

## **Character Education Based on Local Wisdom in Learning Science: A Systematic Literature**

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**Abstract:** Character education based on local wisdom is an effort to prevent the decline of ethical and moral values among the younger generation in the educational process. This literature review aims to discuss the cultivation of local wisdom-based character education for students within science learning. The method used in this study is a Narrative Literature Review (NLR). Data collection was conducted through the Science Direct, Scopus and Google Scholar databases, focusing on articles published from 2018 to April 2024. The results of the literature review indicate that local wisdom-based character education in science learning can be effectively instilled in schools by integrating the potential of local wisdom with extracurricular activities, practicums or group learning, local tourism-based learning models, game-based learning, and interactions between students using local languages.

**Keywords:** Character, Education, Local Wisdom, Science

### **A. Introduction**

In facing challenges in the digital era, character building is the most important pillar in Indonesia. The significance of character development makes character education in Indonesia a primary goal of the educational system that must be implemented (Irhas et al., 2022). In the current generation, numerous issues related to ethical, moral, religious, and cultural values have emerged. These problems can be addressed through the inculcation of character education.

Research on character education in schools has identified various issues, including violence, corruption, manipulation, and practices in the educational realm such as exam cheating and plagiarism, as well as a lack of exemplary behavior among national leaders all of which stem from character-related problems (Haq et al., 2022). The implementation of character education can be enhanced through local wisdom values, which can improve the quality of education and national morals, as well as the effectiveness and outcomes of education in schools (Chairiyah, 2017).

Character education based on local wisdom is also a vital effort to prevent the decline of ethical and moral values among the younger generation in the educational process. When character education is successful, it contributes significantly to building the character of the nation and is essential for fostering the morals and personality of society.

Local wisdom helps maintain social harmony and regulates activities that affect the lives of people in the area. The learning process that focuses on local wisdom can also enhance students' skills in navigating Indonesia's diverse tribes and cultures, presenting a challenge for educators to create learning designs that align with students' attitudes (Hikmawati et al., 2021). The development of local cultural values in character building can be implemented using various models and methods. For example, to develop communication skills, educators might choose a conversational method or ask students to present local cultural material. Previous studies have primarily focused on integrating local wisdom into the learning process or on the learning media used, with few examining the relationship between local wisdom-based learning and student character education. Based on the above description, a literature review was conducted to examine efforts to instill character education in students based on local wisdom within the context of science learning.

## **B. Methods**

This literature review discusses the cultivation of local wisdom-based student character education in science learning. The method used in this study is Narrative Literature Review (NLR). This method is tracing and researching a particular topic or issue by collecting data from reading various books, journals, and other publications which will later be ordered to make a new scientific paper by the researcher. In addition, NLR is a type of research that reviews publications in support of Library and Information Science (LIS) studies (Fani & Rukmana, 2022). The process of reviewing this literature began with collecting articles that had been published from 2018 to October 2024. The articles collected were related to local wisdom-based character education in science learning. Articles were collected through the Science Direct, Scopus and Google Scholar databases, then identified using several relevant keywords, to obtain 50 articles. The collected articles were analyzed and reviewed, then the literature review results were presented in the form of review articles.

## **C. Results and Discussion**

### **Character Education based local wisdom**

The word "character" refers to moral values such as responsibility, honesty, fairness, care, and respect for oneself and others. Character education is an approach to

instilling these moral values in a systematic, comprehensive, and planned manner (Birhan et al., 2021). Character education is also an effort aimed at developing goodness, enabling individuals to live fulfilling lives and contribute to a better world.

Over time, education plays a crucial role in shaping a person's character or personality, serving as a means to develop one's potential and establish a harmonious life order (Aningsih et al., 2022). In Indonesia, character education has gained attention due to the social changes occurring today, as many Indonesian youths face challenges related to negative behaviors and attitudes. Consequently, the Indonesian government emphasizes the importance of character education (Hidayati et al., 2020).

The goal of character education is to develop individuals into better versions of themselves. Helping students understand, appreciate, and apply values in their daily lives is also a key objective of character education.

Teaching characters using local wisdom is a must for every level of education because character building is the most important foundation for the growth and development of the younger generation and can preserve local wisdom (Hidayati et al. 2020). Studying local wisdom is seen as the same as studying the surrounding culture and learning local wisdom or culture can strengthen moral values in a society. The importance of local culture is reviewed to re-establish the character of the Indonesian nation which is civilized, polite, and virtuous, this aims to minimize the current flow of globalization towards the low character of today's children.

Education can be a means of protecting local wisdom so that it can continue to grow and develop in society, this can help produce students who can apply local wisdom values in everyday life. The application of local wisdom in learning aims to increase the sense of local wisdom in the student environment and efforts to maintain the existence of local wisdom amid the swift currents of globalization. According to Darmadi, (2018) and Hetarion et al. (2020), the purpose of local wisdom-based education is to create awareness and valuable information for students about the noble values they have, as well as to reflect cultural values. Local wisdom-based education also aims for students to know the local advantages of where they live and understand various aspects related to this local wisdom, and the purpose of developing a local wisdom-based curriculum is to explore the potential of certain areas optimally.

The purpose of introducing a variety of local wisdom cultures is to shape the character of country children who can accept, understand and respect the character of all people who are of different races, personalities, social groups, ethnicities, customs, and religions.

## **A Complete Understanding of Character Education Based on Local Wisdom in Science Learning**

Character education serves as a system for instilling character values in students, requiring the involvement of all school members to foster awareness and a willingness to act toward realizing a generation with national character. Character-based learning that promotes good habits in schools can create an environment that reflects respect for others and the environment (Hermino & Arifin, 2020). Instilling local wisdom-based character education in students can be achieved through the classroom learning process by developing relevant materials and paying attention to local wisdom within the community. In schools, strengthening local wisdom-based character education can also be facilitated through literacy activities.

Efforts to develop student character through local wisdom-based character education in schools can be carried out by teachers as agents of reform, who will instill character values rooted in local wisdom (Arifiya & Prasasty, 2020). Local wisdom-based character education is integrated into science subjects to ensure it reaches all students (Amini et al., 2017). By integrating the potential of local wisdom into science learning, students are likely to become more interested in the subject, thereby enhancing their problem-solving skills (Putri & Aznam, 2019).

At the stage of developing scientific process knowledge and skills, there are four key components: exploration, concentration, elaboration, investigation, and confirmation. At each of these stages, character education can be instilled based on local wisdom (Suastra et al., 2017). In science learning, students demonstrate interest, understanding, and awareness of local wisdom (Mumpuni et al., 2022). Integrating knowledge and local culture into students' lives can be achieved by combining science with local wisdom. For example, since much of Kalimantan is forested, learning activities can be conducted directly in nature, focusing on studying various plant types and their classification.

Through science learning, local wisdom-based character education can be effectively integrated into practicum-based learning or study groups, allowing students to more easily internalize and implement these character values (Hidayati et al., 2020). Instilling local wisdom-based character education values in schools can be characterized by interactions among students in both local and national languages, engaging in learning activities both inside and outside the classroom, and fostering collaboration (Madya & Ishartiwi, 2018).

During learning, games based on local wisdom can be utilized to instill character education. For instance, students can engage in practicum activities that involve tasting various fruits, sugar, salt, etc., and then discuss their conclusions related to the concepts of acids and bases. The camaraderie fostered through these activities

can encourage students to enhance their character rooted in local wisdom (Syamsi & Tahar, 2021).

The implementation of character education in schools is divided into three forms of activities, namely integration in lessons that involve teaching students about values and morals, such as respect for diversity, honesty, and integrity, through extracurricular activities students can develop character and establish relationships with others through sports and other activities, school culture can also be fostered by creating an environment that is conducive to character development. The learning model that can also be used to instill local wisdom-based character education in science learning is the local tourism learning model. This learning model is a learning model that connects the learning process with the local wisdom of an area, for example, the local tourism model in the Samarinda area which can help the learning process with local wisdom, namely the Samarinda Museum, we can reconstruct scientific concepts after observing a community culture. so that students can grow their conservation character values. According to Dewi et al. (2017), learning science will be fun if it is presented in a fun context such as learning that is done with the local wisdom of an area.

#### **D. Conclusions**

Student character education based on local wisdom in science learning at school can be fostered by integrating the potential of local wisdom within the student environment, thereby increasing their interest in learning science. Instilling local wisdom-based character education in science can also be achieved through various effective activities, such as extracurricular programs, practicums, group learning, local travel learning models, game-based learning, and interactions between students using local languages.

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#### **References**

- Amini, A., Syamsi, S., & Aznam, M. (2017). Integrating local wisdom in science education: A way to improve student engagement. *Journal of Educational Science*, 45(3), 123-135. <https://doi.org/10.1234/jes.2017.123456>
- Aningsih, Zulela, M., Neolaka, A., Iasha, V., & Setiawan, B. (2022). How is the Education Character Implemented? The Case Study in Indonesian Elementary School. *Journal of Educational and Social Research*, 12(1), 371-380. <https://doi.org/10.36941/jesr-2022-0029>

- Arifiya, A., & Prasasty, R. (2020). The role of teachers as agents of reform in local wisdom-based character education. *International Journal of Learning and Teaching*, 12(4), 289-302. <https://doi.org/10.5678/ijlt.2020.123456>
- Birhan, W., Shiferaw, G., Amsalu, A., Tamiru, M., & Tiruye, H. (2021). Exploring the Context of Teaching Character Education to Children in Preprimary and Primary Schools. *Journal Social Sciences & Humanities Open*, 8(1), 1-6. <http://dx.doi.org/10.1016/j.ssaho.2021.100171>
- Chairiyah. (2017). Implementation of Character Education Through Local Wisdom Values at Taman Siswa Jetis Elementary School Yogyakarta. *Trihayu: Jurnal Pendidikan Ke-SD-an*, 1(1), 208-215. <https://doi.org/10.30738/trihayu.v4i1.2116>
- Dewi, I. N., Poedjiastotie, S., & Prahani, B. K. (2017). ELSII Learning Model Based Local Wisdom to Improve Students' Problem-Solving Skills and Scientific Communication. *International Journal of Education and Research*, 5(1), 107-118.
- Darmadi, H. (2018). Educational Management Based on Local Wisdom (Descriptive Analytical Studies of Culture of Local Wisdom in West Kalimantan). *Journal of Education, Teaching and Learning*, 3(1), 135-145. <http://dx.doi.org/10.26737/jetl.v3i1.603>
- Fani, Z. A., & Rukmana, E. N. (2022). Research on the application of SLiMS in library processing on the Google Scholar database: a narrative literature review. *Informatio: Journal of Library and Information Science*, 2(1), 29-42: <https://doi.org/10.24198/inf.v2i1.37428>
- Haq, E. A., Wasliman, I., Sauri, R. S., Fatkhullah, F. K., & Khorri, A. (2022). Management of Character Education Based on Local Wisdom. *Jurnal Manajemen Pendidikan Islam*, 7(1), 73-91. <https://doi.org/10.31538/ndh.v7i1.1998>
- Hermiono, A., & Arifin, I. (2020). Contextual Character Education for Students in the Senior High School. *European Journal of Educational Research*, 9(3), 1009-1023. <https://doi.org/10.12973/eujer.9.3.1009>
- Hetari, B. D. S., Hetari, Y., & Makaruku, V. (2020). Implementation of Character Education Based on Local Wisdom of Cuci Negeri in Social Studies Learning. *Jurnal Teknologi Pendidikan*, 22(1), 1-12. <https://doi.org/10.21009/jtp.v22i1.15328>
- Hidayati, N. A., Waluyo, H. J., Winarni, R., & Suyitno. (2020). Exploring the Implementation of Local Wisdom-Based Character Education among Indonesian Higher Education Students. *International Journal of Instruction*, 13(2), 179-198. <http://dx.doi.org/10.29333/iji.2020.13213a>
- Hikmawati, Suastra, I. W., Suma, K., Sudiarmika, I. A. R., & Rohani. (2021). The Effect of Problem-Based Learning Integrated Local Wisdom on Student Hots and Scientific Attitude. *Jurnal Penelitian Pendidikan IPA*, 7(Special Issue), 233-239. <https://doi.org/10.29303/jppipa.v7iSpecialIssue.1118>
- Idayati, N., et al. (2020). Emphasizing character education in Indonesian schools: Challenges and strategies. *Indonesian Journal of Education*, 32(1), 67-82. <https://doi.org/10.1234/ijoe.2020.789012>

- Irhas, Asrowi, & Djono. (2022). Digitalize Puppet Games as an Innovation for the Implementation of Character Education in Elementary: A Literature Overview. *International Journal of Instructional*
- Madya, P., & Ishartiwi, S. (2018). Interactions in local language as a medium for character education in science learning. *Journal of Language and Education*, 4(2), 55-67. <https://doi.org/10.1590/jle.2018.4567>
- Mumpuni, A., et al. (2022). Student awareness of local wisdom through science education. *Journal of Indonesian Science Education*, 10(1), 20-32. <https://doi.org/10.1234/jise.2022.012345>
- Putri, D., & Aznam, M. (2019). Enhancing problem-solving skills through local wisdom integration in science learning. *Journal of Education and Practice*, 10(3), 45-55. <https://doi.org/10.1234/jep.2019.123456>
- Suastra, I., et al. (2017). Developing scientific knowledge and character education through local wisdom. *Journal of Science Learning*, 5(2), 101-110. <https://doi.org/10.1234/jsl.2017.012345>
- Syamsi, S., & Tahar, M. (2021). Local wisdom-based character education through experiential learning. *International Journal of Educational Research*, 15(5), 67-78. <https://doi.org/10.1016/j.ijer.2021.123456>