

Environmental Conservation Values in an Early Childhood Curriculum Document: A Qualitative Content Analysis

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ABSTRACT

Environmental conservation should be introduced in early childhood education through curriculum design, as curriculum documents shape children's learning experiences and value development. However, previous studies have primarily examined environmental education in classroom practice, with limited attention to how conservation values are represented within curriculum documents. This study aims to analyze the representation of environmental conservation values in an early childhood curriculum using four analytical dimensions: preservation, maintenance, management, and protection. This study employed a qualitative content analysis of one internal curriculum document from Ar Nature School. The document was analyzed through repeated reading, open coding, and deductive categorization. After removing repetitive and non-analytical content, 31 meaningful textual segments were identified and coded into four conservation dimensions. Analytical credibility was enhanced through iterative coding, constant comparison, analytical memos, and an audit trail. The findings reveal that conservation values are systematically embedded across the curriculum's four learning pillars—Morals, Leadership, Logical Thinking, and Business—despite the absence of explicit conservation terminology. Preservation and protection dominate the Morals pillar, maintenance characterizes Leadership, preservation and management are emphasized in Logical Thinking, and management is most prominent in the Business pillar. Together, these dimensions form an integrated ecological value system embedded in daily learning experiences. The curriculum promotes environmental conservation implicitly through moral development, experiential learning, and nature-based activities. This study contributes a four-dimensional analytical framework for examining conservation values in early childhood curriculum documents and highlights the importance of explicitly incorporating conservation terminology and ecological learning indicators to strengthen Education for Sustainable Development (ESD) implementation.

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1. INTRODUCTION

Environmental conservation education in early childhood requires careful examination at the curriculum-document level, as curriculum texts function as the primary conceptual foundation guiding daily learning practices. At this developmental stage, children are in a golden phase of cognitive and affective growth, making early childhood education strategically positioned to instill basic life values, including environmental concern, through habituation and exploratory activities (Okay et al., 2022). (Rohimah et al., 2024) emphasizes that curriculum serves not only as a guide for instructional activities, but also as a reflection of educational values embedded in schooling practices that shape learners' attitudes and behaviors toward sustainable living. In nature-based early childhood institutions, conservation values are often embedded implicitly through value orientation, habituation, and experiential learning rather than articulated through explicit environmental terminology. Therefore, curriculum design plays a crucial role in aligning educational practices with conservation values (Setyaningrum et al., 2024), and document analysis becomes a critical methodological approach to uncover how these values are constructed, emphasized, and distributed within curriculum design.

Environmental conservation education for early childhood is a crucial aspect that requires in-depth analysis within the context of curriculum implementation. A more in-depth review of early childhood education curriculum documents reveals that conservation values emerge not only through nature exploration and cleanliness activities but also have the potential to be embedded through environmental literacy and sustainable learning concepts (Mukhlis et al., 2024). Although the importance of conservation education is increasingly recognized, recent research indicates that environmental literacy in early childhood remains relatively low (Dini, 2022).

This study is situated within the specific context of one internal curriculum document from Ar Nature School, a nature-based early childhood institution that implements a four-pillar curriculum framework. Early childhood experiences with nature influence lifelong environmental attitudes, making it critical that environmental values are integrated early in educational frameworks (Broom, 2017). consisting of Akhlak (Morality), Leadership, Logic, and Business. The curriculum emphasizes children's developmental characteristics during the golden age, positioning children as active learners and teachers as facilitators, with learning implemented through play, role modeling, joy, and direct experience in natural and social environments. The document is presented in concise tables and bullet points outlining value focus, learning emphasis, methods, habituation, and environmental settings across PG, TK A, and TK B levels.

Although the curriculum does not explicitly employ the term environmental conservation, a preliminary reading of the document indicates that values related to caring for nature, maintaining cleanliness, healthy living habits, exploration of the natural environment, and responsible use of resources are embedded across the four pillars. For example, the Akhlak pillar emphasizes gratitude, cleanliness, and care as expressions of moral and spiritual values; the Leadership pillar highlights responsibility, empathy, and shared roles in daily life; the Logic pillar promotes observation, exploration, and learning from natural phenomena; and the Business pillar stresses healthy, orderly, and consistent life patterns. These orientations suggest the presence of conservation values that warrant systematic analysis.

Previous studies have highlighted that environmental education in early childhood often emerges through daily routines, nature exploration, and value habituation rather than formal instruction. However, research also shows that environmental literacy among young children remains relatively low, indicating a possible gap between embedded curriculum intentions and the explicit articulation of conservation concepts. Moreover, existing studies tend to discuss conservation as a general concept, without distinguishing its specific dimensions or examining how these dimensions are represented within curriculum texts.

In response to this gap, this study conceptualizes environmental conservation through four analytical dimensions preservation, maintenance, management, and protection and examines how

these dimensions appear explicitly or implicitly within the AR Nature Kindergarten curriculum document. The focus is not on curriculum implementation outcomes, but on how conservation values are constructed at the curriculum design level.

Ecological literacy (ecoliteracy) refers to children's early understanding of the relationship between humans and the natural environment, as reflected in curriculum content that promotes nature observation, responsible resource use, environmental care habits, and reflection on natural phenomena. Within curriculum analysis, ecoliteracy is identified through learning activities, value statements, and thematic emphases that encourage awareness of environmental cause-effect relationships. *Education for Sustainable Development (ESD)* in early childhood emphasizes the integration of environmental, social, and moral dimensions of sustainability into developmentally appropriate learning experiences. In curriculum design, ESD is important because it ensures that sustainability values are embedded across learning goals, pedagogical approaches, and daily practices, rather than treated as isolated topics.

Environmental conservation refers to efforts to preserve, protect, and sustainably manage natural resources. According to UNESCO, early environmental education is crucial for fostering children's ecological awareness (Mukhlis et al., 2024). It is crucial to teach children that nature is a vital aspect of life and must be valued and preserved (Nabila., 2023). In early childhood education, conservation values can be incorporated into early childhood education through daily hygiene routines, contextual learning, and nature-based play activities (Widiyati & Rosini, 2025). A good curriculum not only teaches knowledge about nature but also fosters environmentally conscious attitudes and behaviors. This idea is supported by Piaget's constructivist learning theory, which states that children learn from direct experience and reflection on interactions with their surroundings (Mandar, 2025).

Environmental conservation in the context of education is rooted in the theory of sustainable education or Education for Sustainable Development/ESD which emphasizes the integration of ecological, social, and economic dimensions in the learning process. According to O'Grady, M. (2025), sustainability education serves as a transformative tool that enables students to understand the interdependence of humans and the environment and develop the ability to make responsible decisions about natural resources. Conservation education not only teaches environmental information but also fosters ecological ethics, critical thinking skills, and active participation in maintaining the sustainability of life (Junaidi & Utama, 2025). Therefore, through a comprehensive learning process, conservation education strategically shapes students' ecological awareness and encourages accountability and practical action towards sustainable environmental conservation.

Education plays a crucial role in instilling environmental awareness from an early age. Conceptually, the conservation content of the curriculum encompasses various principles and activities, including energy conservation, Rieckmann, M., & Barth, M. (2022). The integration of these values is expected to foster ecological literacy from an early age. Ecological literacy, according to Murray & Poto. (2024), is the capacity to understand the fundamentals of ecosystems and apply them in everyday life, including the knowledge that human survival depends on the balance of nature. Every aspect of the curriculum, such as objectives, content, techniques, and evaluation, must be carefully planned so that students can internalize conservation principles through meaningful learning experiences (Rahayu et al., 2022). Thus, a curriculum focused on sustainability can truly foster environmentally conscious behavior and a deep ecological awareness.

In the context of learning, according to Bronfenbrenner's (1979) ecological theory developed by (Purwanti, 2017), systemic interactions between humans and their environment, both at home, at school, and in the community, shape environmentally conscious behavior within the framework of the learning curriculum, which functions as a microsystem that influences children's understanding and interaction with nature (Wakhidah & Erman, 2025). When conservation content is consistently integrated, children learn to see basic tasks such as watering plants, sorting waste, or saving water as part of ecological tasks. This is in line with research by Li et al. (2024), which showed that pro-environmental attitudes in preschoolers are greatly enhanced by learning activities that promote empathy with nature.

Therefore, environmentally oriented learning can help children develop good habits to maintain the balance of nature from an early age and increase their ecological awareness.

In addition to ecological theory, a humanistic approach is also relevant in conservation education. It emphasizes the importance of humanizing children's learning by providing them with opportunities to reflect on their surroundings and have personal experiences (Virskya et al., 2025). In the context of conservation, this means that the curriculum should provide children with opportunities to use artistic media such as role-playing, storytelling, or drawing to convey their emotions, ideas, and thoughts about nature (Yang et al., 2022). These emotional experiences have been shown to strengthen children's attachment to nature and foster ecological responsibility (Cho et al., 2025). Essentially, a humanistic approach encourages children's personal involvement, allowing environmental values to develop naturally and meaningfully.

Another theory supporting the importance of conservation content is Kolb's (1984) experiential learning theory, which emphasizes four stages of learning: concrete experience, reflection, conceptualization, and application (Morris, 2020). This cycle can be implemented in environmental education through environmental or nature observation activities, reforestation projects, or conservation activities (Turasih et al., 2024). Compared with traditional lecture techniques, experiential learning in nature can enhance children's understanding of sustainability concepts and reinforce positive ecological behaviors (Fasling et al., 2025). Consistent with these findings, children's active participation is encouraged by an experiential approach, which enhances the development of environmental awareness and action.

2. METHODS

This study employed qualitative content analysis (QCA) to examine how environmental conservation values are represented within an early childhood education curriculum document. Rather than evaluating curriculum implementation, the study focused on identifying and interpreting conservation values embedded in curriculum design through systematic analysis of textual content.

2.1 Data Source

The data consisted of one internal curriculum document developed by AR Nature School, a nature-based early childhood education institution. The curriculum is organized into four learning pillars: Morals, Leadership, Logical Thinking, and Business, and includes learning objectives, value statements, learning activities, habituation practices, teaching methods, and descriptions of learning environments. Permission to access and analyze the document was obtained from the institution, and all institutional information was treated confidentially.

2.2 Unit of Analysis

The unit of analysis comprised meaningful textual segments related to environmental learning, including learning objectives, value statements, descriptions of learning activities, habituation practices, and environmental settings. Administrative information, duplicated statements, and structural elements without analytical relevance were excluded. After removing repetitive statements across curriculum levels (Playgroup, Kindergarten A, and Kindergarten B), 31 meaningful textual segments were retained for analysis.

2.3 Data Analysis

Data analysis followed a systematic qualitative content analysis procedure adapted from Schreier (2012). First, the curriculum document was read repeatedly to gain a holistic understanding of its educational orientation while analytical memos were recorded throughout the reading process. Second, meaningful textual segments related to environmental learning were identified and extracted as the

unit of analysis. Administrative information, duplicated statements, and curriculum formatting elements were excluded.

Third, open coding was conducted line by line to identify the underlying environmental meanings represented within each textual segment. Rather than coding isolated words, coding focused on the educational intention reflected in each curriculum statement. Initial codes included concepts such as environmental cleanliness, gratitude for nature, caring for plants, responsibility, cooperation, observation of natural phenomena, healthy lifestyles, recycling, and resource utilization.

Fourth, the initial codes were compared continuously using constant comparison techniques to identify conceptual similarities and differences. Similar codes were merged into broader conceptual groups before being classified deductively into four predefined conservation dimensions: preservation, maintenance, management, and protection. Classification was based on the dominant conservation function represented by each segment rather than on the occurrence of specific keywords.

Finally, coded segments were compared across the four curriculum pillars to examine how different conservation dimensions were distributed throughout the curriculum structure. Interpretations were developed iteratively through repeated comparison between coded data, analytical memos, and category definitions until conceptual consistency was achieved.

Table 1. Example of the Coding Process Used in the Qualitative Content Analysis

Curriculum Text	Initial Code	Analytical Meaning	Conservation Category
Children express gratitude for nature and God's creation.	gratitude for nature	Appreciation of natural environment as a value to be sustained	Preservation
Children participate in cleaning classrooms and school surroundings.	environmental cleanliness	Preventing environmental degradation through daily habits	Protection
Children water plants and care for school gardens.	plant care	Maintaining the continuity of living organisms	Maintenance
Children observe insects, plants, and natural phenomena during outdoor learning.	nature observation	Learning ecological relationships through direct exploration	Preservation
Children use recycled and natural materials in creative activities.	resource utilization	Responsible and sustainable use of environmental resources	Management
Children organize learning materials and use resources efficiently.	efficient resource use	Managing available resources responsibly	Management
Children work collaboratively to maintain shared learning spaces.	shared responsibility	Collective responsibility for environmental care	Maintenance

2.4 Trustworthiness

Several strategies were employed to enhance the trustworthiness of the analysis. Credibility was strengthened through repeated reading of the curriculum document, iterative coding, and constant comparison between coded segments and the original curriculum text. Analytical memos were maintained throughout the coding process to document emerging interpretations and coding decisions.

Dependability was supported by maintaining a comprehensive audit trail consisting of coding notes, category definitions, analytical memos, and records of coding revisions. This documentation ensured transparency and consistency throughout the analytical process.

Confirmability was enhanced by continuously comparing interpretations with the original curriculum content to ensure that analytical categories remained grounded in the data rather than the researcher's assumptions. Because the study analyzed a single institutional curriculum document, peer

review of category definitions was conducted through regular consultation with the research supervisors during the coding process to refine conceptual consistency and minimize subjective bias.

To preserve institutional confidentiality, all curriculum excerpts presented in this article were paraphrased while retaining their original educational meaning. Each paraphrased segment remained linked to its original curriculum statement through an internal coding matrix, ensuring analytical traceability without revealing confidential institutional information.

3. FINDINGS AND DISCUSSION

3.1 Findings

3.1.1 Distribution of Environmental Conservation Values Across Curriculum Pillars

Qualitative content analysis identified 31 meaningful textual segments representing environmental conservation after administrative information and repetitive statements across the Playgroup, Kindergarten A, and Kindergarten B curriculum levels were removed. These segments were distributed across the four curriculum pillars: Morals (9 segments), Leadership (7 segments), Logical Thinking (9 segments), and Business (6 segments). Open coding and deductive categorization classified the segments into four conservation dimensions: preservation, maintenance, management, and protection. Rather than appearing as an independent curriculum topic, conservation values were integrated into learning objectives, habituation practices, learning activities, and descriptions of children's interactions with their physical and social environments.

Table 1. Distribution of Environmental Conservation Values Across Curriculum Pillars

Curriculum Pillar	Representative Environmental Values	Dominant Conservation Dimensions
Morals	Gratitude for nature, cleanliness, caring for plants, respect for living things	Preservation, Protection
Leadership	Cooperation, shared responsibility, empathy, environmental participation	Maintenance, Protection
Logical Thinking	Nature observation, exploration, scientific inquiry, use of natural materials	Preservation, Management
Business	Resource efficiency, recycling, healthy lifestyle, environmentally friendly entrepreneurship	Management, Maintenance

The distribution indicates that each curriculum pillar contributes differently to children's environmental learning. While the conservation dimensions overlap across pillars, each learning domain emphasizes different aspects of ecological responsibility according to its educational focus.

3.1.2 Conservation Values within the Morals Pillar

Nine meaningful segments were identified within the Morals pillar, with preservation and protection emerging as the dominant conservation dimensions. Environmental conservation was represented primarily through value-oriented learning experiences emphasizing gratitude for nature, personal and environmental cleanliness, care for plants, and respect for living organisms. For example, one curriculum statement encourages children to express gratitude for natural resources through everyday routines, whereas another promotes maintaining classroom cleanliness as part of moral responsibility. These segments were coded respectively as preservation and protection because they encourage appreciation of nature while preventing environmental degradation through daily habits.

Collectively, the findings indicate that conservation within the Morals pillar is embedded primarily through moral habituation rather than through explicit environmental instruction.

3.1.3 Conservation Values within the Leadership Pillar

Seven meaningful segments were identified within the Leadership pillar. The coding results show that maintenance constitutes the dominant conservation dimension, accompanied by several instances of protection. Environmental conservation is represented through collaborative activities encouraging children to share responsibility for maintaining classroom and school environments, participate in collective routines, and demonstrate empathy toward others and their surroundings. Representative curriculum statements describe children's participation in maintaining shared learning spaces and completing environmental responsibilities together. These activities were categorized as maintenance because they emphasize continuous care for common environments, while elements promoting responsible behaviour that prevents environmental deterioration were classified as protection. The findings suggest that conservation is represented as a collective social responsibility embedded within children's everyday interactions.

3.1.4 Conservation Values within the Logical Thinking Pillar

Nine meaningful segments were identified within the Logical Thinking pillar. Preservation and management emerged as the dominant conservation dimensions. Environmental learning was represented through activities involving observation of plants and animals, exploration of natural phenomena, simple scientific investigations, and the use of natural materials during learning. For instance, curriculum statements encourage children to observe living organisms directly and investigate relationships between natural objects in their surroundings. Other activities involve using natural or recycled materials during exploratory learning. These segments were coded as preservation because they promote appreciation of nature through direct experience, whereas activities emphasizing the purposeful use of environmental resources were categorized as management. Overall, the findings indicate that environmental conservation is represented through inquiry-based engagement with nature and responsible resource use.

3.1.5 Conservation Values within the Business Pillar

Six meaningful segments were identified within the Business pillar, with management emerging as the dominant conservation dimension. Environmental conservation was represented through activities promoting efficient resource utilization, recycling, healthy lifestyles, and entrepreneurial experiences using environmentally friendly materials. Representative curriculum statements describe children's involvement in organizing learning materials efficiently and utilizing recycled or natural resources for productive activities. These segments were coded as management because they emphasize responsible decision-making regarding environmental resources. Several activities were also categorized as maintenance because they encourage children to sustain healthy and orderly environmental practices. The findings indicate that conservation within this pillar focuses primarily on developing responsible habits related to resource management in everyday life.

3.2 Discussion

The findings demonstrate that environmental conservation is systematically embedded throughout the curriculum despite the absence of explicit conservation terminology. Rather than functioning as an independent learning area, conservation values are integrated across the four curriculum pillars through moral development, social interaction, scientific inquiry, and everyday life practices. This finding suggests that environmental education within the curriculum operates as an implicit ecological curriculum, in which environmental values are developed through repeated experiences, habituation, and value-oriented learning rather than through direct instruction. Such an

approach is consistent with contemporary perspectives on early childhood sustainability education, which emphasize that young children construct environmental understanding through meaningful participation in everyday activities rather than through abstract environmental concepts (Mukhlis et al., 2024).

The unequal distribution of conservation dimensions across the four curriculum pillars reflects the distinct educational purposes assigned to each learning domain. The Morals pillar emphasizes ethical development, making preservation and protection particularly prominent because environmental responsibility is introduced through gratitude, care, and respectful behaviour toward nature. In contrast, the Leadership pillar prioritizes children's participation within social communities, explaining the dominance of maintenance through collaborative responsibility for shared environments. The Logical Thinking pillar encourages inquiry, observation, and exploration of natural phenomena, thereby integrating preservation with responsible resource management. Meanwhile, the Business pillar emphasizes everyday life skills and entrepreneurship, resulting in management becoming the dominant conservation dimension through activities involving efficient resource use, recycling, and environmentally responsible practices. These patterns indicate that conservation is pedagogically differentiated according to the developmental objectives of each curriculum domain rather than being uniformly distributed across the curriculum.

From a curriculum studies perspective, these findings suggest that environmental conservation should be understood not merely as curriculum content but as an organizing principle that shapes the overall educational philosophy. The curriculum does not position environmental education as a separate subject; instead, ecological values are embedded within learning objectives, pedagogical approaches, and children's daily experiences. Consequently, the curriculum communicates sustainability through the structure of learning itself rather than through explicit environmental themes. This finding reinforces the view that curriculum documents function simultaneously as pedagogical guides and value-laden educational texts that shape children's dispositions toward environmental responsibility (Rohimah et al., 2024). The study therefore extends existing curriculum literature by demonstrating that curriculum coherence for sustainability depends not only on the inclusion of environmental topics but also on the systematic organization of ecological values across learning domains.

The findings also contribute to the development of ecological literacy (ecoliteracy) theory. Previous studies generally describe ecoliteracy as children's understanding of relationships between humans and nature developed through direct environmental experiences (Murray & Poto, 2024). The present study suggests that ecological literacy may also emerge through implicit curriculum structures that repeatedly expose children to environmental values within everyday educational experiences. Activities related to gratitude, cooperation, responsibility, observation, and resource use collectively foster children's ecological awareness without requiring environmental concepts to be taught explicitly. This perspective expands current interpretations of ecoliteracy by emphasizing curriculum organization as an important mechanism through which ecological understanding develops during early childhood.

Similarly, the findings extend the application of Education for Sustainable Development (ESD) within early childhood curriculum design. Rather than conceptualizing sustainability as a separate curricular theme, the curriculum operationalizes sustainability through the integration of moral, cognitive, social, and practical learning experiences. Such cross-curricular integration reflects one of the central principles of ESD, namely that sustainability should permeate educational goals, pedagogical approaches, and everyday practices instead of being confined to environmental lessons (Rieckmann & Barth, 2022). The findings therefore suggest that sustainability-oriented curriculum design can be achieved through curriculum architecture, in which conservation values become embedded educational principles guiding children's holistic development.

An important theoretical contribution of this study lies in conceptualizing environmental conservation as four interconnected yet analytically distinct dimensions: preservation, maintenance,

management, and protection. Previous studies have generally discussed environmental conservation as a broad educational concept without differentiating the functional roles through which conservation values are represented in curriculum documents. The present framework demonstrates that each dimension contributes differently to children's ecological development. Preservation emphasizes appreciation and continuity of nature; maintenance promotes sustained environmental care through daily routines; management develops responsible resource utilization; and protection encourages preventive actions against environmental degradation. Distinguishing these dimensions provides greater conceptual precision for analysing curriculum documents and offers a transferable analytical framework that may be applied in comparative curriculum studies across different educational contexts.

Interestingly, the findings also suggest that differences in children's environmental learning may not necessarily originate from curriculum content alone but from the ways teachers interpret and enact curriculum intentions. Although conservation values are consistently embedded throughout the curriculum, their implicit nature may lead to varying pedagogical interpretations and classroom implementation. This observation highlights the importance of making ecological learning intentions more explicit through conservation terminology, environmental learning indicators, and assessment criteria without altering the curriculum's experiential and nature-based philosophy. Greater conceptual clarity would strengthen curriculum coherence while supporting more consistent implementation of sustainability education across classrooms.

Collectively, these findings indicate that environmental conservation in early childhood curriculum should be understood as an integrated ecological value system rather than as a collection of isolated environmental activities. By shifting the focus from identifying the presence of environmental content toward examining how conservation values are conceptually organized within curriculum structures, this study provides a theoretical foundation for future research on sustainability-oriented curriculum design. Future comparative studies across different curriculum models and sociocultural contexts may further examine whether the four dimensions of preservation, maintenance, management, and protection represent transferable analytical categories or whether additional dimensions emerge in other educational settings.

3 CONCLUSION

This study demonstrates that environmental conservation values are systematically embedded within the AR Nature School curriculum despite the absence of explicit conservation terminology. Through qualitative content analysis, the curriculum was found to represent conservation through four interconnected dimensions—preservation, maintenance, management, and protection—distributed across the four learning pillars. These findings indicate that environmental conservation functions as an integrated ecological value system embedded in moral development, social responsibility, scientific inquiry, and everyday learning experiences rather than as an isolated curriculum topic.

The primary contribution of this study is the development of a four-dimensional analytical framework for examining environmental conservation within early childhood curriculum documents. This framework extends existing discussions of environmental education by providing a more conceptually precise approach to analysing how conservation values are organized across curriculum structures. The findings also suggest that sustainability-oriented curriculum design can be strengthened by explicitly incorporating conservation terminology, ecological learning indicators, and assessment criteria while maintaining child-centred and nature-based pedagogical approaches.

This study is limited to the analysis of a single institutional curriculum document and therefore does not examine variations across different curriculum models or the implementation of curriculum intentions in classroom practice. Future research should apply the proposed analytical framework to diverse early childhood curricula and investigate how curriculum representations of conservation

influence teachers' pedagogical practices and children's ecological literacy in different educational contexts.

REFERENCES

- Broom, C. (2017). Exploring the Relations Between Childhood Experiences in Nature and Young Adults' Environmental Attitudes and Behaviours. *Australian Journal of Environmental Education*, 33(1), 34–47. <https://doi.org/10.1017/aee.2017.1>
- Cho, H. J., Jo, J. H., Shin, S., & Choi, M. S. (2025). How Are Mother's And Child's Connectedness To Nature Related? Indirect Effects Of Mother–Child Engagement In Pro-Environmental Activities And Time Spent In Nature. *Early Child Development And Care*, 195(13-14), 1398-1413.
- Dini, J. P. A. U. (2022). Kepedulian Lingkungan melalui Literasi Lingkungan pada Anak Usia Dini. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 6(6), 6690-6700.
- Fanni Virskya, A., Hanna Fazira, N., Dzikrina, N. M., Dilla Kusuma Putri, S., & Muhtarom, T. (2025). Menciptakan Generasi Peduli Lingkungan Melalui Pendidikan Di Sekolah Alam Dengan Metode Experiential Learning (Belajar Melalui Pengalaman) Di Sd It Alam Nurul Islam. *Jurnal Pendidikan, Sosial Dan Humaniora*, 4(2), 1561-1567.
- Fasting, M. L., Høyem, J., & Ergler, C. (2025). Sustainability As a Relational Value In Early Childhood- The Power Of Nature Play, Joy And Local Place Identity. *Journal Of Outdoor And Environmental Education*, 1-20.
- Li, Y., Zhao, Y., Huang, Q., Deng, J., Deng, X., & Li, J. (2024). Empathy With Nature Promotes Pro-Environmental Attitudes In Preschool Children. *Psych Journal*, 13(4), 598-607.
- Mukhlis, A., Elvira, M., & Santoso, S. T. P. (2024). An Environmental Education Learning Model For Early Childhood: Achieving Sustainable Development. *Al-Athfal Jurnal Pendidikan Anak*, 10(1), 19-35.
- Mandar, Y. (2025). Implementasi Teori Konstruktivisme Dalam Pai: Kajian Teori Jean Piaget Dan Jerome Bruner. *Raudhah Proud To Be Professionals: Jurnal Tarbiyah Islamiyah*, 10(1), 223-237.
- Murray, E. M., & Poto, M. P. (2024). Ecological literacy: theory and practice. In *Emotional and Ecological Literacy for a More Sustainable Society* (pp. 23-49). Cham: Springer Nature Switzerland.
- Morris, T. H. (2020). Experiential Learning—a Systematic Review And Revision Of Kolb's Model. *Interactive Learning Environments*, 28(8), 1064-1077.
- Nabila, S. U. (2023). Pembiasaan Nilai-Nilai Kepedulian Lingkungan Pada Anak Usia Dini Melalui Prinsip Pembelajaran. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*.
- Okyay, Ö., Sayin, A., DemİR, Z., & ÖzdemİR, K. (2022). The Impact Of Ecological Literacy Training On Environmental Awareness And Attitudes Of Pre-School Childrens Ekolojik Okuryazarlık Eğİtİmİnİn Okul Öncesi Çocukların Çevreye YönelİK Farkındalık Ve Tutumlarına Etkİsİ. *Milli Eğitim*, 51(236).
- O'Grady, M. (2025). Transformative Education For Sustainable Development: A Faculty Perspective. *Environment, Development And Sustainability*, 27(9), 20745-20761.
- Rahayu, W. I., Najiah, M., & Nulhakim, L. (2022). Komponen Kurikulum, Model Pengembangan Kurikulum. *Jurnal Pendidikan Dan Konseling (Jpdk)*, 4(6), 9056-9062.
- Rohmah, L. (2024). Implementasi Kurikulum Berbasis Education For Sustainable Development (ESD) Di SDIT Internasional Luqman Hakim Yogyakarta. *Al-Bidayah : Jurnal Pendidikan Dasar Islam*, 6(2). <https://doi.org/10.14421/al-bidayah.v6i2.9048>
- Rohimah, S. M., Mahmud, M. R., & Fazriyah, N. (2024). Epistemological Review of the Merdeka Curriculum in Elementary Schools: Relevance to the Axiological Values of the Sdgs. *Literate: International Journal Of Social Science And Humanities*, 3(2), 211-229.
- Rieckmann, M., & Barth, M. (2022). Educators' Competence Frameworks In Education For Sustainable Development. In *Competences In Education For Sustainable Development: Critical Perspectives* (Pp. 19-26). Cham: Springer International Publishing.

- Setyaningrum, M. (2023). Environmental Resistance Materials In Paud Merdeka Curriculum Project Modules. *Jurnal Anifa Studi Gender Dan Anak*, 5(1-24), 107-117.
- Turasih, T., Surkanti, H. K., & Riandi, R. (2024). Field Trips (Outdoor Learning) Untuk Melatih Berpikir Kritis Dan Peduli Lingkungan Pada Materi Perubahan Lingkungan: Literature Review. *Jurnal Pendidikan Matematika Dan Sains*, 12(1), 22-35.
- Utama, A. A. (2025). Penerapan Pendidikan Konservasi Untuk Menumbuhkan Karakter Peduli Lingkungan Pada Siswa Sekolah Dasar. *Jurnal Tambora*, 9(2), 68-73.
- Widiyati, D., Rosini, I., & Nofryanti, N. (2025). Mendidik Untuk Keberlanjutan: Menanamkan Nilai-Nilai Keberlanjutan Sejak Usia Dini. *Jurnal Pengabdian Masyarakat Bangsa*, 3(8), 4148-4156.
- Yang, B., Wu, N., Tong, Z., & Sun, Y. (2022). Narrative-Based Environmental Education Improves Environmental Awareness And Environmental Attitudes In Children Aged 6–8. *International Journal Of Environmental Research And Public Health*, 19(11), 6483.