

Ecotheology-Based Transformation of Islamic Religious Education to Develop Students' Eco-Spiritual Literacy

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Abstract

This study investigates the transformation of Islamic Religious Education (IRE) through an ecotheological approach to foster students' eco-spiritual literacy. Environmental degradation and climate change call for educational innovations that integrate ecological awareness with religious and moral values. However, IRE has generally emphasized cognitive and spiritual dimensions while giving limited attention to environmental responsibility as an integral component of Islamic teaching. This study used a qualitative case study design involving the school principal, IRE teachers, the curriculum coordinator, and students selected through purposive sampling. Data were collected through in-depth interviews, classroom observations, and document analysis, and were analyzed using Miles, Huberman, and Saldaña's interactive model, comprising data condensation, data display, and conclusion drawing and verification. The findings show that ecotheology-based IRE transforms the learning process by integrating the principles of tawhid, khalifah fil ardh, amanah, *mīzān*, and ihsān into learning objectives, instructional strategies, learning activities, and assessment. This transformation strengthens students' eco-spiritual literacy across five interconnected dimensions: ecological knowledge, ecological awareness, ecological ethics, ecological responsibility, and ecological action. The study also proposes a Transformative Ecotheological Islamic Religious Education Model comprising value internalization, theological reflection, ecological experience, collaborative environmental action, and continuous reflection. The model contributes to the development of IRE by integrating ecotheological values with transformative learning and Education for Sustainable Development (ESD). The findings offer practical guidance for teachers and curriculum developers in designing learning experiences that promote environmental stewardship, spiritual awareness, and sustainable development through Islamic education.

Keywords: Islamic Religious Education; Ecotheology; Eco-Spiritual Literacy; Transformative Learning; Education for Sustainable Development (ESD).



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INTRODUCTION

Climate change, environmental degradation, biodiversity loss, water and air pollution, and the excessive exploitation of natural resources have become global challenges that threaten the sustainability of human life (Putro et al. 2024). Various international reports indicate that the environmental crisis is no longer merely an ecological issue; it has also become a social, economic, cultural, and even spiritual concern. This situation has encouraged many countries to integrate the principles of sustainable development, particularly Education for Sustainable Development (ESD), into their education systems in order to cultivate a generation with the awareness, responsibility, and capacity to safeguard environmental sustainability (Vioresa, Hilyati, and Lasminingsih 2023). Education is therefore no longer oriented solely toward improving academic competence, but also toward developing ecological character capable of responding comprehensively to global challenges. The global environmental crisis has become one of the most complex challenges of the twenty-first century. Climate change, ecosystem degradation, biodiversity loss, water and air pollution, and uncontrolled exploitation of natural resources have produced multidimensional effects on human life. These problems are no longer viewed solely as ecological issues, but are also associated with social, economic, cultural, ethical, and spiritual dimensions. Consequently, international organizations have promoted the implementation of Education for Sustainable Development (ESD) as an educational paradigm that equips students with the knowledge, skills, values, and behaviors needed to support the sustainability of life. Education is expected not only to produce academically competent individuals, but also responsible global citizens committed to environmental preservation.

In Indonesia, the direction of education policy toward sustainable development has been strengthened through the implementation of the Merdeka Curriculum, which emphasizes contextual learning, character development, and project-based learning (Mairisiska, Haryanto, and Kusayang 2026). Through the Pancasila Student Profile Strengthening Project (P5), schools are encouraged to cultivate environmental awareness as part of students' character formation. Nevertheless, the implementation of environmental education in schools still tends to focus on cognitive aspects and ecological behavior, while the spiritual dimension as an ethical foundation for the human–nature relationship has not yet been optimally integrated. As a result, environmental care is often understood as a social obligation rather than as an expression of religious responsibility. From an Islamic perspective, human beings are positioned as *khalifah fil ardh* and entrusted with maintaining balance (*mīzān*), avoiding destruction (*fasād*), and using natural resources responsibly (Nisa 2026). These values underpin the development of Islamic ecotheology, a theological perspective that regards environmental preservation as part of the implementation of *tawhid*, *amanah*, and moral conduct toward all of Allah's creation. Accordingly, the relationship between humans and nature should not be exploitative, but should instead be founded on moral and spiritual responsibility. Integrating these values into education is expected to develop students who not only understand the importance of environmental protection, but also regard it as an act of worship.

Islamic Religious Education (IRE) occupies a strategic position in internalizing these values because its principal aim is not only to develop students' religious cognition, but also to shape their character, morality, and behavior. However, the practice of IRE in many educational institutions remains dominated by a normative approach oriented toward mastery of creed, worship, Islamic jurisprudence, and morality. Environmental themes are generally addressed only incidentally through discussions of Qur'anic cosmic signs or moral conduct toward nature; consequently, they have not yet produced learning experiences capable of fostering spiritually grounded ecological awareness. Over the past five years, scholarly attention to the integration of ecotheology into IRE has increased. Research on ecotheology-based religious education has shown that integrating the values of *tawhid*, *khalifah*, *amanah*, and *mīzān* into learning can strengthen students' environmental awareness (Laksono 2022). Other studies have proposed integrating ecotheology into the IRE curriculum as a new paradigm for sustainability education, so that religious learning is oriented not only toward individual religiosity but also toward ecological responsibility (Mukhsin and Alfani 2025). In addition, the concept of spiritual eco-literacy has begun to emerge as a framework connecting ecological literacy with Islamic spiritual values in responding to the climate crisis (Saparuddin 2025).

Nevertheless, a review of previous studies reveals several limitations. First, most studies continue to focus on the implementation or internalization of ecotheological values in learning without

producing a comprehensive model of learning transformation. Second, prior research has emphasized the development of environmentally responsible character or ecological awareness, whereas eco-spiritual literacy as a learning competency that integrates ecological knowledge, spirituality, ethics, reflection, and ecological action remains relatively underdeveloped. Third, most studies have employed conceptual approaches or case studies and therefore have not yet offered a learning framework that can be replicated across diverse educational contexts (Taufikin 2025).

Based on this review, the research gap addressed in this study is the absence of an IRE learning model that systematically integrates the principles of Islamic ecotheology into all components of learning from objectives, content, and strategies to learning experiences and assessment with the explicit aim of developing students' eco-spiritual literacy. Most previous studies have treated ecotheology as content or a value inserted into learning rather than as a paradigm that transforms the entire instructional design. The novelty of this study lies in the development of an Ecotheology-Based Islamic Religious Education Transformation Model that integrates five core principles *tawhid*, *khalifah fil ardh*, *amanah*, *mīzān*, and *iḥsān* toward the environment throughout the learning process to develop students' eco-spiritual literacy. Unlike earlier studies that focused on value internalization or environmentally responsible character, this study proposes a learning model that connects theological, pedagogical, and ecological dimensions within a single conceptual framework aligned with the principles of Education for Sustainable Development (ESD). The model is expected to offer a new conceptual contribution to the development of IRE while providing practical guidance for teachers in designing learning that responds to the environmental crisis.

Accordingly, this study aims to develop and analyze an ecotheology-based transformation of Islamic Religious Education for developing students' eco-spiritual literacy as a learning model capable of strengthening the integration of Islamic values and sustainability education in forming religious, ecologically responsible students who are committed to environmental preservation.

RESEARCH METHOD

Research Design

This study employed a qualitative approach with a case study design to obtain an in-depth understanding of the ecotheology-based transformation of Islamic Religious Education in developing students' eco-spiritual literacy (Alam et al. 2025). The case study design was selected because the study focused on a comprehensive exploration of learning practices within an authentic school context. This approach enabled the researchers to understand how ecotheological values were integrated into the planning, implementation, and evaluation of IRE, and how this process shaped students' spiritually grounded ecological awareness. The study was conducted at Madrasah Miftaahul Huda Kwandang, which has implemented the Merdeka Curriculum and offers learning programs that support character education and environmental awareness. Data were collected through observation, in-depth interviews, and document analysis to obtain a comprehensive account of the learning transformation process. This approach also enabled analysis of the interactions among teachers, students, the curriculum, and school culture in developing eco-spiritual literacy.

Population and Sample

In qualitative research, the terms population and sample refer to research participants who are selected purposively according to their relevance to the study objectives. Accordingly, this study used purposive sampling by considering the participants' experience, competence, and involvement in the IRE learning process. The participants comprised the school principal, IRE teachers, the vice principal for curriculum, and students enrolled in IRE classes.

Variables and Instruments

This qualitative study did not use variables in the causal sense employed in quantitative research. Instead, it focused on three primary areas of exploration: the transformation of Islamic Religious Education, the implementation of ecotheological values, and students' eco-spiritual literacy. Learning transformation was examined through lesson planning, instructional strategies, teaching methods, learning media, student learning activities, and assessment. The researcher served as the primary

instrument (human instrument) and was directly involved in all stages of the study, including data collection, data interpretation, and conclusion drawing. Supporting instruments included semi-structured interview guides, classroom observation sheets, document-analysis sheets, field notes, audio recorders, documentation cameras, and the researcher's reflective journal.

Data Analysis

Data analysis was conducted concurrently with data collection using the interactive analysis model of Miles, Huberman, and Saldaña, which comprises three main stages: data condensation, data display, and conclusion drawing and verification. During data condensation, all interview, observation, and documentation data were transcribed, coded, and grouped into themes related to the transformation of IRE, the implementation of ecotheological values, and the development of eco-spiritual literacy. The data were then displayed through matrices, category tables, thematic narratives, and conceptual models so that relationships among the findings could be understood systematically. Conclusions were subsequently drawn by interpreting the patterns, themes, intercategory relationships, and meanings that emerged from the complete dataset.

Ethical Considerations

This study was conducted in accordance with the principles of research ethics, including respect for persons, beneficence, non-maleficence, and justice. All participants received an informed-consent form before data collection began. Participation was voluntary, and each participant had the right to refuse or withdraw at any time without consequence. Participant identities were protected through the use of codes or pseudonyms in all research documents. All interview, observation, and documentation data were used solely for academic purposes and stored securely in accordance with research data-protection principles.

RESULTS AND DISCUSSION

Ecotheology-Based Transformation of Islamic Religious Education

The ecotheology-based transformation of Islamic Religious Education represents an innovative paradigm that integrates Islamic values with ecological awareness in the learning process. This approach positions the environment not merely as an object of study, but as an integral part of the religious trust that humans, as *khalifah fil ardh*, are obliged to protect and preserve. By integrating the principles of *tawhid*, *amanah*, *mīzān* (balance), and *iḥsān* toward all of Allah's creation, IRE is directed toward developing students who possess not only strong religious understanding but also eco-spiritual literacy—the ability to understand, internalize, and apply spiritual values in preserving the environment. Thus, ecotheology-based learning transformation constitutes a relevant strategy for responding to the global environmental crisis while strengthening the contribution of IRE to Education for Sustainable Development and to the formation of a religious, principled generation responsible for the sustainability of human and natural life.

The field findings indicate that the ecotheology-based transformation of Islamic Religious Education is not limited to adding content about environmental preservation; rather, it encompasses the entire set of learning components, including objectives, content, strategies, media, learning activities, and assessment. Teachers no longer position the environment as an additional theme in IRE, but as an integral expression of Islamic values. This transformation is reflected in the integration of Qur'anic verses concerning the creation of nature, the concept of *khalifah fil ardh*, *amanah*, *mīzān*, the prohibition of *fasād*, and *iḥsān* toward all living beings into learning activities. Learning is implemented through a contextual approach so that students do not study religious concepts only at a textual level, but are also encouraged to connect Islamic teachings with environmental issues encountered in daily life. Project-based learning provides opportunities for students to undertake concrete activities, such as waste management, school greening, water conservation, and environmental-awareness campaigns, as practical expressions of Islamic values.

These findings show that the ecotheology-based transformation of IRE involves a shift from knowledge-transfer-oriented instruction toward transformative learning that develops students' ecological awareness, attitudes, and actions. This perspective is consistent with Jack Mezirow's

Transformative Learning theory, which emphasizes that learning should produce a change in perspective rather than merely an increase in knowledge (Hadiningrum 2026). In this study, transformation was manifested in changes in how students perceived the relationship among humans, God, and nature as an inseparable unity. The findings also indicate that ecotheology-based learning broadens the meaning of IRE. Whereas learning was previously oriented primarily toward individual piety, the ecotheological approach extends it toward ecological piety—an awareness that environmental protection is part of the expression of faith. These findings reinforce the view that religious education plays a strategic role in supporting sustainable development by cultivating students' ecological character. Previous studies have shown that integrating environmental education into learning can improve students' ecological awareness. However, most studies have treated the environment as learning content, whereas this study demonstrates that ecotheological values can function as a paradigm that transforms the entire learning process. This study therefore offers a new perspective: IRE serves not only to develop religiosity, but also to cultivate ecological responsibility as part of the practice of Islamic teaching.

Implementation of Ecotheological Values in Islamic Religious Education

Ecotheology was implemented in learning through the integration of five principal values: tawhid, khalifah fil ardh, amanah, mīzān, and ihsān toward the environment. These five principles were systematically internalized at every stage of learning so that students experienced a connection between theological dimensions and ecological realities. Tawhid served as the principal foundation for developing an awareness that the entire universe is Allah's creation, possesses intrinsic value, and must be respected. This understanding encouraged students to view the environment not as an object of exploitation, but as a trust that must be protected. The concept of khalifah fil ardh further established that humans bear responsibility as stewards of the Earth and are obliged to maintain ecological balance. Amanah strengthened the moral dimension by emphasizing that every action toward the environment will be accountable before Allah, while mīzān taught the importance of preserving natural balance through the wise use of resources. Ihsān then became the behavioral foundation that encouraged students to perform their best actions in preserving the environment.

Integrating these values produced changes in the learning process. Teachers no longer relied solely on lectures, but facilitated critical reflection, contextual discussion, environmental observation, and collaborative projects that enabled students to experience directly the relationship between Islamic teachings and ecological responsibility. From the perspective of Islamic educational theory, this implementation is consistent with the concept of tarbiyah, an educational process intended to develop the whole human person across spiritual, intellectual, moral, social, and ecological dimensions. In addition, maqāsid al-syarī'ah provides a philosophical foundation for understanding environmental protection as part of promoting the common good (maṣlaḥah) and preventing harm (mafsadah). Ecotheology-based IRE therefore contributes not only to the development of religious character, but also to the objectives of Islamic law in safeguarding the continuity of life. Previous studies have generally emphasized the internalization of environmental values through character education or environmentally based education. The present study shows that such approaches are more effective when grounded in a strong theological foundation, so that environmental behavior emerges from spiritual awareness rather than merely compliance with social norms. The five principal values are described below.

1. Tawhid as the Foundation of Ecological Awareness

Tawhid is a fundamental Islamic principle affirming that Allah is the Creator, Owner, and Sovereign of the entire universe. In the context of IRE, tawhid provides a foundation for understanding that all living beings and the environment are Allah's creation and possess their own value and function. Humans are therefore not permitted to exploit nature or damage it for short-term interests. Tawhid is implemented through the study of Qur'anic verses that explain the creation of the universe, the order of ecosystems, and the signs of Allah's greatness (*āyāt kauniyyah*). Teachers invite students to reflect that environmental preservation is a form of devotion to Allah because caring for His creation means respecting His will and wisdom.

Environmental concern is thus understood not merely as a social obligation, but as an act of worship.

2. *Khalifah fil Ardh* as Environmental Leadership Responsibility

The concept of *khalifah fil ardh* positions human beings as Allah's representatives on Earth, with responsibility for managing, using, and preserving the environment justly and sustainably. Its implementation in learning is intended to build awareness that every individual has a role in maintaining ecological balance and preventing environmental damage. Teachers integrate the concept of stewardship through problem-based learning that addresses environmental issues in students' surroundings, such as river pollution, waste accumulation, forest destruction, and climate change. Students are encouraged to analyze the causes of environmental degradation from an Islamic perspective and to formulate solutions consistent with religious values. Through this approach, students learn that being a *khalifah* entails not only leading other people, but also taking responsibility for the continuity of all life on Earth.

3. *Amanah* as the Ethical Basis of Environmental Management

Amanah teaches that all natural resources are entrusted by Allah and must be used responsibly rather than misused. In IRE, *amanah* is integrated through the cultivation of behaviors that reflect environmental responsibility, such as conserving water, reducing single-use plastics, sorting waste, and maintaining school cleanliness. *Amanah* is also implemented through reflective activities that encourage students to evaluate their environmental behavior. Teachers facilitate discussions on the moral consequences of exploiting nature and connect them with the Islamic values of honesty, responsibility, and integrity. Students thus understand that every action toward the environment entails accountability both socially and before Allah.

4. *Mizān* as the Principle of Maintaining Ecological Balance

Mizān signifies the balance and order created by Allah throughout all systems of life. The universe operates according to laws of balance that humans must preserve. Any form of excessive exploitation therefore disrupts this balance and causes ecological damage. In learning, teachers integrate *mizān* through environmental observation, ecosystem analysis, and discussion of the relationship between human activities and changing environmental conditions. Students are encouraged to understand that the use of natural resources must consider sustainability so that future generations can enjoy the same benefits. Learning also develops systems-thinking skills, enabling students to recognize the interconnections among human behavior, natural balance, and community well-being. By understanding *mizān*, students not only recognize the importance of environmental protection, but also understand the ecological mechanisms that sustain the balance of life. This understanding strengthens their ability to make environmentally responsible decisions.

5. *Ihsān toward the Environment as the Practice of Noble Character*

Ihsān represents the highest expression of Islamic morality and teaches people to perform every action in the best possible manner. In an environmental context, *ihsān* is manifested through compassion, care, and responsibility toward all living beings. It is implemented through project-based learning activities such as school greening, tree planting, waste-bank management, water conservation, composting, and environmental campaigns. Teachers assess not only the final outcomes of these activities, but also the processes of character formation, cooperation, social concern, and students' commitment to environmental preservation.

Through these direct experiences, students develop positive habits oriented toward sustainability. They not only understand ecological concepts theoretically, but also develop an intrinsic motivation to protect the environment as a form of devotion to Allah. *Ihsān* thereby connects the spiritual dimension with concrete action in everyday life.

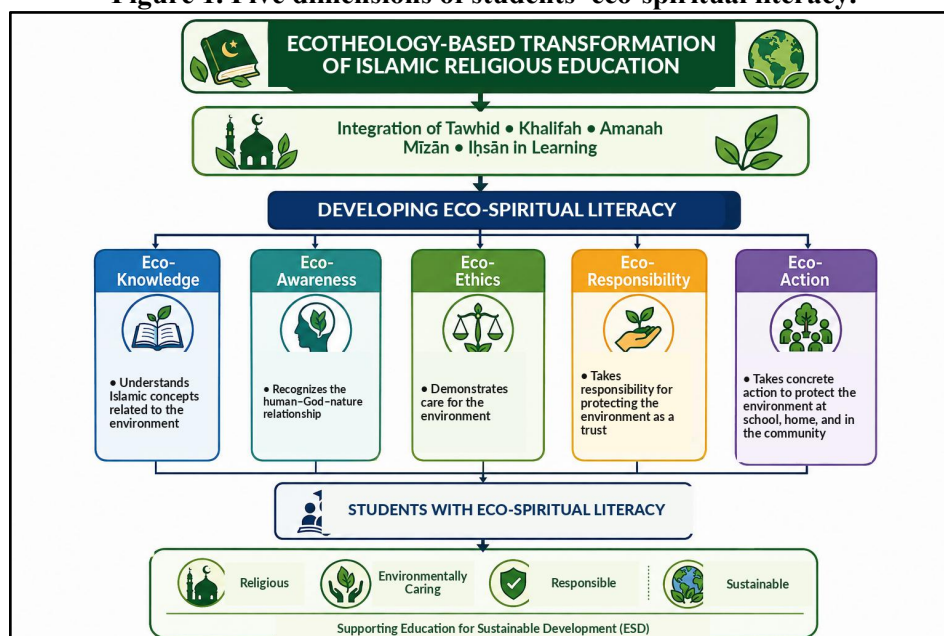
The five ecotheological principles form an integrated learning framework. *Tawhid* provides the spiritual foundation for awareness of the relationship among human beings, Allah, and the universe. This awareness is then expressed through responsibility as *khalifah fil ardh*, strengthened by *amanah* in managing natural resources, guided by *mizān* in maintaining ecological balance, and enacted through *ihsān* toward the environment. Integrating these five principles creates a learning process that not only enhances students' religious competence, but also develops eco-spiritual literacy the ability to understand, internalize, and implement spiritual values in preserving the environment. Consequently, ecotheology-based IRE is no longer oriented solely toward transmitting religious knowledge, but

becomes a transformative process that develops students as religious individuals with ecological character and a commitment to sustainable development. This implementation model also demonstrates the strong relevance of Islamic values to addressing the global environmental crisis and supporting the achievement of Education for Sustainable Development (ESD).

Development of Students' Eco-Spiritual Literacy

One of the principal findings of this study is the development of students' eco-spiritual literacy as a result of ecotheology-based learning transformation. Eco-spiritual literacy is understood as students' ability to comprehend holistically the relationship among humans, God, and nature and to apply these values in daily life. Based on observations and interviews, eco-spiritual literacy developed through five main dimensions: eco-knowledge, eco-awareness, eco-ethics, eco-responsibility, and eco-action. In the knowledge dimension, students demonstrated a stronger understanding of Islamic concepts related to the environment. In the awareness dimension, they began to recognize that actions toward the environment form part of religious responsibility. In the ethical dimension, students displayed changes in attitude by using resources wisely, maintaining cleanliness, and respecting other living beings. In the responsibility dimension, they demonstrated a commitment to participating in environmental-preservation activities. In the action dimension, students began to practice environmentally friendly behavior both at school and at home. These findings show that ecotheology-based learning produces more comprehensive change than learning focused only on cognitive aspects. Change occurs not only at the level of knowledge, but also across affective, spiritual, and behavioral dimensions. This finding is consistent with David A. Kolb's experiential learning theory, which emphasizes the importance of direct experience in shaping students' understanding and behavioral change (Rudiarta et al. 2025). From a sustainable-development perspective, eco-spiritual literacy is an important competency that supports the objectives of Education for Sustainable Development (ESD). Through ecotheology-based learning, students not only understand environmental issues, but also develop spiritual motivation to protect the sustainability of nature as part of their moral and religious responsibility. These dimensions are illustrated in the following figure.

Figure 1. Five dimensions of students' eco-spiritual literacy.



Ecotheology Based Islamic Religious Education Transformation Model

Based on the overall findings, this study produced a conceptual learning-transformation model comprising five principal stages: value internalization, theological reflection, ecological experience, collaborative action, and continuous reflection. The model positions tawhid as the foundation of learning and develops it through reflection on Qur'anic cosmic signs, project-based environmental

learning experiences, concrete action, and reflective evaluation of changes in student behavior. The model demonstrates that learning transformation changes not only teaching strategies, but also the orientation of IRE from the development of individual piety toward ecological piety. IRE thereby becomes more relevant to the challenges of climate change and sustainable development. Conceptually, the model enriches IRE learning theory by integrating transformative learning, Islamic ecotheology, and ESD. Practically, it can guide teachers in designing contextual and innovative learning oriented toward developing eco-spiritual literacy. The five transformative stages are described below.

1. **Value Internalization:** The first stage is the primary foundation of the learning model. At this stage, teachers integrate the core values of Islamic ecotheology into learning objectives, content, and activities. These values include tawhid as a spiritual foundation, khalifah fil ardh as human responsibility toward nature, amanah as accountability before Allah, mizān as the principle of maintaining ecological balance, and ihsān as exemplary conduct toward all of Allah's creation. Internalization occurs through the study of Qur'anic verses, the hadith of the Prophet Muhammad (PBUH), stories of the prophets, and examples from everyday life related to environmental preservation. At this stage, students are guided to understand that environmental protection is not merely a social activity, but part of the expression of faith and piety. Ecological values therefore grow from spiritual awareness rather than solely from school rules or obligations.
2. **Theological Reflection:** The second stage aims to develop students' reflective thinking about the relationship among humans, God, and nature. Teachers facilitate discussions, case studies, analyses of environmental phenomena, and reflection on Qur'anic cosmic signs that reveal Allah's greatness through His creation. Through this process, students analyze environmental problems including pollution, forest destruction, climate change, and waste management from the perspective of Islamic teaching. They then connect these phenomena with the concept of fasād fil ardh (corruption on Earth) and human responsibility as khalifah. This stage transforms students' perspectives through transformative learning, enabling them to interpret environmental issues as moral and spiritual concerns.
3. **Ecological Experience:** After understanding the theological concepts, students are provided with direct experience through activity-based or experiential learning. Teachers design activities such as school greening, water conservation, waste management, composting, school gardening, tree planting, and observation of the surrounding environment. These direct experiences connect religious concepts with concrete action, so that students not only understand the importance of environmental protection but also experience the preservation process directly. Learning activities are conducted collaboratively through Project-Based Learning (PjBL), allowing students to develop critical-thinking, problem-solving, communication, and teamwork skills. This stage serves as the principal medium for developing eco-knowledge, eco-awareness, and eco-ethics as dimensions of eco-spiritual literacy.
4. **Collaborative Environmental Action:** The next stage involves implementing concrete actions that engage the entire school community and the surrounding community. Students and teachers jointly design environmental-action programs such as green-school movements, energy-conservation campaigns, reductions in plastic use, waste-bank management, school greening, and community-service activities focused on environmental preservation. These activities not only develop students' social skills, but also strengthen their sense of environmental responsibility as part of practicing Islamic teaching. Collaboration among schools, families, and communities makes learning more contextual, ensuring that ecotheological values extend beyond the classroom and become part of daily culture. At this stage, eco-responsibility and eco-action develop as indicators of successful learning.
5. **Continuous Reflection:** The final stage is an ongoing evaluation process that examines changes in students' knowledge, attitudes, and behavior. Evaluation is not oriented solely toward academic achievement, but also assesses the development of ecological character through reflective journals, portfolios, behavioral observation, self-assessment, peer assessment, and activity documentation. Through continuous reflection, students evaluate their learning experiences, identify behavioral changes, and plan concrete actions for the future. Teachers also use the results of reflection to improve instructional strategies so that the transformation process continues over time. This stage demonstrates that ecotheology-based IRE is not a temporary activity, but a sustained process of character development.

These five stages form an interconnected learning cycle. Value internalization establishes spiritual awareness, which is strengthened through theological reflection that develops critical thinking about environmental problems. These values are then enacted through ecological experiences in contextual learning activities and reinforced through collaborative action involving multiple stakeholders. Finally, the entire process is evaluated through continuous reflection to produce consistent behavioral change. Conceptually, the model integrates four principal perspectives: Islamic Ecotheology as its value foundation, Transformative Learning as an approach to changing perspectives, Experiential Learning as an experience-based instructional strategy, and Education for Sustainable Development (ESD) as an orientation for developing sustainability competencies. Integrating these four perspectives produces a learning model that not only enhances students' religious understanding, but also develops eco-spiritual literacy the ability to understand, internalize, and apply spiritual values in preserving the environment sustainably.

Discussion

The findings show that the ecotheology-based transformation of Islamic Religious Education produces a paradigm shift from learning oriented toward mastery of religious content to learning that holistically integrates spiritual, ecological, and social dimensions. This transformation is marked by a change in learning objectives, which aim not only to develop students' religious competence but also to cultivate ecological awareness as part of implementing Islamic values. These findings indicate that IRE has considerable potential to serve as a medium for internalizing sustainability values when it is designed according to the principles of Islamic ecotheology. Theoretically, the findings support Jack Mezirow's Transformative Learning theory. According to this theory, effective learning not only increases knowledge, but also transforms students' perspectives. In this study, such change was evident when students began to view the environment not merely as an object for human use, but as a trust from Allah that must be protected. Ecotheology-based learning encouraged students to reflect critically on the relationship among humans, God, and nature, thereby developing a more responsible perspective on environmental sustainability. The learning transformation identified in this study was therefore not only pedagogical, but also epistemological and spiritual.

From the perspective of Islamic Religious Education, the findings demonstrate that integrating tawhid, khalifah fil ardh, amanah, mīzān, and ihsān broadens the orientation of IRE. IRE has traditionally emphasized ritual practice and individual morality; this study shows that these values also possess a strong ecological dimension. Students' understanding of khalifah fil ardh developed from a purely theological concept into an ethical principle that encouraged them to maintain the balance of nature. This finding reinforces the view that Islamic teaching provides an adequate normative foundation for supporting sustainable development through education. The study also shows that ecotheology-based learning develops students' eco-spiritual literacy by strengthening five dimensions: ecological knowledge (eco-knowledge), ecological awareness (eco-awareness), ecological ethics (eco-ethics), ecological responsibility (eco-responsibility), and ecological action (eco-action). These dimensions developed simultaneously through contextual learning, religious reflection, direct experience in the school environment, and project-based activities. The results indicate that ecological awareness is more effectively developed when grounded in spiritual values than when based solely on the transmission of environmental information. This finding is consistent with David A. Kolb's Experiential Learning theory, which explains that learning produces behavioral change when students obtain concrete experience, reflect on it, construct new concepts, and apply them in action. In this study, school-greening activities, waste management, water conservation, and reflection on Qur'anic verses concerning the environment provided meaningful learning experiences that enabled students to connect religious values with ecological action in everyday life.

The findings also reinforce previous studies that identify religious education as an important contributor to developing environmentally responsible character. Earlier research has shown that integrating environmental education into IRE can increase students' ecological awareness, while other studies have suggested that an ecotheological approach strengthens the relationship between spirituality

and environmentally friendly behavior. Nevertheless, most of these studies have focused on value internalization or the implementation of environmental content in learning. The present study shows that this approach must be extended into a learning transformation that integrates ecotheology into every component of learning, including objectives, content, strategies, learning experiences, and assessment. The fundamental distinction between this study and previous research lies in the orientation of the learning-model development. Most earlier studies treated the environment as supplementary content in IRE or as part of character education. By contrast, this study positions ecotheology as the principal paradigm underpinning the entire learning process. This approach enables IRE not only to develop individual religiosity, but also to cultivate sustainable ecological responsibility. The study therefore expands the scope of IRE from education concerned with the human relationship with God (*ḥabl min Allāh*) and relationships among human beings (*ḥabl min al-nās*) to education that also strengthens the human relationship with nature as part of the trust of stewardship.

In addition to contributing to the development of IRE theory, this study is strongly relevant to the Education for Sustainable Development (ESD) paradigm. ESD emphasizes the development of sustainability competencies through the integration of social, economic, environmental, and cultural dimensions in education. The findings show that ecotheology-based IRE can integrate a spiritual dimension into the ESD framework, so that sustainability education is oriented not only toward changes in ecological behavior but also toward deeper religious motivation. This integration is important because research suggests that behavioral change grounded in moral and spiritual values tends to be more sustainable than change driven solely by knowledge or regulation. Conceptually, this study produced an Ecotheology-Based Islamic Religious Education Transformation Model comprising five stages: internalization of ecotheological values, theological reflection, ecological experience, collaborative action, and continuous reflection. The model demonstrates that religious learning can be systematically designed to develop students' eco-spiritual literacy through a combination of conceptual learning, direct experience, spiritual reflection, and social action. It complements existing IRE learning models, which have generally focused on religious character formation without sufficient attention to the ecological dimension.

The novelty of this study lies in developing a conceptual framework that integrates Islamic ecotheology, transformative learning, experiential learning, and eco-spiritual literacy within a single IRE learning model that supports the implementation of Education for Sustainable Development (ESD). Unlike previous studies, which generally integrated environmental values into learning content or evaluated students' environmentally responsible behavior, this study proposes a transformation model that connects *tawhid*, *khalifah fil ardh*, *amanah*, *mīzān*, and *iḥsān* with reflective, contextual, and collaborative learning experiences. The model not only improves ecological knowledge, but also develops spiritual ecological literacy as a competency students need to confront climate change and sustainable-development challenges. The findings imply that IRE teachers should develop more contextual and transformative learning by using environmental issues as a medium for internalizing Islamic values. Curriculum developers and education policymakers should also provide greater space for integrating ecotheological principles into the IRE curriculum so that religious education can contribute concretely to sustainable-development goals. IRE can thereby function not only as a means of developing individual religiosity, but also as a strategic instrument for cultivating a generation with eco-spiritual literacy, the capacity to preserve environmental balance, and a commitment to sustainable society.

CONCLUSION

This study demonstrates that the ecotheology-based transformation of Islamic Religious Education is an effective approach to developing students' eco-spiritual literacy through the integration of *tawhid*, *khalifah fil ardh*, *amanah*, *mīzān*, and *iḥsān* throughout the learning process. The transformation not only shifts the orientation of learning from mastery of religious content toward contextual and transformative learning, but also develops ecological awareness grounded in Islamic spiritual values. Learning that connects religious teachings with environmental issues provides meaningful experiences through which students understand that preserving nature is both a religious responsibility and an expression of worship in everyday life. The study also produced an Ecotheology-Based Islamic

Religious Education Transformation Model that integrates theological, pedagogical, and ecological dimensions within a systematic learning framework. The model develops eco-spiritual literacy through five principal stages: internalization of ecotheological values, theological reflection, ecological experience, collaborative action, and continuous reflection. These findings make a conceptual contribution to the development of IRE by expanding its orientation from individual religiosity toward ecological responsibility in support of Education for Sustainable Development (ESD). Practically, the study implies that IRE teachers, curriculum developers, and education policymakers should integrate the ecotheological paradigm into learning planning, implementation, and assessment. This approach is expected to produce students who possess not only religious competence, but also ecological-spiritual literacy, environmental concern, and commitment to sustainable development. Nevertheless, this study was limited to the development of a conceptual model within a specific context. Future research should therefore test the model's effectiveness across different educational levels, school characteristics, and geographical settings, and should develop more comprehensive instruments for measuring eco-spiritual literacy so that the model can achieve broader validity and applicability.

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Conceptualization, F.H., R.A., and F.M.N.; Methodology, F.H.; Investigation, R.A.; Data Collection, F.M.N.; Formal Analysis, F.H. and R.A.; Writing-Original Draft, F.H.; Writing-Review and Editing, R.A. and F.M.N.; Visualization, R.A. and F.H.; Supervision, R.A.; Project Administration.

CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

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