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Linking Environmental Education and Arabic Language Teaching: Curriculum Analysis of Madrasa and Pesantren in Indonesia

Włączanie edukacji ekologicznej do nauczania języka arabskiego – analiza programu nauczania w szkołach typu medrasa i pesantren w Indonezji

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Abstract: Religious teachings have long emphasized environmental stewardship, with many Islamic principles advocating sustainable living and conservation efforts. In Indonesia, where religiosity is high, faith-based education plays a crucial role in shaping environmental awareness. This study analyses the Arabic language curriculum in madrasas and pesantrens to explore how environmental values are integrated into Arabic language instruction. Currently, only two explicit environmental themes are found in textbooks, indicating a gap in curriculum development. Using curriculum and literature analysis, this research proposes strategies such as enriching textbook themes, developing environment-focused modules, providing teacher training, and implementing project-based learning. The findings demonstrate that Arabic language education can serve as an effective medium for fostering environmental awareness based on Islamic teachings. Integrating these values not only enhances the relevance of Arabic instruction but also cultivates a generation that is both religiously devoted and environmentally conscious. Recommendations are provided to strengthen the Arabic curriculum as a tool for building environmental awareness in madrasas and pesantrens.

Keywords: environmental education, Arabic language, madrasa curriculum, pesantren, sustainable development

Streszczenie: Nauczanie religii od dawna kładzie nacisk na ochronę środowiska, a wiele zasad obowiązujących w islamie wspiera zrównoważony model życia i działania na rzecz natury. W Indonezji, gdzie społeczeństwo jest bardzo oddane religii, edukacja oparta na wierze odgrywa kluczową rolę w kształtowaniu świadomości ekologicznej. Niniejszy artykuł analizuje program nauczania języka arabskiego w szkołach typu medrasa i pesantren, w celu określenia stopnia wdrażania zasad pro-środowiskowych w nauczanie tego języka. Obecne podręczniki nauki języka arabskiego zawierają jedynie dwa tematy dedykowane środowisku, co pokazuje, że temat ten nie jest wystarczająco zaadresowany w programie nauczania. Korzystając z analizy programu nauczania i literatury, niniejsza praca przedstawia propozycje wzbogacenia tematyki podręczników poprzez opracowanie modułów dotyczących środowiska, zapewnianie szkoleń dla nauczycieli i wdrażanie nauki opartej na projektach. Wyniki pokazują, że nauczanie języka arabskiego może służyć jako skuteczne medium do pielęgnowania świadomości ekologicznej w oparciu o nauki islamu. Integracja tych wartości nie tylko zwiększa znaczenie nauczania języka arabskiego, ale także kształtuje pokolenie, które wyznaje wartości religijne, a zarazem posiada rozwiniętą świadomość ekologiczną. W artykule przedstawiono zalecenia mające na celu rozszerzenie programu nauczania języka arabskiego, tak by stało się ono narzędziem służącym do budowania świadomości ekologicznej w medrasach i pesantrenach.

Słowa kluczowe: edukacja ekologiczna, język arabski, program nauczania, medrasa, pesantren, zrównoważony rozwój

Introduction

Indonesia, as one of the world's largest mega biodiversity countries, holds a strategic role in maintaining global ecosystem balance. Its abundant natural resources, ranging from tropical forests to coral reefs, have positioned Indonesia at the centre of global attention regarding environmental conservation issues. However, the country is experiencing increasingly critical levels of environmental degradation. Data from Global Forest Watch indicates that, in 2024, Indonesia lost 1.03 million hectares of primary forest, equivalent to 842 million tons of carbon emissions (Gibbs, Rose, and Harris 2024). This figure places Indonesia among the countries with the highest deforestation rates globally (Hansen et al. 2013; The World Counts 2024). Additionally, approximately 33.82% of the 2.5 million hectares of coral reefs in Indonesian waters are damaged or in poor condition, threatening marine ecosystem sustainability and food security of coastal communities (Dislhk 2019).

In addressing environmental degradation, various approaches have been implemented, including government policies, eco-friendly technologies, and education promoting environmental awareness. However, faith-based approaches often receive less attention, despite religious values having a significant influence on shaping societal behaviours and mindsets. In the context of Indonesia, known for its high level of religiosity, Islamic education plays a crucial role in fostering environmental awareness. Studies have shown that integrating Islamic values into education can significantly enhance students' pro-environmental attitudes and behaviours (Sagala et al. 2024). Therefore, madrasas and pesantrens, as Islamic educational institutions pivotal in character building, have substantial potential to incorporate environmental conservation values into their curricula.

Indonesia is recognized as one of the most religious countries in the world, with faith playing a significant role in shaping societal values and behaviours (Evans 2024). Islamic

educational institutions, such as madrasas and pesantrens, have a profound impact on character development and social responsibility, particularly in terms of environmental awareness (Zulkifli, Nuryaman, and Hafidhoh 2023). According to data from the Indonesian Ministry of Religious Affairs, as of the 2024/2025 academic year, there were more than 26,798 Madrasah Ibtidaiyah (MI), 19,441 Madrasah Tsanawiyah (MTs), and 10,148 Madrasah Aliyah (MA), educating approximately 9.2 million students and employing over 843,000 teachers (Kemnag 2024). Additionally, more than 36,600 pesantrens operate across Indonesia, making them a strategic platform for integrating environmental education (Addakhil 2024). However, despite this potential, an analysis of Arabic language curricula in these institutions reveals that environmental themes are still underrepresented (Ali 2020; Mahmudah 2020). The question remains: how can these institutions systematically incorporate environmental values into their curricula and learning activities? Some studies suggest that integrating ecological principles into religious education can enhance students' environmental consciousness, but further exploration of this topic is needed (Corpuz, San Andres, and Lagasca 2022; Zulkifli, Nuryaman, and Hafidhoh 2023). Therefore, this study aims to analyse the Arabic language curriculum in madrasas and pesantrens, identifying opportunities to embed environmental awareness through language instruction, thematic enrichment, and faith-based environmental education strategies.

Language plays a crucial role in shaping environmental awareness, not merely as a communication tool but as a medium for conveying values and shaping mindsets. In the context of Islamic education, Arabic serves not only as a linguistic skill but also as a conduit for religious teachings that emphasize environmental stewardship (Amrina et al. 2022). Amrina et al. (2022) highlight that Arabic language instruction enhances students' understanding of Islamic teachings, making it a strategic medium for integrating

ecological values. Furthermore, Segaf Bahrin (2022) emphasizes that Arabic plays a fundamental role in Islamic learning activities, reinforcing the idea that it can serve as a bridge for environmental consciousness in faith-based education. The Qur'an and Hadith contain numerous references to ecological principles, further supporting this integration (Zulkifli, Nuryaman, and Hafidhoh 2023). The existing curriculum in Indonesian madrasas and pesantrens, particularly in Islamic religious education, already incorporates moral and ethical teachings (Maryani AM 2024). However, specific environmental themes remain underrepresented in Arabic language courses. Given this gap, this study aims to explore how Arabic language education can be optimized to support environmental education through thematic enrichment, faith-based learning strategies, and pedagogical innovations that align with sustainability goals.

Several studies have examined the relationship between religion and environmental awareness. Corpuz et al. (2022) found that integrating environmental education into religious curricula enhances ecological consciousness among students. Similarly, Zulkifli and Hafidhoh (2023) highlighted that faith-based approaches are effective in fostering community engagement in environmental conservation. However, these studies primarily focus on religious doctrines and ethical perspectives, without directly addressing how environmental values can be embedded within language education. This research fills that gap by exploring how Arabic language instruction in madrasas and pesantrens can serve as a medium for environmental education.

Arabic language materials in these institutions are not limited to linguistic components but also incorporate religious concepts derived from the Qur'an and Hadith (Amrina et al. 2022). Many Arabic textbooks include texts on morality, ethics, and social responsibility, making them an ideal platform for integrating environmental themes. Moreover, various language skills can be

utilized to reinforce environmental education. Reading comprehension exercises can involve analysing Qur'anic verses related to nature and stewardship, while writing assignments can encourage students to compose essays on environmental responsibility from an Islamic perspective. Similarly, speaking activities can involve discussions on sustainable practices in daily life, using Arabic as the medium of communication. This study seeks to examine these possibilities and propose strategies for embedding environmental awareness within Arabic language education in Indonesian madrasas and pesantrens.

This study employs a qualitative approach through curriculum and content analysis to examine how Arabic language instruction can incorporate environmental education in madrasas and pesantrens. Unlike quantitative research that measures the effectiveness of specific interventions, this study aims to analyse the existing curriculum and propose strategies for enhancing environmental integration within Arabic language education. The role of Islam in addressing environmental concerns is significant, as it provides theological foundations that emphasize ecological responsibility. Concepts such as *khalifah* (stewardship), *mizan* (balance), and *israf* (avoidance of waste) are fundamental principles in Islamic teachings that align with environmental sustainability (Muhammad et al. 2024).

Previous research on Arabic language learning has primarily focused on linguistic competency and religious literacy, with limited attention to its potential role in environmental education. Some studies, such as Amrina et al. (2022) (2022), have explored how Arabic education enhances students' moral and ethical values, but discussions on integrating environmental themes remain scarce. The existing curriculum in Indonesian madrasas and pesantrens includes core linguistic skills—reading, writing, speaking, and listening—taught through religious texts and contextual themes (Maryani AM 2024). However, environmental content is

minimally represented, with only a few textbooks addressing ecological issues (Ali 2020; Mahmudah 2020). This study seeks to fill this gap by analysing how Arabic language learning can be enriched with environmental themes, aligning both linguistic and ecological literacy in faith-based education.

1. Background and Relevance of Environmental Education

Environmental education has become a crucial pillar in addressing global ecological challenges. According to UNESCO (2020), environmental education is not only seen as a means of knowledge transfer but also as an instrument to foster behavioural changes that support sustainability. The United Nations Environment Programme (UNEP) plays a vital role in promoting environmental education globally, emphasizing the need for integrating sustainability concepts into educational curricula (Johnson 1980). In Indonesia, where environmental degradation is a pressing issue, integrating environmental education into school curricula has been identified as a key strategy to promote ecological awareness and sustainable practices. Studies show that environmental education in Indonesian schools can be effectively integrated using culturally relevant approaches, such as the *Tri Hita Karana* concept in Bali (Ni Ketut Srie Kusuma Wardhani and Gst. A.A. Riesa Mahendradhani 2024) or through elementary school curricula that incorporate local wisdom (Sarbaini et al. 2022). Given the increasing concerns over deforestation, pollution, and climate change, environmental education is highly relevant, especially when integrated into faith-based education systems such as madrasas and pesantrens.

Madrasas and pesantrens are unique in combining religious education with social values. A study by Hayadin (2019) indicates that these faith-based educational institutions significantly influence students' worldviews, including those related to environmental preservation. Research conducted at Pesantren SPMAA Lamongan, for instance,

shows that an Islamic approach can enhance environmental awareness through programs rooted in religious values, such as reforestation and waste recycling (Aulia et al. 2018). However, despite their substantial potential, an in-depth examination of the curriculum reveals that environmental themes in Arabic teaching materials remain limited.

The integration of environmental education into Arabic language instruction in madrasas and pesantrens aims to achieve specific learning outcomes. These include students' ability to comprehend and analyse Qur'anic verses and Hadith related to environmental ethics, develop Arabic vocabulary and expressions associated with ecological issues, engage in discussions about environmental conservation using Arabic, and apply their linguistic skills in project-based activities such as environmental campaigns or sustainability initiatives within their schools. Studies suggest that incorporating environmental themes into Arabic instruction not only improves language proficiency but also fosters a sense of responsibility towards nature (Rahmat 2015; Amrina et al. 2022).

An analysis of Arabic textbooks used in madrasas and pesantrens reveals that only two explicit environmental themes are present: "I Love Indonesia" in grade 4 of Madrasah Ibtidaiyah (Ali 2020) and "Environmental Preservation" in grade 9 of Madrasah Tsanawiyah (Mahmudah 2020). These themes are insufficient to build comprehensive environmental awareness. In this context, Arabic language education presents an opportunity to develop a novel approach that integrates ecological values with Islamic teachings (Rahmat 2015).

This lack of environmental themes within the Arabic language curriculum is concerning, as language education serves as a powerful medium for conveying values and shaping students' worldviews. Given that Islamic teachings strongly emphasize environmental stewardship—such as the concept of *khalifah* (stewardship) and *mizan* (balance)—the Arabic language curriculum has the potential to reinforce these values

through carefully designed reading passages, vocabulary exercises, and discussion activities. Therefore, integrating environmental education within Arabic language instruction could bridge this gap, making religious education more relevant to contemporary ecological challenges while enhancing students' linguistic and ethical competencies.

Value-based education has proven effective in various contexts. Corpuz et al. (2022) noted that curricula integrating environmental values with local culture and religion are more successful in enhancing teachers' and students' awareness. Faith-based approaches, as highlighted by Zulkifli et al. (2023), also have the potential to increase community participation in environmental conservation. In Indonesia, developing Arabic language teaching materials that prioritize environmental values could serve as a strategic step in addressing sustainability challenges.

This study aims to identify the potential for integrating environmental values into Arabic language teaching materials in madrasas and pesantrens. By linking Islamic concepts such as *thaharah* (cleanliness), *khalifah* (stewardship), *mizan* (balance), *dar'ul-mafasid* (prevention of harm), and other with ecological issues, Arabic language materials can serve as an effective medium for instilling environmental awareness among the younger generation. Islamic teachings emphasize the responsibility of humankind to protect nature, as reflected in Qur'anic verses such as Surah Al-A'raf: 31, which calls for moderation and avoidance of waste, and Surah Ar-Rum: 41, which warns against environmental corruption caused by human actions (Muhammad et al. 2024). Studies suggest that integrating religious values into environmental education significantly enhances students' ecological awareness and fosters a deeper sense of moral responsibility (Zulkifli, Nuryaman, and Hafidhoh 2023). This focus not only offers a fresh perspective in Arabic language education but also broadens the role of pesantrens and madrasas as agents of social change.

2. Analysis of Environmental Themes in the Arabic Language Curriculum

The Arabic language curriculum in madrasas and pesantren in Indonesia is primarily designed to support Islamic religious education while equipping students with linguistic competence (Roviin 2018). This curriculum emphasizes Arabic grammar, vocabulary acquisition, reading comprehension of classical Islamic texts, and communication skills relevant to religious studies. However, a systematic analysis of Arabic textbooks used in these institutions indicates that environmental topics are significantly underrepresented. A review of the existing materials shows that most textbooks prioritize themes related to daily conversations, religious practices, and moral teachings, with limited discussion on ecological awareness or environmental conservation.

This lack of environmental themes within the Arabic language curriculum is concerning, as language education serves as a powerful medium for conveying values and shaping students' worldviews. Given that Islamic teachings strongly emphasize environmental stewardship—such as the concept of *khalifah* (stewardship) and *mizan* (balance)—the Arabic language curriculum has the potential to reinforce these values through carefully designed reading passages, vocabulary exercises, and discussion activities. Therefore, integrating environmental education within Arabic language instruction could bridge this gap, making religious education more relevant to contemporary ecological challenges while enhancing students' linguistic and ethical competencies.

2.1. Representation of Environmental Themes in Textbooks

An analysis of the curriculum shows that themes explicitly addressing environmental issues are found only at two educational levels. First, at the Madrasah Ibtidaiyah (MI) level, there is a lesson titled *Ana Uhibbu Indonesia* (I Love Indonesia) in grade 4, which introduces students to the concepts of nationalism, love for

the homeland, appreciation of natural beauty, and the importance of maintaining cleanliness in their surroundings (Ali 2020). Second, at the Madrasah Tsanawiyah (MTs) level, there is a lesson titled *Al-Hifadz 'Ala Al-Bi'ah* (Environmental Preservation) in grade 9, which discusses the importance of preserving nature and avoiding environmental destruction (Mahmudah 2020). However, the coverage is limited to general awareness and the introduction of Arabic vocabulary related to environmental issues, such as air pollution, environmental contamination, and industrial waste.

Beyond these two themes, environmental issues are nearly absent from other teaching materials. Notably, there are 12 grade levels from elementary to high school and 72 topics covered across these levels. Dominant themes include daily life, education, and family, while environmental issues receive minimal attention. By comparison, research by Zulkifli et al. (2023) in other countries highlights that faith-based teaching materials integrating environmental issues can have a significant impact on students' awareness.

2.2. Potential for Integrating Environmental Themes into the Curriculum

The limited representation of environmental themes in the Arabic language curriculum highlights a significant opportunity for further development. Within the context of Islamic teachings, numerous sources can serve as foundational references for developing teaching materials related to environmental conservation. These include verse 41 of Surah Ar-Rum in the Qur'an, which emphasizes the prohibition of causing destruction on earth; the Prophet Muhammad's hadith encouraging tree planting even in dire situations; the Islamic concept of khalifah (stewardship) as guardians of the earth; mizan (balance) as a principle of equilibrium (Muhammad et al. 2024); and jurisprudential studies in Islamic fiqh.

Previous studies have demonstrated that faith-based approaches can strengthen

the integration of environmental values in education. Aulia et al. (2018) observed that students in pesantrens involved in environment-focused programs, such as reforestation and waste management, showed increased awareness and participation in environmental preservation. This indicates that education grounded in religious values holds substantial potential for fostering behavioural change.

2.3. Challenges in Integrating Environmental Themes

Despite its significant potential, several challenges need to be addressed in integrating environmental themes into the Arabic language curriculum. First, Time Constraints: The already dense curriculum makes it difficult to add new material without reducing other content (Colajanni and Daniele 2021). Second, Resource Availability: Current Arabic textbooks are not designed to comprehensively include environmental themes, necessitating significant revisions (Mustafa Halimah 2018). Third, Teacher Competence: Not all Arabic language teachers possess sufficient knowledge about environmental issues, making additional training essential (Asiri 2022).

2.4. Opportunities for Development

To overcome these challenges, an integrated strategy is needed. One approach is the use of supplementary teaching materials that link environmental concepts with Islamic teachings. Additionally, project-based learning (PBL), which engages students in practical activities such as reforestation or recycling, can serve as an innovative solution. This strategy is not only relevant to the Arabic language curriculum but also extends its impact to students' daily lives (Muid et al. 2022; Susanto et al. 2022).

An analysis of environmental themes in the existing Arabic language curriculum reveals that current teaching materials have not fully utilized the potential of religious education to instil environmental awareness. Therefore, this study provides recommendations for developing a more responsive

Arabic curriculum to address sustainability issues.

3. Potential for Integrating Environmental Values into Arabic Language Materials

Arabic, as the language of Islam rich in moral and spiritual concepts, holds immense potential for integrating environmental conservation values. Islamic teachings explicitly emphasize the importance of environmental stewardship through principles such as *khalifah* (human leadership on earth) and *mizan* (balance). In the context of Arabic language education in madrasas and pesantrens, integrating environmental values can provide a new dimension that aligns with the global sustainability agenda.

Arabic vocabulary and terminology related to the environment have developed significantly. This is evidenced by the publication of several Arabic environmental dictionaries, such as *Qāmūs al-Bi'ah al-Āmmah* (English-Arabic) by Biter Wardam and Yusuf Al-Ashiqir (1998) which includes 2,000 environmental terms in English and Arabic; *Al-Mu'jam al-Bi'i: Awwal Mu'jam Shāmil bi-Kull Muṣṭalahāt al-Bi'ah al-Mutadāwalah fī al-Ālam wa-Ta'rīfātihā* compiled by Zaynab Mansur Habib (2011) containing over 3,000 entries; and the most comprehensive Arabic environmental dictionary, *Dictionary of Environment & Pollution* (English-Arabic) by Walid A. Kaakeh (2004) which features 15,800 terms. These dictionaries demonstrate how the Arabic language has adapted to environmental issues and should serve as references in the development of Arabic teaching materials. This would ensure that Arabic language education in Indonesia is not limited to classical terminology but also embraces contemporary and globally relevant concepts.

3.1. Islamic Foundations for Environmental Education

Islam encompasses numerous teachings relevant to environmental conservation. In the study of the Qur'an, it has been identified that verses discussing science, including nature and the environment, number

between 800 and 1,000, while those concerning legal rulings comprise only around 200 verses (Sarwat 2021). Interestingly, these legal verses have given rise to scholars and a plethora of written works in the fields of Islamic jurisprudence and law, which are widely studied in the Islamic world, including Indonesia. Conversely, verses related to science and the environment have not received as much scholarly attention, resulting in a lack of works focused on nature and the universe.

The Qur'an contains many verses that serve as foundations for environmental preservation. For instance, it prohibits causing destruction on earth (Al-A'raf: 56), assigns humans as *khalifah* (stewards) responsible for maintaining the earth (Al-Baqarah: 30), emphasizes the importance of preserving ecological balance (Ar-Rahman: 7–9), forbids the destruction of plants and livestock (Al-Baqarah: 205), and advocates for the conservation of land and sea transportation (Al-Isra': 70), among many others.

Prophetic traditions (hadith), as the second source of Islamic teachings after the Qur'an, also contain numerous concepts related to environmental stewardship. Examples include the obligation to care for livestock (Al-Bukhari 1992; Muslim, n.d.; Syaukani 1973), encouragement to plant trees and green the environment (Abdul Baqi' 1997), the directive to cultivate unused land (Daud 1981), and maintaining air quality and controlling the wind (Ahmad 1990; Al-Sayuti, Al-Gani, and Al-Dahlawi, n.d.). Additionally, the Prophet emphasized the importance of agriculture to such an extent that Al-Qurtubi (1999) opined that farming is a *fard kifayah* (communal obligation); if no Muslim undertakes agricultural and environmental responsibilities, the entire community bears the sin.

Moreover, a statistical analysis of terms in the Qur'an reveals numerous Arabic words related to the environment. For instance, the term *al-An'am* (livestock) appears 32 times, *Nabaat* (plants) is mentioned 9 times, and *Harth* (farmland) 12 times. The term

al-Ardh (earth) appears 415 times, *Maa'* (water) 59 times, and *Riih* or *Riyaah* (wind, air) 28 times. Many other terms related to the natural world are repeatedly mentioned in the Qur'an (Shihab 1999).

These findings underscore Islam's profound concern for the environment, establishing a robust foundation for integrating environmental education into Arabic language curricula. This can be achieved through reading texts, grammar exercises, or thematic discussions, thereby enriching Arabic language education with values of environmental stewardship.

3.2. Implementation in Arabic Teaching Materials

The integration of environmental values into Arabic teaching materials can be achieved through several approaches.

First, Theme Enrichment in Textbooks: Specific themes focusing on environmental issues, such as forest conservation, waste management, and climate change, can be added and linked to Qur'anic verses and hadith. For example, the theme "Maintaining Cleanliness and Environmental Preservation" can be supplemented with reading texts featuring verses such as QS. Ar-Rum: 41.

Second, Contextual Reading Texts: Providing reading texts that describe environmental problems in Indonesia, such as deforestation or pollution, followed by the teaching of relevant Arabic vocabulary. For instance, a text about the importance of keeping rivers clean can introduce vocabulary like *Nadzafah* (cleanliness), *Bi'ah* (environment), and *Al-Hifadz* (preservation).

Third, Grammar Exercises with Environmental Themes: Creating grammar exercises using sentences related to environmental themes. For example, passive sentences in Arabic, such as *al-Maa' al-Mulawwats* (polluted water), can be used to discuss water pollution.

Fourth, Interactive Discussions and Activities: Engaging students in class discussions or project-based activities on environmental themes, such as creating posters about environmental preservation using Arabic

(Rajeshkannan and Ambedkar 2018). For example, students could be asked to create a dialogue in Arabic on how to prevent environmental destruction.

3.3. Benefits of Integrating Environmental Values

Integration of environmental values into Arabic teaching materials offers several benefits.

First, Increasing Student Awareness: This helps students understand the relationship between Islamic teachings and their responsibilities toward the environment.

Second, Strengthening Arabic Language Learning: It provides a practical and relevant context for Arabic language learning, motivating students to engage more deeply in their studies.

Third, Contributing to Sustainability: It shapes a generation that is not only proficient in Arabic but also highly conscious of environmental issues.

3.4. Case Study: Pesantren SPMAA Lamongan

A study by Aulia et al. (2018) at Pesantren SPMAA Lamongan demonstrated that Islamic-based education emphasizing environmental values can effectively enhance students' ecological awareness. This pesantren integrates environmental education through a combination of classroom instruction, religious teachings, and practical activities that promote sustainability. Islamic values related to environmental stewardship, such as *khalifah* (guardianship of the earth) and *thaharah* (cleanliness), are embedded in daily learning activities, making environmental conservation a core part of students' education.

The learning process at Pesantren SPMAA consists of both formal and non-formal educational approaches. In formal settings, students engage in thematic discussions within Arabic and Islamic studies classes, where they analyse Qur'anic verses and Hadith related to environmental ethics. Teachers incorporate sustainability topics into Arabic language exercises, encouraging students to discuss ecological issues using Arabic

vocabulary. In non-formal education, students participate in experiential learning through programs such as pesantren reforestation, organic waste management, and clean water conservation. These initiatives are structured to foster practical environmental responsibility while reinforcing religious principles. Additionally, project-based learning is implemented, where students are tasked with designing and executing small-scale environmental conservation projects within the pesantren (Farida et al. 2017; Romlah et al. 2024).

This case study provides a concrete example of how Islamic values can be translated into effective environmental education practices. By embedding sustainability within religious teachings and daily activities, Pesantren SPMAA demonstrates how Islamic boarding schools can serve as models for integrating faith-based environmental education. The findings from this study contribute to the broader discussion on how pesantren-based education can be further optimized to cultivate environmental responsibility among students.

3.5. Challenges and Opportunities

Despite its significant potential, several challenges remain, including time constraints within the curriculum and the need for additional training for Arabic language teachers. However, the opportunities for integrating environmental values into Arabic teaching materials are vast, particularly through project-based learning and curriculum enrichment.

4. Recommendations for Enhancing the Arabic Language Curriculum with Environmental Education

Findings from the curriculum analysis and the case study of Pesantren SPMAA Lamongan indicate that the integration of environmental values in Arabic language instruction remains minimal. Given the potential of Arabic as a medium for religious and ethical instruction, there is a need to systematically incorporate ecological themes

into the curriculum. Strengthening Arabic language education with sustainability-oriented content can reinforce students' moral responsibility towards environmental stewardship while simultaneously enhancing their linguistic competencies.

Based on the research findings, the following recommendations outline strategies to enrich the Arabic language curriculum with environmental education, ensuring that it aligns with both linguistic and ethical objectives.

4.1. Expanding Environmental Themes in Textbooks

Arabic textbooks used in madrasas and pesantrens need to be revised to include more environmental topics. Currently, environmental themes are found in only two lessons: *Ana Uhibbu Indonesia* (I Love Indonesia) in grade 4 of Madrasah Ibtidaiyah and *Al-Hifadz 'Ala Al-Bi'ah* (Environmental Preservation) in grade 9 of Madrasah Tsanawiyah (Ali 2020; Mahmudah 2020). These themes can be expanded to include topics such as forest conservation, waste management, renewable energy, and the importance of preserving biodiversity. Each theme can be linked to relevant Qur'anic verses and hadith, enabling students to not only learn Arabic but also understand Islamic teachings on environmental stewardship.

4.2. Developing Environmental-Themed Learning Modules

In addition to revising textbooks, supplementary learning modules can be designed to support the teaching of environmental themes. These modules can include reading texts, grammar exercises, and interactive activities focused on environmental issues. For instance, a module on "Cleanliness and Healthy Living" could include Arabic vocabulary such as *Nadzafah* (cleanliness), *Shihhah* (health), and *Bi'ah* (environment), along with texts highlighting the importance of cleanliness based on Islamic teachings.

4.3. Strengthening Teacher Competency for Environmental-Themed Arabic Instruction

Findings from the curriculum analysis and the case study of Pesantren SPMAA indicate that one of the main challenges in integrating environmental themes into Arabic language education is the limited capacity of teachers to incorporate ecological issues into their lessons. Many Arabic language teachers have a strong foundation in religious and linguistic studies but lack formal training in environmental education, making it difficult to effectively link sustainability topics with language instruction (Rahman 2022). Studies have shown that teacher training programs play a crucial role in equipping educators with the necessary skills to integrate sustainability concepts into their teaching practices (Eliyawati et al. 2023).

To address this gap, teacher training programs should be designed to equip Arabic language educators with the necessary skills to integrate environmental themes into their teaching. These training initiatives can focus on:

1. Pedagogical strategies for contextualizing Qur'anic verses and Hadith related to environmental ethics in language instruction;
2. Developing project-based learning (PBL) approaches to actively engage students in discussions and initiatives related to environmental conservation; and
3. Enhancing teachers' foundational knowledge of both global and local environmental challenges to ensure meaningful and informed instruction.

4.4. Implementation of Project-Based Learning

Project-based learning can be an effective method to actively involve students in Arabic language instruction while simultaneously raising their environmental awareness. Students can be tasked with projects such as writing essays or poems in Arabic about the importance of environmental preservation; creating posters or campaigns in Arabic about the dangers of plastic waste;

engaging in reforestation activities at their schools or pesantrens, documented in Arabic; and similar practical activities that not only improves their language skills but also fosters a sense of responsibility to the environment, encouraging them to become proactive stewards of their communities (Noor et al. 2023).

4.5. Collaboration with Environmental Organizations

Madrasas and pesantrens can collaborate with environmental organizations to gain support for curriculum development. Organizations such as WWF Indonesia or the Ministry of Environment can provide materials, training, and guidance on teaching environmental issues. Such collaborations may also include field trips to conservation areas or waste management centres as part of the learning process.

4.6. Monitoring and Evaluation

To ensure the effectiveness of curriculum development, a robust monitoring and evaluation mechanism is essential (Messakh, Hartono, and Roesminingsih 2019). This includes:

1. Evaluating students' understanding of environmental issues before and after instruction;
2. Assessing teachers' ability to deliver environmental themes in Arabic; and
3. Revising modules or teaching materials based on feedback from students and teachers.

4.7. Integration of Digital Technology

The utilization of digital technology can enhance the teaching of environmental themes in Arabic (Al-Oboud 2023). Online learning platforms can be used to disseminate environmental-themed learning modules. Interactive videos, Arabic language learning applications, and social media can serve as tools to increase student engagement and reach a broader audience.

Developing an Arabic language curriculum with environmental themes not only enhances the relevance of Arabic education

in madrasas and pesantrens but also contributes to shaping a generation that is both religiously committed and environmentally conscious. By implementing these strategies, the Arabic curriculum can become more holistic and responsive to global challenges in the modern era.

Conclusion

This study analysed the extent to which environmental conservation values are integrated into the Arabic language curriculum in Indonesian madrasas and pesantrens. The findings indicate that while Arabic language education serves as a key component of Islamic religious instruction, environmental themes remain significantly underrepresented in the curriculum. A review of Arabic textbooks revealed that only two explicit environmental themes were incorporated, suggesting a lack of systematic integration of sustainability concepts. Furthermore, the case study of Pesantren SPMAA Lamongan demonstrated that faith-based environmental education can effectively enhance students' ecological awareness when integrated through structured learning activities. However, the lack of teacher training and limited availability of environmental learning materials in Arabic remain major challenges.

To address these gaps, this study proposes several strategies, including revising Arabic textbooks to incorporate Islamic ecological principles, developing supplementary learning modules, enhancing teacher training programs, and adopting project-based learning approaches. Collaboration with environmental organizations and the utilization of digital learning tools can further support these efforts.

By embedding environmental education within Arabic language instruction, madrasas and pesantrens can strengthen their role in fostering both linguistic competence and ecological responsibility among students. This research highlights the potential of faith-based education as a model for integrating sustainability into language learning

and contributes to the broader discourse on achieving sustainable development goals through Islamic education.

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