Jurnal Pembelajaran Bahasa dan Sastra
Volume 5, Nomor 5, September 2026
DOI: https://doi.org/10.55909/jpbs.v5i5.1812

https://pembahas.dialeks.id/index.php/jp
p-ISSN : 2809-5367
e-ISSN : 2809-6355

Needs Analysis for Developing an Arabic Linguistic Landscape Model Incorporating Ecotheological Values in Islamic Boarding Schools

Ahmad Marzuq[1*], Puti Zulharby[2], Siti Masyitoh[2]
[123]Prodi Pendidikan Bahasa Arab, Universitas Negeri Jakarta, DKI Jakarta, Indonesia
*E-mail: ahmad.marzuq@unj.ac.id

ABSTRACT
The linguistic landscape in educational settings serves not only as a marker of information and language identity but also as a learning resource and a medium for value formation through visual messages. In Islamic boarding schools, the use of Arabic in public spaces is strategically important because it is closely related to language learning and Islamic education. However, its use as a medium for conveying environmental awareness based on Islamic ecotheological values remains limited. This study aims to analyze students' needs as a basis for developing an Arabic linguistic landscape model incorporating ecotheological values in Islamic boarding schools. A descriptive quantitative approach was employed through a survey of 300 students from four Islamic boarding schools in Jakarta and West Java: Darussalam, As-Salam, Mahasina, and Az-Ziyadah. The instrument consisted of 15 items developed based on Hutchinson and Waters' *necessities, lacks,* and *wants* framework. Data were analyzed using percentage distributions. The results showed that 72% of respondents reported that written Arabic messages were scarce or unavailable. Furthermore, 56% experienced difficulties understanding Arabic instructions, primarily due to the absence of supporting images or symbols (71%) and insufficient Indonesian explanations (68%). Meanwhile, 94% indicated a need for additional Arabic instructions, particularly in the form of stickers (90%) and plaques (52%). The most desired messages concerned water and electricity conservation (80%) and prohibitions against littering and damaging plants (78%). These findings provide an empirical basis for developing an integrative, informative, pedagogical linguistic landscape oriented toward the internalization of Islamic ecotheological values.

Keywords: needs analysis, Arabic linguistic landscape, incorporating ecotheological values

INTRODUCTION

The educational environment is a social space used not only for formal learning activities but also as a setting where students interact with various messages, symbols, rules, and representations of values. One form of such representation can be found in the linguistic landscape, namely the presence and visibility of languages on signs, information boards, directions, posters, and other forms of written language displayed in public spaces. Linguistic landscapes serve both informative and symbolic functions. The presence of a particular language in public spaces does not merely convey information but also represents the status, identity, and presence of a language community (Landry & Bourhis, 1997).

The development of linguistic landscape studies has subsequently shown that the concept is not limited to public spaces such as streets, commercial areas, or urban spaces. Linguistic landscapes have also been examined in educational settings and understood as part of the learning environment. They can function as pedagogical

Submitted	Accepted	Published
14/08/2026	28/09/2026	30/09/2026

Citation	Marzuq, A., Zulharby, P., & Masyitoh, S. (2026). Needs Analysis for Developing an Arabic Linguistic Landscape Model Incorporating Ecotheological Values in Islamic Boarding Schools. *Jurnal Pembelajaran Bahasa dan Sastra, Volume 5, Nomor 5, September 2026, 4475-4488*. DOI: https://doi.org/10.55909/jpbs.v5i5.1812

Publisher
Raja Zulkarnain Education Foundation

Jurnal Pembelajaran Bahasa dan Sastra
Volume 5, Nomor 5, September 2026
DOI: https://doi.org/10.55909/jpbs.v5i5.1812

spaces that allow students to interact with linguistic forms, cultural messages, and various meanings embodied in signs within a particular environment (Malinowski, 2015). Thus, linguistic signs can be viewed as learning resources that exist beyond formal classroom instruction. Recent studies have increasingly explored this pedagogical dimension, positioning the linguistic landscape as a mediator that bridges formal instruction and authentic communicative practice in educational settings (Borrego, 2025).

In the context of Islamic education in Indonesia, Islamic boarding schools constitute spaces characterized by distinctive linguistic and religious features. Arabic holds an important position because it is used in Islamic studies and, in some boarding schools, as part of the development of a language-rich environment. A study of the linguistic landscape at the Darussalam Gontor educational complex, for example, found the dominance of Arabic and English across various signs displayed in the educational environment. This condition indicates that linguistic landscapes can reflect language policies while simultaneously forming part of the educational environment in Islamic boarding schools (Karimah et al., 2024).

Other studies on linguistic landscapes in Indonesian Islamic boarding schools have also demonstrated their relevance to Arabic language learning and acquisition. Linguistic landscapes in boarding schools can provide language exposure through signs encountered in students' daily lives, potentially supporting language habituation and contextual learning (Murtadho & Taufiq, 2025). Furthermore, research examining the relationship between linguistic landscapes and students' motivation to learn Arabic indicates that linguistic landscapes are a relevant aspect to investigate in relation to the Arabic learning environment in Islamic boarding schools. The use of Arabic in public signage not only reinforces institutional identity but also facilitates informal language acquisition beyond classroom settings (Hamid et al., 2024). In the context of Pesantren Annuqayah, studies have identified the forms and functions of language use in the linguistic landscape, highlighting the multilingual nature of these educational spaces (K. Yusuf et al., 2022).

Nevertheless, studies of linguistic landscapes in Islamic boarding schools have primarily focused on language use, multilingualism, language policies, language acquisition, or the symbolic functions of Arabic. Limited attention has been paid to the use of linguistic landscapes as a medium for conveying ecological values rooted in Islamic teachings. In fact, the Islamic intellectual tradition provides substantial foundations for developing environmental ethics. Islam contains important resources for fostering environmental ethics and views human beings as having a responsibility toward God's creation (Foltz, 2003). Recent scholarship has reinforced this view, demonstrating that Islamic ecotheology offers a robust framework for addressing contemporary ecological crises (Rohman & Kholid, 2026).

From an Islamic ecotheological perspective, the relationship between humans and the environment is understood not merely in ecological terms but also in relation to the human relationship with God. The concept of *khalifah*, for example, positions human beings as morally responsible for the Earth. Rakhmat (2022) explains that the concept of *khalifah* in Islamic ecotheology should not be understood as legitimizing human domination over nature but rather as a foundation for human ethical responsibility to protect the environment (Rakhmat, 2022). Similarly, Yusuf and Sadat (2019) emphasize the importance of reconnecting human life with the order of creation and making ecological responsibility part of religious awareness (M. Yusuf & Sadat, 2019).

This integration of environmental ethics with religious values has been further developed in the formulation of a Maqâcid-Ecological Interpretation Paradigm, which links environmental preservation with the higher objectives of Islamic law, particularly the protection of life (*if" al-nafs*) and

https://pembahas.dialeks.id/index.php/jp
p-ISSN : 2809-5367
e-ISSN : 2809-6355

future generations (*if" al-nasl*) (Rohman & Kholid, 2026). The integration of Islamic ecotheology has also been explored in the context of sustainable practices, where Islamic values are applied to environmental conservation efforts (Mangunjaya & McKay, 2012).

On this basis, the development of an Arabic linguistic landscape incorporating ecotheological values may serve as an alternative for expanding the functions of linguistic landscapes in Islamic boarding schools. Linguistic landscapes can be used not only to provide information about room names or specific rules but also to convey messages about cleanliness, water and energy conservation, plant protection, and prohibitions against environmentally harmful actions. Thus, Arabic in the boarding school environment can simultaneously function as a language of communication, a pedagogical medium, and a carrier of religious and ecological values. Preliminary studies on ecological linguistic landscapes in school settings have demonstrated that environmental posters can function as effective media for character education and conveying socio-ecological messages (Setiawati et al., 2020). The integration of ecotheological values into the Arabic linguistic landscape remains an underexplored area, with limited research specifically addressing the development of such models in Islamic boarding schools (Marzuq & Iskandar, 2025).

However, the development of such a model should not be based solely on researchers' assumptions. Materials and products intended for use in educational spaces need to take users' needs, difficulties, and preferences into account. Needs analysis is an important component of instructional design because development should consider what learners need, the gaps they experience, and what they want (Hutchinson & Waters, 1987). In the context of developing Arabic language materials, needs analysis has been recognized as a critical step to ensure relevance and effectiveness, particularly in Islamic higher education settings (Kartini & Ihsan, 2025).

Based on this framework, the present study adopts three dimensions: necessities, lacks, and wants. Necessities are used to identify the conditions and needs required within the learning context; lacks are used to identify the gaps or difficulties experienced by learners; and wants are used to determine learners' expectations and preferences regarding the product to be developed.

Based on the foregoing discussion, this study aims to analyze students' needs regarding the development of an Arabic linguistic landscape model incorporating ecotheological values in Islamic boarding schools. Specifically, the study seeks to answer three research questions: (1) What are the necessities regarding the availability of written Arabic messages containing environmental values in Islamic boarding schools? (2) What lacks do students experience in understanding written Arabic instructions? and (3) What are students' wants regarding the forms, content, and locations for implementing an Arabic linguistic landscape incorporating ecotheological values?

METHOD

This study employed a quantitative approach with a descriptive survey design. The research formed part of the define stage in the development of an Arabic linguistic landscape model incorporating ecotheological values. The define stage was conducted to obtain information about users' needs and the existing linguistic landscape conditions within Islamic boarding school environments. Needs analysis data were collected through a survey of students and an analysis of the boarding school environment.

The respondents comprised 300 students from four Islamic boarding schools in Jakarta and West Java: Darussalam Islamic Boarding School, As-Salam Islamic Boarding School, Mahasina Islamic Boarding School, and Az-Ziyadah Islamic Boarding School. The research instrument was a questionnaire consisting of 15 items with four response options. The instrument was developed

Jurnal Pembelajaran Bahasa dan Sastra
Volume 5, Nomor 5, September 2026
DOI: https://doi.org/10.55909/jpbs.v5i5.1812

based on Hutchinson & Waters' (1987) concept of needs analysis, which encompasses three aspects: *necessities, lacks,* and *wants* (Hutchinson & Waters, 1987).

The *necessities* aspect consisted of five items identifying the availability of written Arabic messages in general, as well as messages concerning cleanliness, water conservation, electricity conservation, and plant protection. The *lacks* aspect consisted of two items assessing the level of difficulty in understanding Arabic instructions and the factors contributing to these difficulties. The *wants* aspect consisted of eight items identifying the need for additional instructions, preferred media formats, desired types of messages, the need for message implementation, and preferred placement locations.

The data were analyzed using percentage distribution. For items measuring the level of need or availability of messages, the percentage for each category was calculated based on the number of respondents selecting each option. For items allowing respondents to select more than one alternative, the percentages were treated as selection frequencies and were not expected to total 100%. The analysis was conducted descriptively to provide an empirical overview of the needs for developing an Arabic linguistic landscape incorporating ecotheological values.

RESULT

1. Necessities for an Arabic Linguistic Landscape Incorporating Ecotheological Values

The needs analysis results indicate that the presence of written Arabic messages related to environmental issues in Islamic boarding schools remains limited. Regarding the availability of written Arabic messages in general, 53% of respondents stated that such messages were "few," while 19% reported that they were "not available." Thus, 72% of respondents experienced limited availability or did not find an adequate presence of written Arabic messages. Only 23% reported that such messages were "sufficient," and 4% stated that they were "abundant."

This limitation became more evident when the questions focused specifically on environmental messages. Regarding messages about maintaining personal and environmental cleanliness, 48% of respondents reported that such messages were few and 25% reported that they were not available. For water conservation messages, 39% reported that they were few and 31% reported that they were not available. For electricity conservation messages, 40% reported that they were few and 36% reported that they were not available. Meanwhile, regarding plant protection messages, 47% reported that they were few and 33% reported that they were not available.

Table 1
Availability of Written Arabic Messages in Islamic Boarding Schools

Type of Message	Few	None	Sum
Arabic messages in general	53%	19%	72%
Maintaining personal and environmental cleanliness	48%	25%	73%
Water conservation	39%	31%	70%
Electricity conservation	40%	36%	76%
Plant protection	47%	33%	80%

These findings reveal a gap between the potential of Islamic boarding schools as Arabic-speaking educational environments and the limited presence of Arabic environmental messages in their physical spaces. Linguistic landscapes can function not only as representations of language but also as sources of pedagogical interaction. Malinowski (2015) emphasizes that linguistic landscapes can be opened up as learning spaces that enable students to interact with linguistic forms, cultural messages, and meanings embedded in a particular environment (Malinowski, 2015).

These findings are also consistent with research on linguistic landscapes in Islamic boarding schools,

https://pembahas.dialeks.id/index.php/jp
p-ISSN : 2809-5367
e-ISSN : 2809-6355

which indicates that Arabic signs can contribute to the development of a language-rich environment. Studies in Indonesian Islamic boarding schools have shown that Arabic is not only present as an object of instruction but is also manifested through signs displayed throughout the boarding school environment.

However, the present study extends these findings. Whereas previous research has primarily viewed linguistic landscapes as part of the Arabic language environment, the needs analysis results indicate an opportunity to develop an Arabic language environment that simultaneously conveys ecological messages grounded in Islamic values. In other words, the identified need is not simply for "more Arabic," but for "more Arabic that serves both pedagogical and ecological functions."

From an Islamic ecotheological perspective, this need has a strong conceptual foundation. Islamic environmental ethics are rooted in the view that nature is part of God's creation and that human beings have a responsibility for its sustainability. Foltz (2003) demonstrates that the Islamic tradition contains rich resources for developing environmental ethics, while Khalid (2019) emphasizes the importance of connecting religious awareness with ecological responsibility (Foltz, 2003; Khalid, 2019). Therefore, messages concerning cleanliness, water and energy conservation, and plant protection can be designed not merely as behavioral regulations but as concrete expressions of religious values translated into language and physical space.

2. Lacks in Understanding the Arabic Linguistic Landscape

The lacks analysis indicates that the challenge in developing a linguistic landscape lies not only in the limited number of signs but also in how these signs are understood by students. A total of 46% of respondents reported being "quite challenged" in understanding written Arabic instructions in the boarding school environment, while 10% reported being "very challenged." Thus, 56% of respondents experienced some degree of difficulty in understanding Arabic instructions. In contrast, 31% reported no difficulty, and 13% reported being "not at all challenged."

Table 2
Level of Difficulty in Understanding Arabic Instructions

Level of Difficulty	Percentage
Not at all challenged	13%
Not challenged	31%
Quite challenged	46%
Very challenged	10%

More importantly, the data reveal the factors contributing to these difficulties. The most frequently reported factor was the absence of supporting images or symbols (71%), followed by insufficient explanations in Indonesian (68%), unclear or illegible text (61%), and text that was too long and difficult to understand (18%).

Table 3
Factors Contributing to Difficulties in Understanding Arabic Instructions

Difficulty Factor	Percentage
No supporting images/symbols	71%
Insufficient explanations in Indonesian	68%
Unclear/illegible text	61%
Text too long and difficult to understand	18%

These findings have important implications for model development. Difficulties in understanding the linguistic landscape cannot be viewed solely as a matter of Arabic language proficiency. Most challenges are instead related to multimodality, readability, and visual design. Therefore, the model needs to consider the relationship among text, images, symbols, colors, font size, layout, and placement.

This finding is consistent with developments in linguistic landscape research that view signs as

Jurnal Pembelajaran Bahasa dan Sastra
Volume 5, Nomor 5, September 2026
DOI: https://doi.org/10.55909/jpbs.v5i5.1812

multimodal constructions. Andriyanti (2019), for example, analyzed hundreds of signs in school landscapes in Yogyakarta and demonstrated the importance of verbal and visual elements in constructing the social meanings of signs (Andriyanti, 2019). The study emphasizes that educational linguistic landscapes can be examined through geosemiotic and multimodal social semiotic approaches.

Accordingly, the findings provide empirical support for the argument that developing an Arabic linguistic landscape incorporating ecotheological values requires more than producing linguistically accurate Arabic sentences. The model must also regulate how messages are visually presented to ensure comprehensibility. This is particularly important because environmental messages are generally intended to be read quickly in everyday situations. Therefore, overly lengthy messages may reduce communication effectiveness, whereas images or symbols can help clarify meaning.

Another implication concerns the use of supporting languages. As many as 68% of respondents identified insufficient Indonesian explanations as a factor contributing to their difficulties. This finding does not mean that Arabic should be replaced by Indonesian. Rather, it provides a basis for designing bilingual or multimodal signs, with Arabic serving as the primary language and Indonesian, icons, or symbols supporting comprehension.

From a linguistic landscape perspective, decisions regarding the languages displayed serve both social and symbolic functions. Landry and Bourhis (1997) position language visibility as part of the informative and symbolic functions of linguistic landscapes (Landry & Bourhis, 1997). Therefore, the use of Arabic on ecological signs in Islamic boarding schools can simultaneously maintain the identity and Arabic language environment, while visual elements and supporting languages ensure message comprehensibility.

3. *Wants* of Students Regarding the Developed Model

The *wants* dimension indicates a strong demand for additional Arabic linguistic landscape signs. A total of 58% of respondents stated that additional signs were "needed," while 36% stated that they were "highly needed." When these two categories are combined, 94% of respondents expressed a desire for more written Arabic instructions in the Islamic boarding school environment.

This finding reinforces the results of the *necessities* dimension. While the *necessities* findings indicate that Arabic messages remain limited, the *wants* findings show that students explicitly expect these signs to be increased. Thus, there is a clear alignment between the objective conditions perceived by respondents and their preferences regarding the proposed solution.

In terms of format, stickers were the most preferred option (90%), followed by plaques in gardens or on trees (52%), educational posters (40%), and banners or wall signs (34%).

Table 4
Preferences for Linguistic Landscape Formats

Format	Percentage
Stickers	90%
Plaques in gardens/on trees	52%
Educational posters	40%
Banners/wall signs	34%

The high preference for stickers indicates that students tend to favor media that can be placed at points closely connected to their daily activities. This is consistent with the nature of linguistic landscapes as signs embedded in physical spaces and encountered repeatedly. In educational contexts, the presence of signs across different spaces can create opportunities for informal learning and extend the learning environment beyond the formal classroom (Malinowski, 2015).

https://pembahas.dialeks.id/index.php/jp
p-ISSN : 2809-5367
e-ISSN : 2809-6355

3.1 Preferences for Ecotheological Message Content

The preferences regarding message content indicate that students do not merely want general instructions but, more importantly, messages related to concrete ecological actions. Water conservation and electricity conservation messages were each selected by 80% of respondents. This was followed by prohibitions against littering and damaging plants, each selected by 78% of respondents; messages about maintaining personal cleanliness (76%); and messages about maintaining environmental cleanliness (68%).

Table 5
Preferences for Message Content

Message Type	Percentage
Saving water	80%
Saving electricity	80%
Prohibition against littering	78%
Prohibition against damaging plants	78%
Maintaining personal cleanliness	76%
Maintaining environmental cleanliness	68%

This pattern indicates that students have a stronger need for behavioral and situational messages, namely messages that directly guide specific actions. This finding is important for model development because ecotheological values need to be translated from abstract concepts into everyday actions that students can practice.

In the context of Islamic ecotheology, these actions can be connected to the principle of human responsibility toward creation. The concept of *khalifah* positions human beings as having a moral responsibility to manage and protect the Earth rather than as its absolute owners. Islamic intellectual traditions concerning the environment also demonstrate concern for water, sustainability, environmental protection, and human responsibility toward creation.

Accordingly, messages such as “save water,” “save electricity,” “keep clean,” or “protect plants” can be positioned as micro-level manifestations of ecotheological values. These messages connect religious values with everyday ecological practices. This is where the potential of the proposed model lies: ecotheological values are not merely taught as knowledge but are visually embedded in students’ everyday living spaces.

3.2 Preferences for Placement Locations

The *wants* analysis also indicates that students prefer the messages to be implemented across various locations within the Islamic boarding school environment. Among all the locations presented, classrooms received the highest percentage (90%), followed by classroom toilets (88%), students’ dormitory rooms (88%), ablution areas (83%), mosque toilets (83%), parent/guardian visiting areas (83%), student organization rooms (81%), individual student rooms (80%), teachers’ rooms (80%), and the assembly hall (79%).

Table 6
Priority Locations for Linguistic Landscape Placement

Rank	Location	Percentage
1	Classrooms	90%
2	Classroom toilets	88%
3	Students’ dormitory rooms	88%
4	Ablution areas	83%
5	Mosque toilets	83%
6	Parent/guardian visiting areas	83%
7	Student organization rooms	81%
8	Individual student rooms	80%
9	Teachers’ rooms	80%
10	Assembly hall	79%
11	Gardens	72%
12	Computer laboratories	71%
13	Students’ dining areas	70%
14	Library	65%

The distribution of these locations demonstrates that students do not perceive linguistic landscapes as media suitable for placement in only one particular space. Instead, they want them to be distributed across learning spaces, residential areas, religious spaces, sanitation facilities, social spaces, and organizational areas. Thus, linguistic landscapes have the potential to function as a comprehensive ecological learning environment.

This finding is important because the meaning of a sign in a linguistic landscape cannot be separated from the location and social context in which it is placed. Linguistic landscape research has evolved from simply counting languages displayed on signs toward examining the relationships among language, space, identity, and social practices. Cenoz and Gorter (2006), for example, demonstrated that linguistic landscapes are related to language policy contexts and the characteristics of the spaces in which languages are displayed (Cenoz & Gorter, 2006).

In this study, location can be directly linked to the message being conveyed. For example, water conservation messages are more relevant in ablution areas and toilets; cleanliness messages can be placed in dormitory rooms, classrooms, and dining areas; electricity conservation messages can be placed in classrooms, dormitory rooms, teachers' rooms, and computer laboratories; while plant protection messages can be placed in gardens. Therefore, model development should consider the principle of alignment among message, behavior, and space.

3.5 Synthesis of the Needs Analysis as a Basis for Model Development

The findings across the three dimensions reveal a consistent pattern. In the *necessities* dimension, the availability of Arabic messages containing environmental values remains limited. In the *lacks* dimension, students experience difficulties in understanding written Arabic instructions, particularly due to visual and readability issues. In the *wants* dimension, students demonstrate a strong desire for additional Arabic instructions, particularly in the form of stickers and plaques, featuring messages about water conservation, electricity conservation, plant protection, and cleanliness.

Table 7
Synthesis of Needs Analysis Findings

Dimension	Key Findings	Development Implications still limited
Necessities	Arabic and environmental messages are Increase the number of	Increase the number of Arabic or absent Arabic linguistic landscape signs incorporating ecotheological values
Lacks	56% experience moderate or high difficulty; 71% report the absence of supporting	The model should be multimodal and easy to understand images/symbols
Lacks	68% report insufficient Indonesian	Bilingual/multimodal signage can be used explanations
Wants	94% state that Arabic instructions need	The product has strong user demand to be added or greatly increased
Wants	90% prefer stickers	Stickers should be prioritized
Wants	52% prefer plaques	Plaques can serve as supporting formats, particularly in garden areas
Wants	80% prefer water and electricity	Both themes should be prioritized conservation messages
Wants	78% prefer messages prohibiting littering	Environmental protection messages and plant damage should be prioritized
Wants	Classrooms 90%; toilets/dormitory rooms 88%	Placement should correspond to activity contexts

https://pembahas.dialeks.id/index.php/jp
p-ISSN : 2809-5367
e-ISSN : 2809-6355

The synthesis indicates that the development needs are not merely quantitative, in terms of increasing the number of signs, but also qualitative and conceptual. Qualitatively, the signs need to be more comprehensible through the integration of text and visual elements. Conceptually, their content needs to integrate Arabic language learning with Islamic ecotheological values.

These findings also contribute to the field of *educational linguistic landscape* research. Previous studies have demonstrated that linguistic landscapes can function as pedagogical spaces and resources for language learning. Research in Indonesian school environments has also shown that signs within school landscapes can represent various social issues and can be examined through linguistic and visual approaches. Meanwhile, studies in Islamic boarding schools have demonstrated the relationship between linguistic landscapes and the language environment, language acquisition, and students' motivation to learn Arabic.

The present study extends these functions by integrating ecotheological values. Thus, the educational linguistic landscape is positioned not only as an environment for language exposure but also as an environment for value formation. Arabic displayed on signs does not serve merely an informative function but also becomes a medium for conveying values such as *tawhid* (oneness of God), *amanah* (trust and responsibility), *khalifah* (stewardship), balance, avoidance of excess, compassion toward creation, and environmental responsibility.

Within this framework, the linguistic landscape can be understood as part of the environmental *hidden curriculum* of Islamic boarding schools. Messages encountered repeatedly have the potential to foster awareness of expected behaviors in everyday life. However, it should be emphasized that the present findings demonstrate only user needs and acceptance, rather than proving that such linguistic landscapes are effective in changing ecological behavior. The effectiveness of changes in attitudes and behavior requires further investigation through development research and implementation testing.

This position is methodologically important. Needs analysis serves as a foundation for ensuring that the developed product is relevant to its intended users. Hutchinson & Waters (1987) position learner needs as an important component of instructional development. Therefore, the findings of this study can serve as a basis for the subsequent stages, including design development, prototype development, expert validation, user trials, and testing of the model's impact.

DISCUSSION

The findings demonstrate a consistent and interconnected pattern across the three dimensions of needs analysis: *necessities, lacks,* and *wants*. Taken together, the results indicate that the development of an Arabic linguistic landscape incorporating Islamic ecotheological values is not merely a matter of increasing the number of Arabic signs in Islamic boarding schools. Rather, it requires a shift in the function, design, content, and placement of linguistic landscape signs so that they can simultaneously support Arabic language exposure, facilitate comprehension, and promote environmental awareness. The findings therefore position the linguistic landscape as a potentially integrated pedagogical and ecological resource within the boarding school environment.

The *necessities* findings reveal a substantial gap between the linguistic potential of Islamic boarding schools and the availability of Arabic environmental messages in their physical environments. Although Arabic occupies an important position in Islamic education and language learning, 72% of respondents reported that written Arabic messages in general were either few or absent. The limitation was even more pronounced for environmental messages, particularly those concerning plant protection (80%), electricity conservation (76%), cleanliness (73%), and water conservation (70%). This finding suggests that the presence of Arabic in pesantren does not automatically mean that Arabic is

optimally utilized as part of the physical learning environment. Arabic may be taught systematically in classrooms, yet its visibility and pedagogical function beyond the classroom remain relatively limited, particularly in relation to environmental education.

This observation extends the conventional understanding of linguistic landscapes as representations of language identity and language policy. In educational contexts, signs can also become pedagogical resources because learners encounter them repeatedly during their daily activities. The physical environment therefore provides an underutilized space for extending Arabic exposure beyond formal instruction. More importantly, the study identifies an opportunity to connect two domains that are commonly treated separately: Arabic language education and environmental education. Previous linguistic landscape research in educational and pesantren contexts has primarily emphasized language exposure, multilingualism, language policy, and language learning. The present study extends this perspective by proposing that Arabic signs can simultaneously carry ecological messages grounded in Islamic values. Thus, the relevant development goal is not simply to create "more Arabic" in the environment but to create meaningful Arabic exposure that serves pedagogical and ecological purposes simultaneously.

This extension is particularly relevant to Islamic boarding schools because environmental messages can be framed through concepts already embedded in students' religious and educational experiences. Messages concerning water conservation, cleanliness, energy use, and plant protection can therefore function not merely as institutional regulations but as concrete expressions of religious responsibility toward creation. The linguistic landscape becomes a medium through which religious knowledge can be translated into observable and actionable environmental practices.

The *lacks* findings provide an important qualification to the assumption that increasing Arabic signage alone would automatically strengthen the learning environment. Although 94% of respondents wanted additional Arabic instructions, 56% also reported experiencing some degree of difficulty in understanding Arabic instructions. The main difficulties were not exclusively linguistic. The absence of supporting images or symbols was reported by 71% of respondents, insufficient Indonesian explanations by 68%, and unclear or illegible text by 61%. These findings are theoretically significant because they demonstrate that the effectiveness of a linguistic landscape depends on the interaction between linguistic and visual resources.

A sign may be grammatically accurate in Arabic but still fail to communicate effectively if its visual design, readability, or contextual placement is inappropriate. In this sense, the findings support a multimodal understanding of linguistic landscape in which meaning is constructed through the interaction of verbal and visual elements rather than through language alone. The particularly high percentage associated with the absence of images or symbols (71%) suggests that future signage should not rely exclusively on written language. Icons, illustrations, typography, color contrast, font size, and spatial arrangement should be considered as integral components of meaning-making. This is especially important for environmental messages, which are often encountered briefly during everyday activities. A concise Arabic expression accompanied by an easily recognizable symbol may communicate an intended action more efficiently than a long textual explanation.

The finding concerning Indonesian explanations also deserves careful interpretation. The fact that 68% of respondents identified insufficient Indonesian explanations as a difficulty does not imply that Indonesian should replace Arabic. Rather, it suggests that Arabic signage should be designed through a bilingual or

https://pembahas.dialeks.id/index.php/jp
p-ISSN : 2809-5367
e-ISSN : 2809-6355

multimodal strategy when necessary. Arabic can remain the dominant linguistic element, thereby maintaining its pedagogical and symbolic function, while Indonesian and visual symbols can provide scaffolding for comprehension. Such an approach allows the model to balance two objectives: maintaining Arabic visibility and ensuring that ecological messages are accessible to users.

The *wants* findings provide strong evidence of user acceptance of the proposed model. As many as 94% of respondents stated that additional Arabic instructions were needed or highly needed. Stickers were the most preferred format (90%), followed by plaques (52%), while educational posters and wall signs received lower preferences. The strong preference for stickers can be interpreted in relation to the everyday and mobile nature of the linguistic landscape. Stickers can be placed close to specific activities and encountered repeatedly, making them suitable for short, contextual, action-oriented messages. Their high preference therefore corresponds with the central characteristic of linguistic landscapes as signs embedded in physical environments rather than isolated instructional materials.

The content preferences further reinforce this interpretation. Water and electricity conservation were each selected by 80% of respondents, followed by prohibitions against littering and damaging plants (78%), personal cleanliness (76%), and environmental cleanliness (68%). These preferences indicate that students prioritize messages that directly guide behavior rather than abstract explanations of environmental concepts.

This finding has an important implication for the conceptualization of Islamic ecotheology in the model. Ecotheological values should not remain at the level of abstract religious concepts such as human stewardship or responsibility toward creation. Instead, these concepts need to be translated into specific and observable actions. "Save water," "save electricity," "do not litter," and "protect plants," for example, represent behavioral expressions of broader ethical principles. In this way, the linguistic landscape can function as a bridge between religious values, language learning, and everyday ecological practices. The model may therefore be understood as translating macro-level religious values into micro-level behavioral cues. Concepts such as *khalifah, amanah,* responsibility, moderation, and care for creation can be operationalized through concise Arabic messages positioned at locations where corresponding behaviors occur. This makes the ecological dimension of the linguistic landscape contextual rather than merely declarative.

Another significant finding concerns the preferred locations of the signs. Classrooms received the highest preference (90%), followed by classroom toilets and students' dormitory rooms (88% each), ablution areas and mosque toilets (83%), parent/guardian visiting areas (83%), and student organization rooms (81%). The wide distribution of preferred locations suggests that students conceptualize linguistic landscapes as part of the broader environment in which they live and learn, rather than as a resource restricted to classrooms. This finding supports the idea of the pesantren environment as an extended learning space in which language and values can be encountered across different social and physical contexts.

At the same time, the location of a sign should not be determined merely by the popularity of a particular space. The findings suggest the importance of establishing a correspondence between message, behavior, and spatial context. Water conservation messages, for instance, would be more meaningful when placed near ablution areas or toilets; electricity conservation messages would be appropriate in classrooms, dormitories, teachers' rooms, and computer laboratories; cleanliness messages could be placed in classrooms, dormitories, and dining areas; and plant protection messages would be most contextually relevant in gardens. This contextual principle strengthens the pedagogical function of the linguistic landscape because learners encounter the message at the moment when the relevant behavior is likely to occur. Consequently, the

physical environment does not merely display language but participates in constructing the context in which language, meaning, and behavior are connected.

The synthesis of the findings suggests that the proposed model has the potential to extend the concept of *educational linguistic landscape*. Traditionally, educational linguistic landscapes have been discussed primarily in relation to language visibility, language learning, identity, and multilingual practices. The present study proposes an additional dimension: value formation through the integration of language, space, and religiously grounded environmental messages. In this model, Arabic signs serve at least three simultaneous functions. First, they provide additional exposure to Arabic outside formal classroom instruction. Second, they communicate practical information and behavioral guidance. Third, they convey Islamic ecotheological values through everyday environmental practices. The linguistic landscape therefore becomes both a language-learning environment and a value-forming environment.

This conceptual integration may also be understood through the notion of the environmental *hidden curriculum*. Messages repeatedly encountered in daily life may contribute to students' awareness of expected behaviors, although such effects cannot be assumed solely from the present needs analysis. Importantly, this study does not demonstrate that Arabic ecological signs actually change students' attitudes or environmental behavior. The current evidence establishes user needs, preferences, and perceived difficulties, not behavioral effectiveness. This distinction is essential for maintaining methodological rigor. The present study represents the needs-analysis or define stage of a development process. Its primary contribution is therefore to establish empirically grounded design requirements for the subsequent development of the model.

Taken together, the findings suggest four core design principles for an Arabic linguistic landscape model incorporating Islamic ecotheological values: linguistic accuracy, integration of ecotheological values, multimodal comprehensibility, and spatial congruence between the message and its placement context. These principles transform the linguistic landscape from a collection of isolated signs into a structured educational system embedded in the daily environment of the pesantren. The strength of the proposed approach lies precisely in this integration: Arabic is not presented independently of context, and ecological values are not presented independently of language learning. Instead, language, visual communication, religious values, behavior, and space are brought together within a single learning environment.

Overall, the findings provide empirical support for developing an Arabic linguistic landscape model that moves beyond informative and symbolic functions toward a more integrated pedagogical and ecological role. Nevertheless, the proposed model remains a development proposition at this stage. Its validity, practicality, usability, and effectiveness need to be established through expert validation, prototype testing, user trials, and subsequent implementation research. Such further testing will determine whether the needs identified in this study can be successfully translated into an educational linguistic landscape that contributes meaningfully to both Arabic language learning and the internalization of environmentally responsible behavior among students.

CONCLUSION

The needs analysis involving 300 students from four Islamic boarding schools in Jakarta and West Java demonstrates a strong need for developing an Arabic linguistic landscape incorporating ecotheological values. In the *necessities* dimension, the availability of written Arabic messages remains limited, particularly messages concerning cleanliness, water and electricity conservation, and plant protection. In the *lacks* dimension, more than half of the respondents experience some degree of difficulty in understanding Arabic instructions, with the main

https://pembahas.dialeks.id/index.php/jp
p-ISSN : 2809-5367
e-ISSN : 2809-6355

contributing factors being the absence of supporting images or symbols, insufficient explanations in Indonesian, and poor text readability. In the *wants* dimension, 94% of respondents expressed a desire for additional written Arabic instructions.

The students' preferences indicate that stickers are the most desired format, followed by plaques. The most preferred message content includes water and electricity conservation, prohibitions against littering and damaging plants, and messages promoting cleanliness. The most desired locations include classrooms, toilets, students' dormitory rooms, ablution areas, mosque toilets, parent/guardian visiting areas, and student organization rooms.

Theoretically, the findings suggest that the development of linguistic landscapes in Islamic boarding schools can be expanded beyond their informative, symbolic, and pedagogical functions toward an ecological education function grounded in religious values. Integrating Arabic with ecotheological values enables the boarding school environment to become a learning space that not only strengthens exposure to Arabic but also incorporates messages promoting environmental awareness into students' everyday lives.

Therefore, this needs analysis provides an empirical foundation for developing an Arabic linguistic landscape model incorporating ecotheological values. The subsequent model development should address four key principles: (1) linguistic accuracy in Arabic, (2) integration of ecotheological values, (3) comprehensible multimodal design, and (4) alignment between the message and its placement context. Future research should examine the model's validity, practicality, and effectiveness to determine the extent to which the linguistic landscape can support Arabic language learning and the internalization of students' ecological behaviors.

ACKNOWLEDGEMENTS

The authors sincerely thank the Institute for Research and Community Service (LPPM), Universitas Negeri Jakarta, for financial support through the 2026 Internal Research Grant Program. The authors also express their appreciation to the research team, participating Islamic boarding schools, teachers, and 300 student respondents for their valuable support and cooperation throughout the research process. Special thanks are extended to the student research assistants for their contributions to data collection and other research activities. Their support and collaboration were essential to the successful completion of this study.

REFERENCES

Andriyanti, E. (2019). Linguistic Landscape at Yogyakarta's Senior High Schools in Multilingual Context: Patterns and Representation. *Indonesian Journal of Applied Linguistics*, *9*(1), 85–97.

Borrego, M. M. (2025). Linguistic Landscape and Pragmatic Competence Development: Towards an Integrative Pedagogical Model. *Porta Linguarum Revista Interuniversitaria de Didáctica de Las Lenguas Extranjeras*, *12*, 137–152.

Cenoz, J., & Gorter, D. (2006). Linguistic Landscape and Minority Languages. *International Journal of Multilingualism*, *3*(1), 67–80. https://doi.org/10.1080/14790710608668386

Foltz, R. (2003). *Islam and ecology: A bestowed Trust. Center for the Study of World Religions*. Harvard Divinity School.

Hamid, M. A., Murtadho, M. A. C., Firdaus, A. Y., & Masturi, M. (2024). Language Environment and Acquisition Dynamics of Arabic in Pesantren: Perspectives on Islamic Education and Learning Tradition. *International Journal of Islamic Thought and Humanities*, *3*(2), 387–400.

Hutchinson, T., & Waters, A. (1987). *English for Specific Purposes*. Cambridge: Cambridge University Press.

Karimah, F. I., Putri, A. K. S., & Ridho, A. (2024). The Arabic Language Learning Curriculum in Modern Islamic Boarding Schools in Gontor Indonesia. *Journal of Arabic Language Studies and Teaching*, *4*(2), 201–214.

Kartini, K., & Ihsan, M. (2025). Developing Arabic Language Instructional Materials for Mathematic Students in Islamic Higher Education in Indonesia. Journal of Education and Teaching (JET), 6(3), 685-701. https://doi.org/10.51454/jet.v6i3.558

Khalid, F. M. (2019). *Signs on the Earth: Islam, Modernity and the Climate Crisis*. Kube Publishing Ltd.

Landry, R., & Bourhis, R. Y. (1997). Linguistic Landscape and Ethnolinguistic Vitality: An Empirical Study. *Journal of Language and Social Psychology*, *16*(1), 23–49.

Malinowski, D. (2015). Opening Spaces of Learning in the Linguistic Landscape. *Linguistic Landscape*, *1*(1–2), 95–113.

Mangunjaya, F. M., & McKay, J. E. (2012). Reviving an Islamic Approach for Environmental Conservation in Indonesia. *Worldviews*, *16*(3), 286–305. https://doi.org/10.1163/15685357-01603006

Marzuq, A., & Iskandar, I. (2025). Nilai-Nilai Ekoteologis dalam Lanskap Linguistik di Pondok Pesantren. *Proceeding of International Conference on Innovation, Reflection, and Creativity in Arts, Literature, and Language Education*, *1*(1), 145–157.

Murtadho, M. A. C., & Taufiq, M. A. (2025). *Linguistic Landscape of Pesantren Modern Al-Amanah Junwangi: It's Role In Arabic Acquisition*. Journal of Applied Linguistics and Islamic Education.

Rakhmat, A. (2022). Islamic Ecotheology: Understanding the Concept of Khalifah and the Ethical Responsibility of the Environment. *Academic Journal of Islamic Principles and Philosophy*, *3*(1), 1–24.

Rohman, M. F., & Kholid, A. (2026). Constructing a Maqācid-Ecological Interpretation Paradigm: Integrating Islamic Ecotheology and Qur'anic Environmental Ethics in Indonesia. *Al-Quds: Jurnal Studi Alquran dan Hadis*, *10*(1). https://doi.org/10.29240/alquds.v10i1.15346

Setiawati, E., Sukmawan, S., Ardian, D., Setiawan, F. N., & Purwaningrum, E. W. (2020). Scrutinizing Pictures, Essentializing Ecological Care: Analysis of Ecological Linguistic Landscape on Environmental Education Posters in Schools. *JISLLAC: Journal of Indonesian Studies in Linguistics and Literature*, *4*(1), 16–22. https://doi.org/10.17977/um006v4i12020p16-22

Yusuf, K., Oktaviana, I., Nisa, N. A., & Nurjannah. (2022). Exploring Linguistic Landscapes of Pesantren: Their Patterns and Functions. *Notion: Journal of Linguistics, Literature, and Culture*, *4*(2), 63–75. https://doi.org/10.12928/notion.v4...

Yusuf, M., & Sadat, A. (2019). Eco-fiqh: Pendekatan Maslahat Terhadap Amdal dan Konservasi Lingkungan. *Al-Daulah: Jurnal Hukum dan Perundangan Islam*, *9*(2), 250–273.