

Islamic Religious Education Students' Perceptions of Environmental Awareness from Islamic Ecotheology Perspective

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Abstract

Environmental degradation and the growing urgency of ecological responsibility highlight the need to strengthen environmental awareness within Islamic education. Islam positions humans as khalifah fil-ardh, endowed with the moral and spiritual responsibility to safeguard the earth. This study aims to examine the perceptions of Islamic Education (PAI) students regarding environmental awareness through the lens of Islamic ecotheology. Using a descriptive quantitative approach, data were collected from 108 PAI students using a 40-item questionnaire measuring five key dimensions: knowledge of Islamic ecotheology, environmental attitudes, ecological behavior, institutional support, and digital technology integration in environmental learning. Descriptive statistical analysis was employed to calculate the mean scores and standard deviations. The results indicate that all dimensions fall within the high category. Environmental attitudes achieved the highest mean score, demonstrating strong affective internalization of ecological values grounded in Islamic teachings. Ecotheological knowledge and ecological behavior also showed high levels, although a moderate gap between attitude and practice was observed. Institutional support and digital technology integration were positively perceived by students, suggesting that campus initiatives and digital tools contribute meaningfully to eco-oriented Islamic learning. The study concludes that Islamic ecotheology provides a robust foundation for fostering environmental awareness among PAI students. Strengthening ecotheology-based curriculum design, supported by institutional initiatives and digital pedagogical strategies, has the potential to cultivate future Muslim educators who are committed to environmental sustainability.

Keywords: Islamic ecotheology, environmental awareness, green digital pedagogy, Islamic education, PAI students

Introduction

The accelerating global environmental crisis has drawn significant attention across various sectors, including education. Climate change, ecosystem degradation, pollution, and declining biodiversity underscore the urgent need to cultivate strong ecological awareness among communities, particularly the younger generation. In Islamic thought, environmental concerns are deeply rooted in theological and ethical principles. The Qur'an positions humans as khalifah fil-ardh (stewards on earth), as stated in QS. Al-Baqarah [2]:30, implying a moral

and spiritual responsibility to protect and sustain the earth. Likewise, the prohibition against causing destruction (*fasad*) in QS. Al-A'raf [7]:56 highlights the centrality of environmental preservation within Islamic ethics.

Islamic ecological values are further reinforced by the Prophet Muhammad's teachings, such as the well-known hadith that "cleanliness is part of faith" (HR. Ahmad) and his guidance against wasteful use of water even when abundant (HR. Ibn Majah). These scriptural sources demonstrate that ecological responsibility in Islam goes beyond ethical discourse; it is an integral part of worship, spirituality, and moral accountability. Therefore, fostering environmental awareness through an Islamic framework is not only relevant but essential in shaping environmentally responsible Muslim individuals.

Within this context, Islamic Education (PAI) holds a strategic position in internalizing ecological values. The aims of PAI extend beyond delivering cognitive knowledge of Islamic teachings; it also seeks to form students' character and moral responsibility, including their relationship with the natural environment. However, numerous studies indicate that the integration of ecological values into PAI has not been fully realized. Nurulloh et al. (2019) reported that although Islamic teachings contain rich ecological ethics, their implementation in Islamic educational institutions remains limited and lacks systematic curricular support (Nurulloh et al., 2019). Mahrus (2024) likewise identified policy constraints and the limited capacity of teachers as significant challenges in implementing ecologically oriented PAI.

Several recent studies highlight the promise of using Islamic ecotheology as a pedagogical foundation. Laksono, (2022) for example, demonstrated that teaching environmental values through Qur'anic verses and prophetic traditions can enhance ecological awareness and participation among students. Amal, (2025) found that practical environmental activities, such as tree planting, effectively shape students' ecological character. Nevertheless, these studies primarily focus on curriculum development and extracurricular practices and do not examine how Islamic education students (specifically PAI majors) perceive environmental awareness through a theological lens.

These findings reveal two major gaps in existing literature. First, there is a lack of research exploring how PAI students conceptualize environmental awareness from the perspective of Islamic ecotheology (Thanh & Van Toan, 2023). As future educators, their understanding is crucial in shaping the ecological attitudes and behaviors of the next generation. Second, previous studies have not empirically investigated the factors that influence ecological awareness among PAI students, such as ecotheological knowledge, environmental attitudes, ecological behavior, institutional support, and digital learning integration.

The present study seeks to address these gaps by examining PAI students' perceptions of environmental awareness (Anwiyah et al., 2021) through the lens of Islamic ecotheology. The importance of this study lies in several key points. First, understanding students' theological perspectives on environmental issues will inform the development of more effective and meaningful PAI curricula. Second, the study provides empirical evidence that can guide educators and policymakers in systematically integrating ecotheological values into Islamic education (Darsa et al., 2000). Third, PAI students who recognize environmental sustainability as part of their religious obligation have the potential to become agents of ecological transformation in schools and communities. Fourth, the empirical findings enrich the discourse on Islamic ecotheology by providing insights grounded in the experiences of university students as future educators (Thanh & Van Toan, 2023).

Aligned with the findings of this research, which show that PAI students scored highly in ecotheological knowledge, environmental attitudes, ecological behavior, institutional support, and digital integration, this introduction positions the study within the broader effort to link Islamic teachings, environmental awareness, and educational practice. Integrating these dimensions is expected to strengthen the pedagogical foundation for cultivating environmentally conscious Muslim educators and contributing to sustainable development efforts in society.

Methods

This study employed a quantitative descriptive design to explore the perceptions of Islamic Education (PAI) students regarding environmental awareness from the perspective of Islamic ecotheology. The descriptive approach was chosen to depict students' tendencies in understanding and responding to ecological values grounded in Islamic teachings without manipulating variables or applying experimental conditions. A total of 108 undergraduate PAI students participated voluntarily in this research. They were selected using a purposive sampling technique, considering their status as prospective Islamic education teachers who are expected to possess ecological literacy integrated with Islamic values.

Data were collected through a structured questionnaire consisting of 40 Likert-scale items. The instrument was developed based on five conceptual dimensions: knowledge of Islamic ecotheology, environmental attitudes, ecological behavior, institutional support, and digital technology integration in environmental learning. Each dimension comprised eight items, with response options ranging from 1 (strongly disagree) to 5 (strongly agree). Twelve items were negatively phrased and were reverse-coded prior to analysis to ensure scoring consistency and reduce potential response bias. Before administration, the

instrument underwent expert validation involving Islamic education lecturers and research methodology experts, ensuring content relevance and alignment with ecotheological principles.

The questionnaire was distributed online using Google Forms to facilitate effective and accessible data collection. Respondents completed the survey independently within approximately 10 to 15 minutes. The collected data were then exported into Microsoft Excel and analyzed using descriptive statistics. The analysis included calculating the mean and standard deviation for each item and variable, followed by categorizing the results into five levels: very low, low, moderate, high, and very high, based on standard Likert score interpretations. Reliability analysis was also conducted to assess internal consistency, with all variables showing acceptable Cronbach’s alpha values above 0.70, indicating that the instrument measured each construct consistently.

Results

The results of this study describe the overall perceptions of 108 Islamic Education (PAI) students regarding environmental awareness from the perspective of Islamic ecotheology. Analysis of the descriptive statistics shows that all five measured variables fall within the high category, indicating strong ecological awareness among students.

Table 1. Report of Respondent Results

| No | Mean | SD | Category | No | Mean | SD | Category |
|----|------|------|-----------|----|------|------|----------|
| 1 | 4.68 | 0.68 | Very High | 21 | 3.82 | 1.14 | High |
| 2 | 3.70 | 0.85 | High | 22 | 4.07 | 1.01 | High |
| 3 | 2.44 | 1.25 | Medium | 23 | 4.22 | 1.19 | High |
| 4 | 4.47 | 0.73 | High | 24 | 4.30 | 0.95 | High |
| 5 | 2.85 | 1.13 | Medium | 25 | 3.99 | 1.03 | High |
| 6 | 3.18 | 1.21 | Medium | 26 | 4.08 | 1.02 | High |
| 7 | 4.05 | 0.88 | High | 27 | 4.45 | 0.80 | High |
| 8 | 3.78 | 0.91 | High | 28 | 3.73 | 1.36 | High |
| 9 | 4.54 | 0.78 | High | 29 | 3.39 | 1.16 | Medium |
| 10 | 4.66 | 0.89 | Very High | 30 | 4.29 | 0.84 | High |
| 11 | 4.57 | 0.82 | Very High | 31 | 2.74 | 1.05 | Medium |
| 12 | 4.12 | 1.35 | High | 32 | 2.81 | 1.10 | Medium |
| 13 | 4.29 | 1.21 | High | 33 | 3.86 | 0.86 | High |
| 14 | 4.78 | 0.73 | Very High | 34 | 4.03 | 0.97 | High |

| | | | | | | | |
|----|------|------|------|----|------|------|--------|
| 15 | 4.09 | 1.44 | High | 35 | 3.88 | 0.88 | High |
| 16 | 4.29 | 0.84 | High | 36 | 3.19 | 1.03 | Medium |
| 17 | 4.44 | 0.92 | High | 37 | 3.74 | 0.93 | High |
| 18 | 3.80 | 1.04 | High | 38 | 2.95 | 1.14 | Medium |
| 19 | 3.80 | 1.04 | High | 39 | 4.02 | 0.95 | High |
| 20 | 4.20 | 1.03 | High | 40 | 3.77 | 0.93 | High |

The first variable, knowledge of Islamic ecotheology, achieved a mean score of 3.64, suggesting that students possess a good understanding of fundamental ecological principles in Islam, including the concepts of *khalifah fil-ardh*, stewardship, balance, and accountability before God. This demonstrates that religious teachings serve as a significant cognitive foundation for interpreting environmental responsibility.

The second variable, environmental attitudes, recorded the highest mean score at 4.14. This result reflects a strong affective orientation toward environmental care, where students perceive ecological preservation as part of their moral and spiritual obligations. The high attitude score suggests that ecological values in Islam such as moderation (Yuliangsih & Hasanah, 2024), cleanliness, and protection of nature, have been well internalized at the emotional level. While knowledge reflects cognitive awareness, the findings indicate that attitudes represent the strongest domain of environmental awareness among PAI students.

The third variable, ecological behavior, yielded a mean of 3.66, categorized as high but with greater variability compared to attitudes. This indicates that while students acknowledge the importance of caring for the environment, their daily ecological actions such as waste management, energy-saving habits, and participation in environmental initiatives, are not always consistent. The difference between the attitude and behavior scores highlights a common gap between belief and practice, suggesting that external factors such as facilities, routines, and institutional reinforcement may play a role in shaping consistent ecological actions.

The fourth variable, institutional support, showed a mean score of 3.69. This finding suggests that students perceive their campus environment (lecturers, institutional policies, and ecological programs) as providing relatively strong reinforcement for ecological awareness. However, the presence of several moderately scored items indicates that institutional efforts, while supportive, are not yet fully systematic or continuous. This aligns with previous studies noting the importance of educational environments in strengthening ecological behavior.

The fifth variable, digital technology integration, also fell within the high category with a mean of 3.68. Students viewed digital tools such as videos, online

discussions, interactive media, and digital learning platforms as beneficial in enhancing their understanding of environmental issues within the framework of Islamic teachings. This supports the growing relevance of green digital pedagogy, where digital media serve as effective channels for communicating eco-Islamic values and making environmental learning more engaging and accessible.

Overall, the results indicate that PAI students exhibit strong ecological awareness across cognitive, affective, behavioral, institutional, and technological dimensions. These findings highlight the potential of Islamic ecotheology and digital learning to strengthen the development of environmentally responsible future educators.

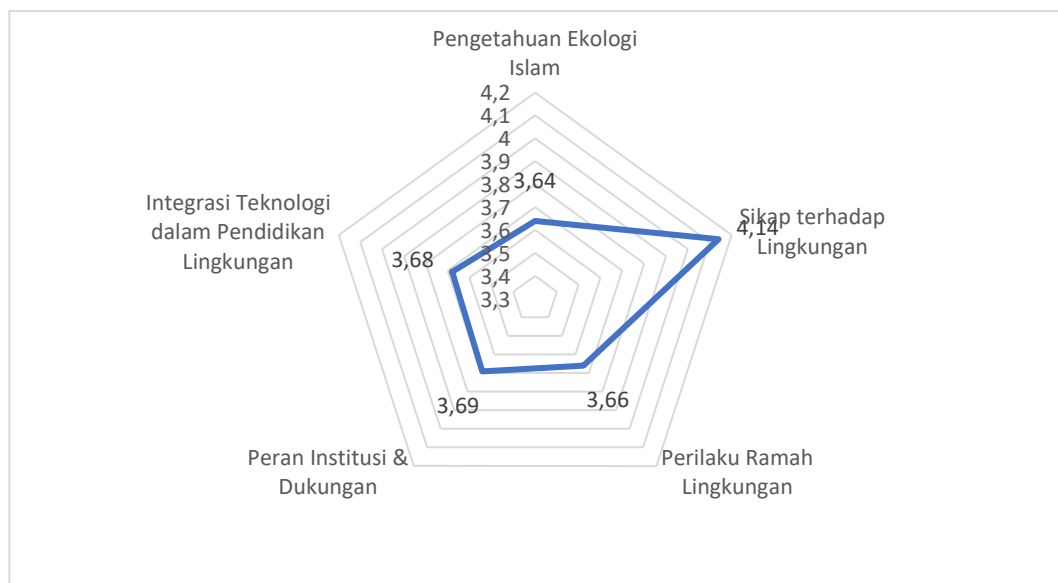


Figure 1. Radar Diagram of Students' Environmental Awareness Dimensions

Discussion

The findings of this study indicate that the environmental awareness of PAI students is consistently categorized as high across all five measured dimensions. This suggests that Islamic ecotheology provides a strong ethical and spiritual foundation for shaping ecological consciousness among prospective Islamic education teachers. The high score in ecotheological knowledge demonstrates that students understand fundamental concepts such as *khalifah fil-ardh*, *amanah*, moderation, and the prohibition against environmental destruction (Thanh & Van Toan, 2023). These results reinforce the theological perspective presented in QS. Al-Baqarah [2]:30 and QS. Al-A'raf [7]:56, which position environmental stewardship as an integral aspect of Islamic belief and ethical practice.

The students' environmental attitudes, which recorded the highest mean among all variables, indicate robust affective internalization of Islamic ecological values. Students tend to view environmental protection (Hao et al., 2023) as part of their moral and religious obligation rather than merely a social responsibility.

This aligns with the prophetic teachings that frame cleanliness and resource moderation as expressions of faith such as the hadith, “cleanliness is part of faith” (HR. Ahmad) and the prohibition against excessive use of water (HR. Ibn Majah) (Lin et al., 2022). The strong attitudinal inclination found in this study is consistent with previous research emphasizing the important role of spirituality in shaping ecological sensitivity (Nurulloh et al., 2019; Laksono, 2022).

Despite this, the mean score for ecological behavior, although high, is relatively lower than that of environmental attitudes. This reflects a commonly observed attitude (Thanh & Van Toan, 2023) behavior gap, suggesting that positive ecological values do not always translate into consistent environmental actions (Kollmuss & Agyeman, 2002). Several factors may contribute to this discrepancy, including institutional facilities, daily habits, peer influence, and environmental culture within the campus. This finding is supported by prior studies indicating that behavioral change often requires not only cognitive understanding and strong attitudes but also supportive environments (Mbopha et al., 2021) and consistent reinforcement (Mahrus, 2024; Ginanjar, 2019).

The fourth variable, institutional support, also falls within the high category, demonstrating that students perceive their educational institution as relatively supportive of ecological awareness (Mbopha et al., 2021). This includes the influence of lecturers, environmental programs, campus messaging, and the availability of environmentally friendly facilities. However, the presence of moderately scored items indicates that environmental initiatives (Saraçlı et al., 2014) may not yet be applied comprehensively. In several cases, students felt that ecological programs (Anwiyah et al., 2021) were occasionally inconsistent or not reinforced across all academic activities (Volodymyr, 2020). This finding aligns with earlier studies emphasizing the need for systematic institutional support (Farooq et al., 2021) to foster sustainable ecological behavior.

Digital technology integration also received a high mean score, suggesting that students view digital tools as effective in enhancing ecological learning (Zhou, 2024). This is consistent with the growing concept of green digital pedagogy, which integrates environmental content with digital media to make ecological learning more accessible and engaging. Students reported that videos, digital infographics, online quizzes, and learning platforms helped them better understand ecological issues within Islamic teachings. This implies that digital literacy can play a strategic role in supporting eco-Islamic pedagogy, particularly within Generation Z learners who rely heavily on digital content (Anwiyah et al., 2021).

Overall, the collective findings demonstrate that the environmental awareness of PAI students is shaped by a combination of theological understanding, emotional acceptance, behavioral tendencies, institutional

influences, and digital learning experiences. The high scores across all five dimensions underscore the potential of Islamic ecotheology as a foundation for promoting ecological responsibility in Islamic education. However, the slight gap between attitudes (Lin et al., 2022) and behavior suggests (Farooq et al., 2023) the need for more structured institutional programs, guided activities, and pedagogical strategies that facilitate consistent ecological practice (Anwiyah et al., 2021).

This study contributes to the existing body of knowledge by providing empirical evidence on how PAI students internalize ecological values through Islamic theological perspectives (Azmi, 2022). The results affirm the importance of integrating ecotheological principles within the PAI curriculum and incorporating digital approaches to strengthen ecological learning. As future educators, PAI students who possess strong ecological awareness have the potential to promote sustainability values within schools and communities, supporting broader ecological preservation efforts in Indonesia. The Conceptual diagram illustrating the theoretical relationships among the five variables of environmental awareness: Islamic ecotheology knowledge, environmental attitudes, ecological behavior, institutional support, and digital integration shown in the following image

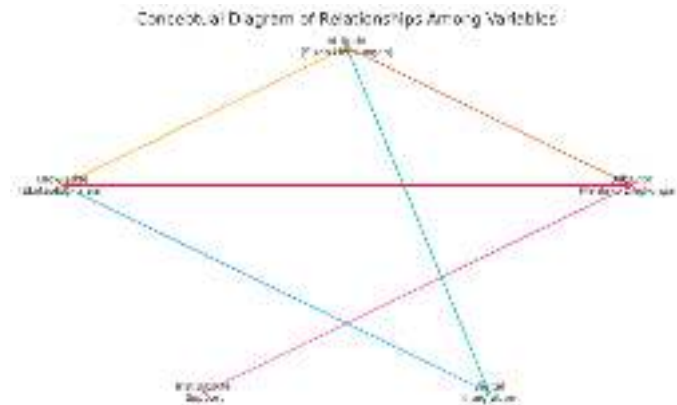


Figure 2. Conceptual diagram illustrating the theoretical relationships among the five variables of environmental awareness

Conclusion

This study examined the environmental awareness of Islamic Education (PAI) students through the lens of Islamic ecotheology and identified five key dimensions that shape their ecological understanding and behavior: ecotheological knowledge, environmental attitudes, ecological behavior, institutional support, and digital technology integration. The findings reveal that all five dimensions fall within the high category, demonstrating that PAI students possess strong ecological awareness grounded in Islamic theological principles. Students show a solid understanding of Qur’anic and Prophetic teachings related to stewardship, moderation, and environmental preservation, and they express strong affective

support for environmental protection as part of their religious and moral obligations.

Although environmental attitudes reached the highest mean score and reflect strong internalization of ecological values, ecological behavior showed slightly greater variability. This indicates that while students accept ecological principles at the cognitive and emotional levels, the translation of these values into daily practices remains uneven. Such a gap underscores the importance of structured institutional programs, environmental culture, and pedagogical reinforcement to strengthen consistent ecological actions among students.

The study also highlights the significant role of institutional support and digital technology integration in shaping students' environmental awareness. Institutional initiatives such as environmental campaigns, supportive facilities, and ecological messaging reinforce students' ecological understanding and behavior. Meanwhile, digital tools provide effective channels for learning ecological concepts within an Islamic framework, supporting the development of green digital pedagogy in Islamic higher education.

Overall, the results suggest that Islamic ecotheology has strong potential to serve as a foundation for cultivating ecological responsibility among future Islamic education teachers. Strengthening the integration of ecotheological values into the PAI curriculum, supported by digital learning strategies and consistent institutional efforts, can enhance the formation of environmentally conscious Muslim educators. These educators, in turn, have the capacity to promote sustainability and environmental ethics within schools and communities. The findings of this study contribute to the broader discourse on Islamic ecological education by offering empirical insights into how theological values are understood and internalized by students in higher education contexts.

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