management and material learning supported by supportive programmes are also required. This is important as a sustainable foundation in shaping the character of environmental care (Handayani et al., 2021).

#### *Contextual Learning Of Science As a Strengthening Of Environmental Care Character*

Using the environment as a tool to strengthen environmental character is a strategic approach in shaping learners who have high awareness and commitment to environmental sustainability. By making the school environment a dynamic learning platform, learners not only gain theoretical knowledge but also practical experience that has a significant impact on their character building. The integration of environmental care values in the curriculum and school environment enables learners to internalise and appreciate environmental values and awareness of the natural surroundings (Rahmawati Euis, 2024).

In the learning process, the selection of an approach model is crucial to ensure positive outcomes for learners after they undergo learning activities. Contextual learning approach is considered effective in influencing the expected character building in primary school students after they follow the teacher-led learning. To achieve this character strengthening goal, there are several supporting factors, where the role of the teacher becomes crucial in ensuring the achievement of this goal through the learning approach applied in the classroom (Aminah et al., 2022).

Contextualised learning approaches play a positive role in strengthening learners' character at primary

school level. To achieve this goal, there are several important factors that must be considered. One of them is the role of the teacher and the learning approach applied in the classroom. According to Arsyad and Salahudin (2018: 179-190), optimal learning outcomes are highly dependent on two main factors. Firstly, internal factors involving motivation and interest in learning of individual learners. Secondly, external factors from the school environment, including the programmes that have been designed and implemented by teachers, as well as the role of families who provide support and guidance at home (Salahudin & Arsyad, 2018).

Jihadi (2022) states that teachers who fulfil their roles well and responsibly are able to be role models for their students. Teachers not only provide moral support, but also generate enthusiasm for learning in learners. Teachers' involvement in providing meaningful learning and providing good examples will encourage learners to understand and apply the knowledge they acquire in everyday life. Teachers need to utilise their knowledge by choosing appropriate approaches, such as contextual learning approaches, so that learning materials can be well understood by junior high school students (Aminah et al., 2022).

Successful learning, according to Marta et al. (2020), depends on a teacher's expertise in choosing an appropriate learning model to be applied in the learning process. The contextual approach is considered the right approach to strengthen learners' character education. The importance of the contextual approach in strengthening learners' character education at the primary school level is because most learners at this level have not been able to link the knowledge they gain in learning with their real daily lives. This is due to the use of inappropriate learning approaches and strategies. By applying a contextual approach, learners will be able to improve morality in personal and social life, reflected in honest behaviour and obeying the values taught by parents at home and teachers at school. In addition, it is also important to develop empathy towards others in daily life. Thus, learning that is designed to develop comprehensive competencies, including knowledge, skills and attitudes of primary school learners, not only aims to improve knowledge and insights, but also to strengthen abilities and skills, as well as improve good character and personality in learners (Rahmawati Euis, 2024).

Science learning in principle not only aims for students to gain knowledge about natural phenomena, but also encourages students to be active and critical during the learning process. The success of education is not only measured by students' cognitive achievement, but also by teachers' efforts in instilling environmental care behaviour as part of students' character. This

behaviour must be instilled in a sustainable manner in order to form a strong environmental awareness character in students. However, in reality, the learning process is often teacher-centred and focuses more on students' cognitive achievement. Therefore, a more suitable approach to learning science is a contextual approach, which links learning materials with students' real-world situations (Aulia et al., 2022).

Contextual Teaching and Learning is a learning concept that helps teachers connect teaching materials with students' real-world situations. It encourages students to relate the knowledge they gain to their daily lives. This approach involves seven key components for effective learning, such as constructivism, questioning, discovery, learning communities, modelling, and authentic assessment. The implementation of this approach can provide direct experience to students to develop their potential and increase their awareness of the surrounding environment, as well as develop positive environmental care characters (Taniredja, Tukiran, 2013).

According to some sources, the contextual approach not only connects the content of teaching materials with real-world situations, but also helps in the formation of students' environmental care character. This is in accordance with the definition of environmental care as an attitude and action to prevent and repair environmental damage (Purwanti, 2017). Therefore, a learning experience that focuses on the formation of environmental character in schools through the Contextual Teaching and Learning approach is the right step to prepare the young generation to face environmental challenges in the future.

## Conclusion

The environmental crisis that occurs around humans today occurs for various reasons, some of which are due to human negligence in caring for the environment. The development of the times at one point fostered hedonistic and capitalist lifestyles, thus making humans exploit nature excessively without considering the long consequences of their actions. Ideologies such as anthropocentrism that considers humans as the center of life are also the cause of this desacralization attitude. So that nature is only seen as an object of satisfying human needs without considering human responsibility and attitude towards nature which is actually a gift from humans as "homo sapiens" which means "wise humans".

Embedding human character into the environment is not new, and has emerged since the mid 1900s. Where industrialization is increasingly widespread, and some ecologists consider modern humans to have gone overboard and begun to neglect the welfare of the

environment. Character development is not something simple, even for adults. It requires open-mindedness and habituation as well as environmental conditioning to instill a firm or consistent character. Because the process of instilling awareness is not easy, especially for layers of society that have been constrained by baseless dogma and deviant lifestyles that have been familiarized for years, early education is one approach that can be applied to produce young people who have environmental care characteristics. This early education can start from the family, and the elementary school environment.

However, the approach used certainly needs to pay attention to the thought process and understanding capacity of children at that age. Because children still think simply, so for the cultivation of the character of environmental care is more recommended to be done with a contextual approach. This is because the contextual approach directly by the teacher in the classroom or school regulation conditioning can help students to connect the knowledge they get to everyday life. This contextual approach will be relevant when applied in science learning, because science learning in principle not only aims for students to gain knowledge about natural phenomena, but also encourages students to be active and critical during the learning process.

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## Author Contributions

Conceptualization, validation, formal analysis, investigation, resources, data curation, writing—original draft preparation, writing—review and editing, visualization, funding acquisition, authors have read and agreed to the published version of the manuscript.

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## Conflicts of Interest

There is no conflict of interest in this research article.

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