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Integration Of Cultural Ecoliteracy In The Sociology Curriculum In High School

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Abstract

This study aims to analyze: 1) The forms of cultural literacy integration in the Sociology curriculum at senior high schools, 2) Catalysts for integration and structural constraints in the integration process. The researchers employed a qualitative method using a case study approach. Data collection techniques included observation, interviews, and documentation. Data validity was assessed through data triangulation. Data analysis involved data reduction, data presentation, and drawing conclusions. The sample consisted of sixteen informants, namely: 1) High school Sociology teachers actively designing and implementing instruction. 2) School Principals or Vice Principals in charge of the curriculum. 3) High school students enrolled in Sociology courses. The results of this study indicate that: 1) the integration of cultural eco-literacy into Sociology instruction has been implemented through various forms, namely the use of local learning resources, project-based learning, and the involvement of the local community. 2) Supporting factors in the cultural eco-literacy integration process identified include school policies that provide teachers with the freedom to innovate in teaching, an environment rich in local cultural learning resources, local community involvement, and the motivation of teachers and students. Barriers to integration include limited teaching materials and the absence of specific policies governing the implementation of integration.

Keywords: Culture, Eco-literacy, Integration, Sociology Curriculum

INTRODUCTION

Cultural preservation that is not accompanied by an awareness of the balance of the environmental ecosystem is unsustainable. Over the past few decades, the preservation of local cultures has become a growing

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global concern, continuing to this day (Suradi, 2018; Jadidah et al., 2023; Mamik Indrawati & Sari, 2024).

However, cultural preservation through its practices often tends to diverge from an awareness of species and ecosystem balance. Febrianto (2016), in his book titled Ecological Anthropology: An Introduction, explains Veronica Strang's perspective regarding human cultures that exploit their environment. The book further examines the current situation where many small community groups are under pressure, as their use of natural resources (NR) has been adapted to a way of life absorbed by industrial-scale economies. It is also noted that environmental anthropologists observe how humans make unsustainable decisions, driven by two possibilities: 1) The increased use of these natural resources stems from the development of patterns of consumption rooted in local wisdom, or 2) The local wisdom of these communities has been overshadowed by material interests, or even eroded due to needs that must be met under the logic of capitalism.

The Toraja people are one of the ethnic groups in Indonesia, and their communities inhabit several regencies, one of which is North Toraja Regency. This regency is home to a community that still holds tightly to its local cultures and continues to preserve them by regularly performing traditional ceremonies (Bahri, 2023). The rituals that are currently maintained and remain enduring in the lives of the Toraja people are categorized into two types of ceremonies: the rambu solo' ceremony and the rambu tuka' ceremony. Dewi's (2014) research clearly reveals that the types of rituals performed in Toraja society are categorized into two types of ceremonies, namely: 1) The rambu tuka' ceremony, which is a ritual performed in an atmosphere of joy or happiness and gratitude, offered to the gods; and 2) the rambu solo' ceremony, a ritual associated with mourning or death, offered to the spirits of the ancestors.

In their implementation, these ceremonies utilize various natural resources. This can be observed in the conduct of traditional ceremonies and various cultural needs; the Toraja people rely heavily on the use of bamboo, as noted by Tandiara (2023). A study titled "Lexicon of Flora and Fauna in the Kada Tominaa Narrative During the Ma'bua' Ceremony of the Toraja Tribe: An Ecological Linguistic Analysis" mentions the use of several animal and plant species that serve as essential requirements in the ritual processes of the Toraja tribe. The plant species mentioned include: sandalwood trees, andong flowers, enau shoots, kana flowers, puring flowers, and rattan. Meanwhile, the animal species used include: water buffalo, various types of pigs, and various types of chickens (J. Sampe et al., 2022).

Today, the tide of globalization brings new, different values into Toraja society. This has led to the development of values from outside the Toraja tribe within Toraja society. Now, the death ritual known as the Rambu Solo' ceremony in Toraja has also undergone a shift in meaning, becoming a symbol of prestige for the community. This, of course, also impacts the hierarchical values that form the foundation of Toraja culture. Consequently, the use of natural resources as ritual requirements has increased (N. Sampe et al., 2013; Paganggi et al., 2021; Prisilya, 2023).

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Educational institutions are strategic platforms for promoting or disseminating values of cultural preservation (Casarejos et al., 2017; Berchin et al., 2018; Ruiz-Mallen & Heras, 2020), as well as environmental awareness. Research conducted by Alwi et al. (2023), which discusses Character Building of Students in Formal Educational Institutions, also suggests that character education in schools can change student behavior, including increasing concern for the environment and love for the homeland, both within the school environment and in the wider community.

A previous study titled "Integration of Local Wisdom Values of the Duakoran Community into Sociology Instruction at SMAN Raimanuk, East Nusa Tenggara" revealed that several cultural elements that can be incorporated into education include cultural values, customs, perspectives on life, and various other life concepts found within the community (Klaran, 2023). The relationship between culture and education lies in how culture paves the way for education and, in turn, education can instill cultural values in society. Thus, the two must always be interconnected (Mathews & Arulsamy, 2020).

The concept of eco-literacy proposed by Fritjof Capra focuses on raising awareness and maintaining the balance of the natural environment, a concept that can be applied in the process of sustainable cultural preservation. Yasida (2020) explains that cultural ecoliteracy aims to enhance insight, awareness, and understanding of various cultural perspectives regarding the relationship between humans and their environment, which in turn fosters sustainable living. One subject highly relevant for fostering cultural eco-literacy awareness is Sociology. The Sociology curriculum explores society and the social dynamics experienced by that society, one of which is culture—which is undoubtedly a central pillar of those dynamics.

Several high schools in North Toraja have integrated cultural eco-literacy into the Social Studies curriculum and other relevant subjects. A study conducted by Rahmita (2018), titled "Analysis of Educational Interaction Patterns Infused with Local Wisdom in 10th-Grade Economics Lessons at State High School 6 North Toraja," revealed that the integration of local wisdom values is typically carried out by teachers when providing advice and motivation at the beginning of the lesson. Another study also observed how 10th-grade MIPA 1 student at SMA 4 Toraja Utara in 2021 experienced an increase in self-confidence through the application of the STAD (Students Teams Achievement Division) learning model in dance performance lessons (Haddade, 2021). A study by Tandipau et al. (2024) also examined the exploration of physics concepts derived from the local wisdom of the Toraja Pa'gellu dance using a guided inquiry model, conducted at SMAN 1 North Toraja. The results of the study indicate that in addition to preserving ancestral heritage, the Pa'gellu dance is also a form of local wisdom that has positive impacts, including: fostering unity and cohesion, enhancing perseverance, and strengthening a sense of kinship among dancers and the wider community (Tandipau et al., 2024).

Sustainable cultural preservation through the application of the concept of cultural ecoliteracy is urgently needed today. Several efforts have been made to preserve the local cultural values of the Toraja people (AR, 2022;

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Tammu et al., 2023; Mawarni et al., 2024). Research discussing the relationship between Sociology and cultural preservation has also been conducted (Golden et al., 2021; Lian & Xie, 2024). However, there has been no specific research addressing the integration of cultural eco-literacy into the Sociology curriculum at North Toraja High School. This study aims to fill that research gap.

Therefore, it is important to examine how the integration of cultural eco-literacy is implemented in Sociology instruction at Toraja Utara High School. This study is intended as an effort to gain a clear understanding of cultural preservation through the younger generation, while maintaining environmental sustainability as a sustainable cultural landscape. Thus, the title of this study is "Integration of Cultural Eco-Literacy in Sociology Courses at Toraja Utara High School." By adopting a local approach, it is hoped that students will not only understand Toraja culture but also feel a sense of ownership and responsibility to preserve it. This study will also examine the role of teachers, student responses, and the effectiveness of the approach used. Consequently, the results can serve as a tangible contribution to the fields of education and cultural preservation.

METHODOLOGY

This study employs a qualitative method using a case study approach. The case study approach was chosen to provide an in-depth description of the process of integrating local ecological values into the Sociology curriculum at the high school level. The data collection techniques used in this qualitative study are observation, interviews, and documentation (Creswell, John W. & Poth, 2016; Yin, 2022). Observations were conducted to analyze the policies and programs implemented by schools to support the integration of local ecological literacy, while interviews were conducted to explore informants' perspectives on the integration of local ecological literacy into the Sociology curriculum. The data analysis techniques used after data collection were data reduction, data presentation, and drawing conclusions (Miles & Huberman, 1994). Data validity was then checked through data triangulation (Sugiyono, 2013). The number of informants in this study consisted of sixteen people, namely: 1) Sociology teachers at Toraja Utara High School who actively design and implement learning. 2) Principals or Vice Principals in charge of the curriculum. 3) Supporting informants: High school students who participate in Sociology classes. To ensure data validity, source and method triangulation techniques were used (Rukin, 2019). Conclusions were drawn through a comprehensive interpretation of the findings, taking into account the local cultural and educational context. This study is expected to yield strategic recommendations for the development of a Sociology curriculum based on cultural literacy. The following is the research flowchart for the Integration of Cultural Ecological Literacy into the Sociology Curriculum:

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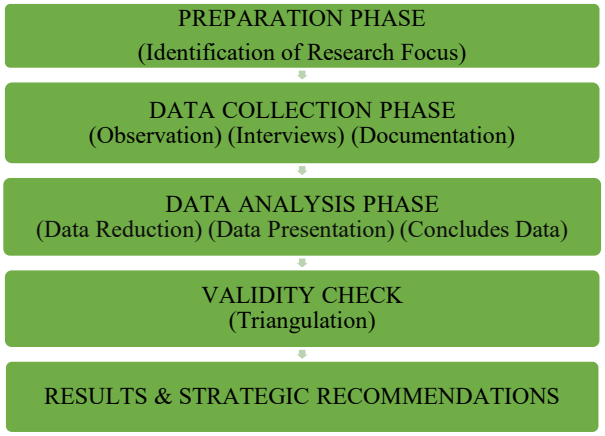


Figure 1. Research Flowchart

RESULTS AND DISCUSSION

This study analyzes the forms of cultural eco-literacy integration in the Sociology curriculum at North Toraja High School, the roles and interactions of various stakeholders in integrating cultural eco-literacy into the Sociology curriculum, and the factors that support and hinder the implementation of cultural eco-literacy in the Sociology curriculum. The following is an in-depth analysis of each aspect of this study.

Forms of Cultural Ecological Literacy Integration in Learning

Integration in learning can be achieved through several methods. Findings from a study conducted by Adela et al. (2018) revealed that the integration of ecological literacy in schools is carried out through environment-based activities and programs grounded in decisions made by stakeholders, involving proactive actions and coordination among school community members. In another study by Amalia (2024), it was revealed that this integration can occur, among other things, by embedding eco-literacy concepts into subjects such as social studies. Furthermore, she explained that in the application of this integration in social studies education, teachers can relate how communities interact with the environment, focusing on themes of local wisdom, based on natural resource management, land use, and the management of other ecosystems. Based on findings from field research, the integration of the Toraja tribe's local cultural ecoliteracy into the Sociology curriculum at North Toraja High School does not occur in a single, isolated manner but rather through several complementary forms. The forms of cultural ecoliteracy integration into the Sociology curriculum identified in this study are as follows:

1. Use of Local Learning Resources

One form of integration identified is the use of learning resources derived from the students' immediate surroundings. The students' surroundings provide direct and concrete experiences involving realistic issues

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relevant to eco-literacy and local culture that can be integrated into lessons (Hannafin et al., 2013; Puspita et al., 2024). Furthermore, this study found that during the learning process, teachers linked Sociology curriculum content to local wisdom within the Toraja cultural system, such as cultural eco-literacy manifested through social stratification, traditional ceremonies, and social changes occurring in the community that impact its surrounding ecosystem. Observations and interviews revealed that students found it easier to understand the material when examples drawn from their familiar experiences were used. Some students were even able to provide additional examples based on what they observed in their daily lives.

Furthermore, findings regarding "pamali" (taboos) in the local Toraja culture indicate that eco-literacy in Toraja culture is not merely biological knowledge but a system of social control. Unlike the third study (3) by Arifah (2024), which focused on the need for modules in implementing integration, these findings demonstrate that Sociology can integrate eco-literacy through content on values and norms. Pamali functions as an environmental regulation that maintains the relationship between humans and nature (Tallu Lolona). Furthermore, social stratification—specifically tana'—and its relationship with the environment within Toraja society. Previous research has not addressed this finding; this study examines how social structure (from nobility to commoners) impacts the distribution and management of natural resources, such as the value of kapa' in buffalo. This fills a significant gap where prior research failed to recognize the connection between social hierarchy and ecological responsibility.

2. Project-Based Learning

The integration of cultural eco-literacy is also evident through project-based activities, such as field observations, visits to cultural sites, and the implementation of P5 projects centered on local wisdom. Other researchers have noted the same; these activities provide students with the opportunity to witness firsthand how culture is practiced in community life and how eco-literacy values are aligned with the needs of that culture (Chaesar & Andayani, 2024; Rahayu et al., 2025). Based on field findings, students appear enthusiastic when learning takes place outside the classroom. They do not merely take notes or listen to explanations but also observe, ask questions, and even engage in direct discussions with the community to gather information. This experience helps them better understand the connection between sociological concepts and real-world conditions in their surroundings, thereby enhancing students' ecological awareness—or, in this context, cultural eco-literacy.

3. Collaboration with Local Communities

Another form of integration involves engaging local communities in the learning process. The involvement of local communities in the integration of cultural ecoliteracy serves as a necessary method (Kim et al., 2017; Kazazoglu, 2025). Teachers bring in traditional leaders or utilize the local community environment as a learning resource. From the interview results, it was found that students felt they understood the material better

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when explanations were provided directly by cultural practitioners. They gained information not always found in textbooks, particularly regarding the meanings and values embedded in a cultural practice. This interaction also made students more appreciative of existing cultures, as they witnessed firsthand how those cultures are practiced and preserved by the community. The findings of this study indicate that the integration of eco-literacy in North Toraja is highly dependent on the validation of traditional leaders and museum curators. The presence of Sociology teachers then bridges these cultural values to the students, ensuring that the information received by students is authentic and free from the bias of cultural assimilation.

Table 1. Forms of Integration of Local Cultural Literacyy

Integration Aspect	Description of Findings	Implementation in Sociology Curriculum
Local Learning Resources	Utilization of real-world cultural phenomena (the Rambu Solo' ceremony and Tongkonan construction).	Explaining the concepts of Social Change and Globalization through shifts in the prestige of traditional ceremonies and the timing of their observance.
Exploration of Traditional Values (Pamali)	Identifying life rules (Aluk) related to plants, animals, and house structures.	Integrating the concepts of Social Control and norms in maintaining the balance of the local ecosystem.
Analysis of Stratification (Tana')	The use of the Toraja caste system in determining the value of Kapa' (buffalo) and land management.	Explaining the concepts of Social Differentiation and Stratification through rights and obligations regarding the management of natural resources.
Curriculum Integration (P5)	Implementation of the Pancasila Student Profile Strengthening Project with the theme "Local Wisdom."	Students explore cultural sites (Ke'te' Kesu'/Museum), manage traditional ingredients and dishes, and produce creative outputs (Vlogs, TikTok, Posters).
Collaboration with Local Communities	The school creates opportunities to establish partnerships with local communities to support the integration process.	The school invites expert speakers (cultural figures/community leaders/clergy) to the school to deliver lectures, seminars, or talkshows on the philosophy of Toraja's local wisdom.

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Catalysts for Integration and Structural Constraints

The research findings indicate that the implementation of cultural eco-literacy integration in Sociology instruction at Toraja Utara High School is influenced by various catalysts—factors that facilitate integration—as well as constraints that subsequently limit the progress of this process. This aligns with findings from several previous studies that suggest the process of integrating cultural eco-literacy into learning is always influenced by factors that both facilitate and hinder the integration process (Saputra, 2022; Fersari & Muhammad, 2025; Hatibu et al., 2025). These elements can be viewed as conditions that either strengthen or limit the practice of cultural eco-literacy integration at the research site. The elements in question are as follows:

1. Integration Catalysts

Based on the research findings, there are several catalysts in the implementation of cultural eco-literacy integration, including:

a. School Policy Legitimacy

Schools provide opportunities through programs such as P5 and culture-based activities that allow teachers to link learning to the surrounding environment. This support is not only in the form of policies but also includes permission to conduct activities outside the classroom and the provision of supporting facilities. These conditions indicate that the school environment offers opportunities for teachers to develop more varied learning experiences. This facilitating factor in the integration process is also highlighted by the fact that schools play a crucial role in fostering students' ecological awareness through programs and policies focused on the environment and local wisdom (Modjo, 2025; Soon et al., 2025).

b. Availability of Instructional Modalities

The availability of the cultural environment as a learning resource also serves as a supporting factor in the process of integrating local cultural eco-literacy at North Toraja High School. This is because the Toraja environment possesses a rich cultural heritage that remains vibrant in the lives of the community, allowing it to be directly utilized in the learning process. The presence of traditional ceremonies, social systems, and other cultural practices provides students with opportunities to learn from the realities they encounter in their daily lives. This aligns with findings from other researchers who have noted that the availability of a local environment rich in resources is a crucial element in acquiring information and developing knowledge during the eco-literacy integration process (Amalia, 2024; Kouam, 2025).

c. Local Community Synergy

The involvement of the local community further strengthens the implementation of integration. Other studies, such as those by Firmansyah & Maulana (2025) and Junaedy & Asyiah (2025), also highlight this point: engaging the local community can foster students' appreciation for their culture and their sense of responsibility toward their surrounding environment. In field findings, traditional leaders and community members are not

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merely objects of learning. They also serve as knowledge sources who provide direct explanations to students. This, of course, helps students understand the meaning and values of local culture related to Toraja's cultural eco-literacy more deeply, so students do not merely receive definitions of cultural values from theory.

d. Teacher and Student Motivation

Teacher and student motivation are crucial elements that support the integration of cultural eco-literacy into the learning process. This aligns with the findings of (Hanifah et al., 2025; Hendratno et al., 2025), who noted that teacher and student motivation in the integration of eco-literacy and local culture facilitates the development of sustainable thinking among students. In this study, it is evident how teachers demonstrate initiative in developing learning by utilizing the surrounding environment, while students show high enthusiasm, especially when learning takes place outside the classroom. The active involvement of both parties makes the learning process more flexible and not limited to conventional methods.

2. Structural Constraints

However, the researchers also identified several challenges that still exist in the process of integrating cultural eco-literacy, as follows:

a. Limited Access to Information Sources

The study found that the scarcity of structured teaching materials is one of the main obstacles in this integration process. This is evident when teachers report that they still struggle to find references that specifically address cultural eco-literacy within a local context. Consequently, teachers must develop materials independently, which naturally requires additional time and effort. Furthermore, the lack of supporting facilities, such as internet access, also poses a challenge in accessing supplementary information sources. These conditions limit the exploration of materials, both by teachers and students (Demirbilek, 2024; Hanifah, Isroyati, et al., 2025)

b. Fragmentation of Curriculum Policy

Another hindering factor, based on field findings, is the absence of specific policies that systematically regulate the integration of cultural eco-literacy into the curriculum. Although there are supporting programs that provide opportunities for the integration process, their implementation still depends on the initiative of individual teachers. This leads to variations in application across classrooms. Xiong et al. (2025) revealed in their study that there are barriers to fostering environmentally responsible behavior among students if teaching methods supporting integration across each dimension of environmental literacy are not implemented. Furthermore, the research by Narulita et al. (2024) also agrees and states that; the lack of teaching materials regarding the integration of environmental literacy in the learning process results in low eco-literacy awareness among students. Additionally, time constraints also affect the implementation of experience-based activities, such as field observations. Not all materials can be directly linked to out-of-class activities due to limited time allocation.

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Table 2 Catalysts for Integration and Structural Constraints

Category of	Factors Findings	Description and Impact on Integration
Catalysts (Drivers)	Policy & Financial Legitimacy Schools	- Schools allocate BOS funds for field trips and organize an annual Education Expo. - Use of LCD/projectors, videos, and photos of rituals to enhance the visualization of materials.
	Availability of Instructional Modalities	The local Toraja environment, rich in cultural resources, is utilized as a real-world example of social phenomena and local wisdom to foster knowledge development in the eco-literacy integration process.
	Local Community Synergy	Beyond serving as learning subjects, traditional leaders and local communities act as knowledge sources providing direct explanations to students.
	Teacher and Student Motivation	Teachers take the initiative in developing learning by utilizing the surrounding environment, while students demonstrate high enthusiasm, especially when learning takes place outside the classroom, thereby facilitating the implementation of cultural eco-literacy values in learning and fostering students' environmental awareness.
Constraints (Barriers)	Limitations of Valid References	Difficulty in finding reliable written documents; information often varies across oral sources.

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Category of	Factors Findings	Description and Impact on Integration
	Digital Divide	Uneven school Wi-Fi coverage hinders students from independently exploring additional information.
	Fragmentation of Curriculum Policy	Learning remains incidental (inserted) because there is no specific curriculum formally regulating integration. This results in limited time for integration.

CONCLUSION

Based on the results of this study, it can be concluded that the integration of cultural eco-literacy into Sociology instruction at Toraja Utara High School has been implemented through various approaches, namely the use of local learning resources, project-based learning, and the involvement of the local community. The implementation of this integration demonstrates that integrating cultural eco-literacy into Sociology is not merely about bringing environmental content into the classroom, but rather about engaging with social structures, norms (Pamali), and local cultural identities in relation to modern environmental challenges. Learning becomes more closely connected to students' lives, as Toraja's local culture serves as a social laboratory, making it easier for them to understand the material being taught. Furthermore, the involvement of teachers, students, and the community is a crucial factor in supporting the success of this process.

On the other hand, several obstacles remain, such as limited teaching materials and the absence of specific policies governing the implementation of integration. This results in current practices still relying on teacher initiative. Thus, the integration of cultural eco-literacy can be understood as a process shaped by the interaction between policies, the environment, and the educational stakeholders involved.

REFERENCES

Adam, H., & Ali, S. U. (2025). Ecoliteracy-Based Teaching Strategies in English. 13(4), 2140–2150.

Adela, D., Sukarno, S., & Indriayu, M. (2018). Integration of Environmental Education at the Adiwiyata Program Recipient School in Growing Ecoliteracy of Students. 262(Ictte), 67–71. https://doi.org/10.2991/ictte-18.2018.11

Alwi, A., Mansur, M., & Untarti, D. P. (2023). Character Development of Students in Formal Educational

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Institutions. Pedagogik: Journal of Education, 18(2), 148–155. https://doi.org/10.33084/pedagogik.v18i2.5818

Amalia, D. (2024). The Integration of Eco-Literacy in Teaching-Learning Activities as an Effort to Reduce the Environmental Crisis. Madinah: Journal of Islamic Studies, 11(2), 257–274. https://doi.org/10.58518/madinah.v11i2.2962

AR, H. R. (2022). Analysis Of the Function Of Local Government In The Preservation Of The Rambu Solo' Custom Of The Toraja Tribe In North Toraja Regency. In Braz Dent J., 33(1), 2003–2005.

Arifah, A. R. (2024). Analysis of the Need for a Local Wisdom Learning Module on Sedekah Bumi to Improve Eco-literacy in Indonesian Language Education. Ghancaran: Journal of Indonesian Language and Literature Education, November, 91–102. https://doi.org/10.19105/ghancaran.vi.17194

Bahri, B. N. J. (2023). Ma'Nene: The Historical Dynamics of the Tradition of Cleansing and Replacement. Journal of History and Education, 7(1), 64–76.

Berchin, I. I., Sima, M., de Lima, M. A., Biesel, S., dos Santos, L. P., Ferreira, R. V., Guerra, J. B. S. O. de A., & Ceci, F. (2018). The importance of international conferences on sustainable development as higher education institutions' strategies to promote sustainability: A case study in Brazil. Journal of Cleaner Production, 171, 756–772. https://doi.org/https://doi.org/10.1016/j.jclepro.2017.10.042

Berman, N. (2021). Environmental education catalyzed by tourism: Ecoliteracy initiatives on the coast of Kenya. Sustainability (Switzerland), 13(15). https://doi.org/10.3390/su13158501

Casarejos, F., Frota, M. N., & Gustavson, L. M. (2017). Higher education institutions: a strategy towards sustainability. International Journal of Sustainability in Higher Education, 18(7), 995–1017.

Chaesar, A. S. S., & Andayani. (2024). Investigating the Effectiveness of Ecoliteracy-Integrated Project-Based Learning in Fostering Creative Thinking Skills Among Elementary School Students. KEMBARA Journal of Scientific Language, Literature, and Teaching, 10(1), 295–311. https://doi.org/10.22219/kembara.v10i1.28030

Charokar, K., & Dulloo, P. (2022). Self-directed Learning Theory to Practice: A Footstep towards the Path of being a Life-long Learner. Journal of Advances in Medical Education and Professionalism, 10(3), 135–144. https://doi.org/10.30476/jamp.2022.94833.1609

Creswell, John W.; Poth, C. N. (2016). Qualitative Inquiry and Research Design: Choosing Among Five Approaches. Sage Publications.

DANIEL, Julia; QUARTZ, Karen Hunter; OAKES, J. (2019). Teaching in Community Schools: Creating Conditions for Deeper Learning. Review of Research in Education, 43(1), 453–480.

Demirbilek, M. (2024). Barriers to technology integration. In Social Studies Teaching III: Integrating Technology into the Social Studies (pp. 51–68).

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License

Dewi, I. (2014). THE INFLUENCE OF ALUK TODOLO CULTURE ON THE LIVES OF THE MUSLIM COMMUNITY IN RARU SUBUNUANG VILLAGE, SOUTH SANGALLA' DISTRICT, TANA TORAJA REGENCY. UIN Alauddin Makassar. 011, 219–230.

Febrianto, A. (2016). Ecological Anthropology: An Introduction. Prenada Media.

Fien, J., & Tilbury, D. (2025). Ecoliteracy: Education for Sustainable Development. Bima Cendikia: Journal of Community Engagement and Empowerment, 2(2), 235–252.

Firmansyah, B., & Maulana, R. A. (2025). Development of Integrated Science Modules with Local Wisdom to Improve Environmental Literacy at State Junior High School 46 Jakarta. Journal of Science and Mathematics Education, 1(4), 103–110. https://doi.org/10.70716/josme.v1i4.331

Golden, D., Erdreich, L., Stefansen, K., & Smette, I. (2021). Class, education, and parenting: cross-cultural perspectives. British Journal of Sociology of Education, 42(4), 453–459. https://doi.org/10.1080/01425692.2021.1946301

Haddade, R. A. F. (2021). The application of the student teams achievement division learning mode in dance performances as an effort to boost the self-confidence of 10th-grade MIPA students at State High School 4 North Toraja. Department of Performing Arts, Makassar State University, 1(1), 1–13.

Hanifah, I., Isroyati, I., & Thi Thuy Trang, T. (2025). Development of Nature-Themed Language Literacy Teaching Materials to Enhance Language Skills and Environmental Awareness of Elementary School Students. IJORER: International Journal of Recent Educational Research, 6(6), 2041–2059. https://doi.org/10.46245/ijorer.v6i6.1134

Hanifah, Munawaroh, S., & Jelita, S. (2025). Pre-service English Teachers' Perceptions on Developing Ecotourism-Based Teaching Materials for Enhancing Eco-Literacy. IOP Conference Series: Earth and Environmental Science, 1559(1), 012040. https://doi.org/10.1088/1755-1315/1559/1/012040

HANNAFIN, Michael; LAND, Susan; OLIVER, K. (2013). Open learning environments: Foundations, methods, and models. In Instructional-Design Theories and Models.

Hatibu, H., Makassar, U. N., & Info, A. (2025). Ecological Literacy as a Pedagogical Framework in Elementary Social Studies: Analysis. 3(3), 83–91.

Hendratno, Istiq Faroh, N., & Yasin, F. N. (2025). Effectiveness of local culture supplement books in improving students' ecoliteracy in coastal areas. Perspektivy Nauki i Obrazovania, 73(1), 202–216. https://doi.org/10.32744/pse.2025.1.13

Jadidah, I. T., Alfarizi, M. R., Liza, L. L., Sapitri, W., & Khairunnisa, N. (2023). Analysis of the Influence of Globalization on Local Culture (Indonesia).

Academy of Social Science and Global Citizenship Journal, 3(2), 40–47. https://doi.org/10.47200/aossagcj.v3i2.2136

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Junaedy, A. G. R. D. H., & Asyiah, I. N. (2025). Developing a Culturally Integrated E-Module on Madurese Herbal Knowledge to Enhance Students' Ecoliteracy Skills. Lectura: Journal of Education, 16(2), 602–615.

Kazazoglu, S. (2025). Environmental Education Through Eco-Literacy: Integrating Sustainability into English Language Teaching. Sustainability (Switzerland), 17(5). https://doi.org/10.3390/su17052156

Kim, G. W., Vaswani, R. T., Kang, W., Nam, M., & Lee, D. (2017). Enhancing ecoliteracy through traditional ecological knowledge in proverbs. Sustainability (Switzerland), 9(7). https://doi.org/10.3390/su9071182

Klaran, H. (2023). Integration of Local Wisdom Values of the Duakoran Community in Sociology Learning at SMAN Raimanuk, East Nusa Tenggara. PENSOS: Journal of Sociology Education Research and Community Service, 1(1), 8–14. https://doi.org/10.59098/pensos.v1i1.938

Kouam, A. W. F. (2025). Teachers as environmental educators: Exploring perceptions and practices of green pedagogies in fostering eco-literacy. Journal of Applied Learning & Teaching, 8(S1), 37–46.

Lian, Y., & Xie, J. (2024). The Evolution of Digital Cultural Heritage Research: Identifying Key Trends, Hotspots, and Challenges through Bibliometric Analysis. Sustainability (Switzerland), 16(16). https://doi.org/10.3390/su16167125

Mamik Indrawati, & Sari, Y. I. (2024). Journal of Social Studies Research and Education. Journal of Social Studies Research and Education, 1(18), 40–48.

Mathews, S. M., & Arulsamy, D. (2020). (PDF) The Role of Education in Transmitting Culture in Society. 1–6. https://www.researchgate.net/publication/339816271_Role_of_Education_in_Transmitting_Culture_in_Society

Mawarni, I. S., Kamaruddin, S., & Awaru, A. O. T. (2024). The Role of Youth in Preserving Local Wisdom and Rambu Solo' Culture in North Toraja. 7, 560–565.

Miles, M. B., & Huberman, A. M. (1994). Qualitative data analysis: An expanded sourcebook. Sage.

Modjo, A. S. (2025). The Role of Schools in Promoting Environmental Awareness and Green Living. MSJ: Majority Science Journal, 3(4), 150–162. https://www.jurnalhafasy.com/index.php/msj/article/view/461%0A https://www.jurnalhafasy.com/index.php/msj/article/download/461/731

MORRIS, T. H. (2020). Creativity through self-directed learning: Three distinct dimensions of teacher support. International Journal of Lifelong Education, 39(2), 168–178.

Narulita, N., Yanita Sari, Y., & Fatayan, A. (2024). Natural and Social Science Learning Module Based on Augmented Reality Technology Containing Ecoliteracy in the Independent Curriculum in Elementary Schools. Scientific Journal of Education and Learning, 8(3), 567–577. https://doi.org/10.23887/jipp.v8i3.85805

Paganggi, R. R., Hamka, H., & Asmirah. (2021). Shifting Meanings in the Implementation of the Rambu Solo' Traditional Ceremony in Toraja Society. Journal of Contemporary Sociology, 1(1), 9–20. https://journal.unibos.ac.id/jsk

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PANDIS, E. (2025). European literature as a catalyst for sustainable awareness in primary school education: a design-based research approach. Environmental Education Research, 1–41.

Prisilya, D. (2023). Shifting Cultural Values from an Archaeological Perspective. Scientific Journal, 2(1), 15.

PUSPITA, Hilya; FIRDAUS, Fery Muhamad; KAWURYAN, S. P. (2024). Self-Directed Learning Model Based on Local Wisdom Values on Student Learning Outcomes. Journal of Innovation in Educational and Cultural Research, 5(1), 22–28.

Rahayu, N., Kawuryan, S. P., & Buaga, G. F. (2025). Differentiated Project-Based Learning Model: An Effective Strategy in Ecoliteracy Education for Elementary School Students. Journal of Science Education Research, 11(3), 178–186. https://doi.org/10.29303/jppipa.v11i3.10389

Rahmita, A. (2018). Analysis of educational interaction patterns with nuances of local wisdom in economics learning. 4(1), 1–23.

Ruiz-Mallén, I., & Heras, M. (2020). What sustainability? Higher Education Institutions' pathways to reach the Agenda 2030 goals. Sustainability (Switzerland), 12(4), 1290. https://doi.org/10.3390/su12041290

Rukin, S. P. (2019). Metodologi penelitian kualitatif. Yayasan Ahmar Cendekia Indonesia.

Sampe, J., Maknun, T., & Iswary, E. (2022). Dimensi Praksis Sosial Leksikon Flora dalam Kada Tominaa pada Acara Ma'bua' Suku Toraja Analisis Ekolinguistik. Gema Wiralodra, 13(2), 858–882. https://doi.org/10.31943/gw.v13i2.344

Sampe, N., Kerja, E., Muda, G., & Utara, T. (2013). Naomi Sampe, Ethos Kerja Generasi Muda Toraja Utara, (Tana Toraja: Penelitian Reguler, UPPM ST AKN Toraja 2011), 57 1 1. 1–10.

Saputra, L. E. (2022). Model Integrasi Kurikulum Pembelajaran Pendidikan Agama Islam di SMK IT Al-Husna Lebong. Jurnal Ilmiah Mandala Education, 8(2), 1255–1259. https://doi.org/10.36312/jime.v8i2.2982

SEMETSKY, I. (2010). Ecoliteracy and Dewey's educational philosophy: implications for future leaders. Foresight, 12(1), 31–44.

Soon, J. P., Lanlan, P., Ji, Y., Luo, J., Yuen, P. K., & Donghui, X. (2025). Big data assisted eco-learning environment framework for inclusive education. International Journal of Advances in Applied Sciences, 14(1), 200–208. https://doi.org/10.11591/ijaas.v14.i1.pp200-208

Sugiyono. (2013). Metode penelitian pendidikan pendekatan kuantitatif, kualitatif dan R&D.

Suradi, A. (2018). Pendidikan Berbasis Multikultural dalam Pelestarian Kebudayaan Lokal Nusantara di Era Globalisasi. Jupiis: Jurnal Pendidikan Ilmu-Ilmu Sosial, 10(1), 77. https://doi.org/10.24114/jupiis.v10i1.8831

Tammu, R. G., Limbongan, M. E., Palimbong, S. M., Sappode, C., & Patiung, J. (2023). Pelestarian Budaya Melalui Pemberdayaan Perempuan dalam Manajemen Usaha dan Digitalisasi Pemasaran Kain Tenun Asli Toraja. I-Com: Indonesian Community Journal, 3(4), 2019–2026.

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https://doi.org/10.33379/icom.v3i4.3496

Tandiara, T. (2023). Pemanfaatan Bambu (Bambusa Sp) Di Sekitar Kawasan Wisata Bambu To'kumila' Lembang Tonga' Riu Kecamatan Sesean Suloara Kabupaten Toraja Utara.

Tandipau, A., Verra Tumangkeng, J., & Umboh, S. I. (2024). Eksplorasi Konsep Fisika Dari Kearifan Lokal Tarian Toraja Pa'Gellu Menggunakan Model Inkuiri Terbimbing Exploration of Physics Concepts From the Local Wisdom of Toraja Pa'Gellu Dance Using Guided Inquiry Model. Soscied, 7(1), 120–129.

Tika Pustika Fersari, & Amirrudin Muhammad. (2025). Integration of Health Education and Character Building in Children through Ecoliteracy Learning: A Multiple Case Study in Early Childhood Education. Journal of Early Childhood Education Perspectives, 1(2), 78–90. https://doi.org/10.64850/jecep.v1i2.159

Xiong, Z., Song, Y., & Zhu, R. (2025). Pedagogical Strategies for Teaching Environmental Literacy in Secondary School Education: A Systematic Review. Sustainability (Switzerland), 17(20), 1–23. https://doi.org/10.3390/su17209104

Yasida, K. S. (2020). Eco-Pedagogy. Historika, 23(1), 70–79.

Yin, R. K. (2022). Studi Kasus, Desain dan Metode (MD Mudzakir, Trans.). Rajawali Pers.

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