Nyai leadership: The role of women in maintaining the tradition of santri literacy in islamic boarding schools

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Article information	Abstract
           	Although pesantren have a long-standing literacy tradition, the role of women's leadership in sustaining santri literacy is often overlooked. Limited recognition of female leaders' influence constrains understanding of how visionary and participative leadership fosters motivation, literacy practices, and the integration of cultural, institutional, and pedagogical aspects in pesantren. This study aims to understand Bu Nyai's leadership in promoting santri literacy at Pesantren Annuqayah, exploring motivational strategies, literacy routines, and leadership innovations that cultivate a literacy culture, as well as the supporting factors for their success. A qualitative phenomenological approach was employed, collecting data through interviews, observation, and documentation, analyzed thematically with triangulation of sources, methods, and time to ensure credibility, capture subjective experiences, and relate findings to female leadership theory. Results indicate that Bu Nyai's visionary, transformational, and participative leadership plays a central role in building a sustainable literacy culture and developing santri character. Institutional interaction, pedagogical practices, and social support create an adaptive literacy ecosystem. Literacy emerges as social, cultural, and professional capital gained through women's leadership as agents of institutional transformation. The findings confirm that visionary and participative female leadership can promote sustainable literacy, strengthen santri character, and serve as a model for policy, pedagogical practice, and literacy ecosystem development in pesantren.

To cite this article (APA Style):
Herlina, H., Munawara, M., & Gurel, I. S. (2025). Nyai leadership: The role of women in maintaining the tradition of santri literacy in islamic boarding schools. *An-Nisa Journal of Gender Studies, 18(1),* 89-104. https://doi.org/10.35719/annisa.v18i1.319

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INTRODUCTION

Strengthening literacy in Islamic boarding schools is a strategic issue in the context of globalization and technology, which requires Islamic educational institutions to remain relevant. Literacy plays a role in maintaining the existence of Islamic boarding schools as centers of Islamic knowledge and values (Marmoah et al., 2022; Sari et al., 2024). However, the literacy culture of Islamic boarding school students is constrained by weak management, limited facilities, and suboptimal use of technology (Hanafi et al., 2021). In this situation, Nyai leadership has a strategic position, not only as a companion to Kiai, but also as an educator and role model (Aini et al., 2021) who actively shapes the character of santri (Mustofa et al., 2023). In some pesantren, Nyai initiates writing training and book discussions, demonstrating adaptive leadership amid the challenges of patriarchy (Merino et al., 2024). Since literacy is a fundamental skill (Hadianto et al., 2022), strengthening literacy through Nyai's leadership becomes an important social context as well as a research issue related to literacy needs and the reality of its implementation in contemporary Islamic boarding schools in Indonesia today.

Previous studies have shown that effective leadership in Islamic boarding schools influences the motivation and literacy achievements of students. Arroyo et al. (2023) emphasize that strong and responsive leadership contributes to an engaging learning environment. Munna (2021) found that Bu Nyai, as the central leader in the pesantren structure, plays a role in policy formulation, curriculum management, and student mentoring. Acosta-Gonzaga and Ramirez-Arellano (2022) add that moral support and learning facilities from leaders increase enthusiasm and participation in literacy. More broadly, Galsanjigmed and Sekiguchi (2023) explain that female leadership is increasingly recognized for emotional intelligence, multitasking abilities, and spiritual foundations. Zaqiah et al. (2024) highlight that literacy in Islamic education includes religious and general knowledge as indicators of quality. A study at the Annuqayah Islamic boarding school shows that Bu Nyai creates an inclusive and motivating learning climate (Rusticus et al., 2024) through the application of transformational leadership (Riggio & Bass, 2005) and servant leadership (Ragnarsson et al., 2018) principles in the context of contemporary Indonesian education.

The research gap arises because although previous studies have shown the influence of leadership on the motivation and literacy achievements of santri in pesantren, the focus of research has remained on general leadership patterns without examining the role of Bu Nyai as a female leader with educational and moral authority (Aquino et al., 2011; Hilal et al., 2024). Research on female leadership has recognized their emotional intelligence and spiritual depth, but understanding of how these qualities are operationalized in the context of Islamic boarding schools, especially in the development of santri literacy, remains limited. Studies have also not discussed Bu Nyai's concrete strategies, ways of overcoming structural and cultural challenges, and the use of contextual factors in building a culture of literacy (Cochrane et al., 2022; Marmoah et al., 2022). In this context, this study is relevant to explore how Bu Nyai's leadership motivates santri, initiates literacy practices, and creates an inclusive learning climate. Bu Nyai's position can be understood as a leader with moral, pedagogical, and spiritual authority who plays a strategic role in the upbringing and educational culture of pesantren.

This study aims to gain an in-depth understanding of Bu Nyai's leadership role in influencing the literacy development of students at the Annuqayah Islamic boarding school. The main focus of the study is to examine how Bu Nyai motivates students to achieve excellence in literacy through an active, inspiring, and innovative leadership approach. This

study also aims to identify various efforts made by Bu Nyai in building a literacy culture in the pesantren, as well as analyzing the factors that support the success of these strategies. By understanding the dynamics of Bu Nyai's leadership, the results of this study are expected to contribute theoretically to the development of studies on women's leadership in the context of pesantren education, as well as serve as a practical reference for managers of similar educational institutions. In addition, this research is expected to provide new insights into designing more effective and inclusive literacy policies in pesantren environments in order to improve the quality of education and empower santri (students) as a whole.

Conclusion The research shows that this study focuses on a deep understanding of Bu Nyai's leadership role in influencing the literacy development of students at the Annuqayah Islamic Boarding School. The research aims to examine how Bu Nyai motivates santri through an active, inspiring, and innovative leadership approach, as well as to identify strategies and supporting factors in building a culture of literacy. Thus, this research has the potential to contribute theoretically to the study of female leadership in Islamic boarding schools and practically to the development of inclusive literacy programs. Furthermore, the research questions are: (1) What form of leadership does Bu Nyai use to motivate the development of santri literacy? (2) What strategies does Bu Nyai apply in building a culture of literacy? (3) What factors support the success of these literacy strategies in the pesantren environment?

METHOD

Design

This study uses a qualitative method with a phenomenological approach to explore the meaning of individuals' life experiences related to the social phenomena they experience. This approach was chosen because it is able to capture the perceptions, awareness, and subjective experiences of the participants in depth (Dodgson, 2023; Lim, 2024), making it relevant for examining leadership practices in the context of Islamic boarding schools. The phenomenon studied is Bu Nyai's leadership in fostering literacy at the Lubangsa Annuqayah Putri Islamic Boarding School. The phenomenological approach is considered capable of revealing the essence of social experiences between leaders and followers (Englander, 2016; Frechette et al., 2020). In addition, the literature shows that female leadership contributes strategically to the formation of a learning culture (Hassan & Wright, 2023) and influences educational outcomes and literacy development (Galsanjigmed & Sekiguchi, 2023).

Participants and Informants

The research participants consisted of Bu Nyai as the main informant and female students as supporting informants, with Bu Nyai positioned as a key actor in the pesantren leadership structure (Carter et al., 2014). Informants were selected using purposive sampling to ensure direct relevance to the phenomenon, supplemented by snowball sampling to identify additional informants through recommendations from previous participants (Johnson, 2014). This strategy enabled the researchers to obtain rich data on leadership dynamics and santri responses to literacy initiatives.

Data Collection

Data collection was conducted through in-depth interviews, direct observation, and documentation. This combination of techniques is necessary to obtain a holistic understanding in qualitative research (Rutledge & Hogg, 2020). In-depth interviews were used to explore the subjective experiences of Bu Nyai and female students regarding the leadership process and literacy practices (McGrath et al., 2018; Guo et al., 2024). Direct

observation was conducted to review the learning environment, daily routines, and social interactions; the researcher's involvement in the field strengthened contextual understanding (Zamiri & Esmaeili, 2024). Documentation in the form of activity archives, internal policies, and pesantren records was used to supplement the data (Palinkas et al., 2015). Direct visits to the pesantren strengthened the empirical context validity of the research (Esmeli et al., 2022).

Validity and Credibility

Data validity is maintained through triangulation techniques that include source triangulation (Bu Nyai, santri, documents), method triangulation (interviews, observation, documentation), and time triangulation. This technique strengthens findings through cross-perspective data comparison (Valencia, 2022; Donkoh & Mensah, 2023), thereby increasing the credibility and sharpness of interpretation.

Data Analysis

Data analysis used a thematic analysis approach as developed by Silva et al (2022), emphasizing the process of identifying patterns, themes, and meanings in qualitative data. The analysis included coding, grouping themes, and interpreting the relationships between themes (Naeem et al., 2023). This stage allows for the disclosure of the relationship between policy, role, and impact of Bu Nyai's leadership on santri literacy (Bingham, 2023). The findings are then linked to a theoretical framework to produce meaningful interpretations of women's leadership in pesantren education, in line with the urgency of adaptive leadership in the contemporary era (Collins & Stockton, 2018).

RESULTS AND DISCUSSION
Results
The Form of Leadership of Bu Nyai in Motivating the Development of Santri Literacy

These findings illustrate how Bu Nyai Fadilah exercises leadership oriented towards developing literacy among students at the Lubangsa Utara Putri Islamic Boarding School. Through in-depth data collection, it was found that Bu Nyai's presence significantly influenced changes in institutional structure, literacy programs, and the learning culture of students. The data presented is descriptive-analytical in nature to show the dynamics of leadership, motivational mechanisms, and their impact on literacy development.

Table 1
Research Findings on Bu Nyai's Leadership in Fostering Literacy

Theme	Indicators	Evidence (Data Extract)	Interpretation (Analytical)
Transformation of Nyai's Leadership Role	Shift from companion to decision-maker-Institutional authority	"Initially, Nyai's role was as a companion to the Kyai…""Since 2015 Nyai has been directly involved in institutional authority…"	Indicates a gendered leadership transition, where Nyai moves beyond traditional domestic roles to become a strategic actor with institutional power.
Competency-Based and Role-Model Leadership	Legitimacy through expertise- Direct teaching involvement	"Nyai teaches reviewing and writing practices…""Students requested Nyai to teach literacy…"	Demonstrates competence-driven legitimacy, positioning Nyai as an epistemic authority whose expertise motivates students through role-modelling.
Institutional Restructuring for Literacy	Establishment of new literacy bodies- Formal literacy rules	"Before only 2 bodies existed… since 2018 there were 8 bodies.""All students are required to read and write…"	Reflects transformational leadership that restructures organizational culture, making literacy a formalized institutional norm.

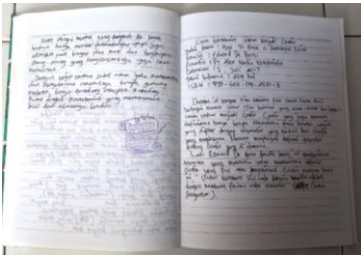|			
Motivational Strategies Through Direct Engagement	Pedagogical interaction-Supportive-participatory style	"Since 2023 Nyai directly teaches students in the literacy body."	Builds intrinsic motivation and strengthens leader–follower relational trust, enhancing literacy participation and confidence.
Preservation of Pesantren Literacy Tradition	Historical continuity-Integration of cultural values	"Literacy tradition existed since Kiai Syarqawi… works such as Al-I'lal…"	Shows that innovation is anchored in cultural continuity, positioning literacy as a heritage-based intellectual tradition, not merely technical skill.
Literacy as Essential Skill Formation	Literacy as mandatory competence- Future-oriented capability	"Literacy is a mandatory skill for everyone…"	Implies a future-oriented empowerment logic, where literacy is framed as social, cognitive, and professional capital.

Note: All empirical data presented in this study were generated through semi-structured interviews with Bu Nyai (female pesantren leader), ustadzah (female teachers), and santri putri (female students)

These findings show that Bu Nyai Fadilah's leadership in motivating santri literacy is transformational, competency-based, and institutionally oriented. Her role not only changed the institutional structure of literacy but also built a learning ecosystem that combines exemplary behavior, regulation, and the intellectual traditions of the pesantren. By mobilizing cultural and pedagogical legitimacy, Bu Nyai has succeeded in producing a sustainable literacy climate that is adaptive to contemporary needs. Critically, this leadership model challenges traditional stereotypes about the role of Nyai and broadens the understanding of women's leadership in Islamic education.

Bu Nyai's Strategy in Preserving the Tradition of Literacy in Islamic Boarding Schools
Based on the results of interviews and observations as well as the researcher's documentation study, the development of literacy at the Lubangsa Utara Islamic Boarding School did not emerge merely as an informal cultural practice, but has been formulated into a structured and institutionalized educational strategy under the leadership of Bu Nyai. Three main efforts, namely compulsory reading, the establishment of literacy-based institutions, and support for the publication of students' written works, reflect how literacy has been transferred from individual practice to institutional mechanisms. This phenomenon indicates that educational leadership has a strategic role in shaping long-term organizational culture, especially in learning environments based on religious traditions and strong communities.

Table 2
Bunyai's Efforts in Maintaining Literacy Traditions

No	Documentation of pesantren activities	Results	Description
1		Obligation to Read Books and Review Them	Since 2017, Islamic boarding schools have required all students to read 25–30 books per year. MTs students summarize the readings, while MA students and students write reviews as a form of literacy implementation.

| 2 | | Creating a Literacy Program at the Islamic Boarding School | In 2018, the number of institutions in the Islamic boarding school grew from two to several, including book institutions, literacy, Arabic, English, agriculture, environmental love communities, and Al-Qur'an mudrasah jam'iyyah. |
| 3 | | Supporting the Publication of Students' Written Works and Sharing Information | Nyai's support includes direct guidance, providing recommendations for quality reading material, motivating English learning, encouraging the writing of news about pondok activities, and activating a bulletin boarding house containing the students' works on a rotating basis. |

Note: Data obtained by researchers from interviews and documentation studies of Islamic boarding school activities

Critically, these findings show that Bu Nyai's leadership integrates regulatory, organizational, and motivational strategies to maintain literacy as both a cultural heritage and a future-oriented competency. The mandatory system of reading and reviewing books builds a habitus of literacy; the establishment of literacy institutions integrates literacy into the structure of the pesantren; and support for the publication of santri works fosters epistemic trust as well as intellectual expression. This combination of mechanisms forms a literacy governance model rooted in pesantren culture but adaptive to contemporary educational demands. Thus, literacy in pesantren can be maintained and strengthened not only through the continuity of tradition but also through strategic policy design, demonstrating a hybrid model that bridges cultural continuity with adaptive educational innovation.

Supporting factors in producing literate students

Based on the findings obtained through interviews with several pesantren administrators and Bu Nyai at Pondok Pesantren Lubangsa, there are numerous factors that support the development of literate students who are skilled in creative work. Historically, the literacy culture among students has been deeply rooted and constitutes an essential part of the pesantren's identity. To ensure that this culture remains vibrant and is not eroded by changing times, its preservation is carried out through consistent and sustainable efforts by various parties, including the pesantren's leaders, administrators, and the students themselves. Strong commitment combined with strategic measures, such as establishing literacy programs, active mentoring, activating libraries, and documenting activities, is necessary to ensure that literacy values continue to develop. These strategies ensure that literacy practices are not only relevant to contemporary needs but can also be effectively transmitted from one generation of students to the next, building a strong and sustainable literacy tradition.

Table 3
Supporting factors for the success of the North Lubangsa Islamic Boarding School

Theme	Operational Indicators	Empirical Evidence	Analytical Interpretation
Female Leadership of Bu Nyai	Visionary guidance, managerial improvements, accountability practices, literacy-oriented directives	Bu Nyai enhances school management, encourages participation in interest-based competitions, and requires written activity reports for publication	Indicates transformational and instructional leadership that integrates moral authority with academic literacy goals
High Learner Motivation	Self-initiated learning activities, collaborative study groups, productive literacy outputs	Students proactively visit literacy caretakers, form discussion circles, request academic mentoring, and publish anthology works	Reflects strong intrinsic motivation and literacy engagement shaped by supportive female leadership and social learning environments
Student-Friendly Learning Climate	Safe environment, spiritual-nurturing setting, literacy-supportive norms	Dormitory environment designed to strengthen spirituality, knowledge, and literacy, contributing to increased student motivation	Shows that affective climate and contextual spirituality function as motivational drivers for literacy development
Institutional Support Ecosystem	Multi-actor collaboration (caretakers, administrators, guardians), structured communication, shared goals	Harmonious collaboration among caregivers, administrators, guardians, and students encourages holistic student development	Demonstrates that literacy outcomes are embedded within relational and cultural capital in pesantren organizational structure
Trust and Delegation to Learners	Opportunities for autonomy, confidence-building mechanisms, innovation space	Students receive trust and literacy platforms to develop writing skills, self-confidence, and innovation based on individual interests	Suggests empowerment-based leadership that aligns with servant leadership and gendered leadership frameworks
Active Student-Managed Library	Accessibility of resources, student governance, literacy events	Lubtara Library managed by students functions as an access hub for knowledge through book and scripture lending	Highlights the role of resource availability and peer governance in sustaining literacy engagement

Note: The data in the findings table were obtained through semi-structured interviews with Bu Nyai, female teachers (ustadzah), and female students at Lubangsa Utara Islamic Boarding School

Based on table 3, it shows that the success of the Lubangsa Utara Islamic Boarding School in building a culture of literacy does not only rely on one aspect, but is the result of synergy between Bu Nyai's visionary leadership, active participation of students, and supportive environmental support. Bu Nyai's transformational leadership provides direction and inspiration, while the students' high interest in learning is the main driving force. The comfortable boarding school environment and collaboration between caregivers, students, administrators, and guardians of students create a holistic system in fostering character and skills. Giving trust and opportunities to students to write and innovate shows the importance of empowerment in the education process. On the other hand, the existence of an active library also strengthens the literacy ecosystem in the Islamic boarding school. All of these factors show that literacy can thrive if supported by leadership, participation, facilities, and a culture that strengthens each other.

Discussion
Transformational Female Leadership and Institutional Literacy Reform in Pesantren

The findings of this study show that Bu Nyai Fadilah's leadership in motivating santri literacy operates within the framework of transformational leadership (Bass & Riggio, 2006), competency-based leadership (Boyatzis, 2008), and institutional-oriented leadership (Jakobsen, 2014). Transformational leadership is evident through the process of changing the structure of the pesantren institution and strengthening a systemic literacy culture, in line with the characteristics of idealized influence, inspirational motivation, and intellectual stimulation described by Bass (1999). The competency-based foundation is evident through Bu Nyai's direct involvement as a literacy teacher, in line with the competency-based leadership model (Murray, 2003) which emphasizes legitimacy through expertise and exemplary behavior. In addition, the institutional orientation is consistent with the concept of institutional work (Lawrence & Suddaby, 2006), in which actors produce rules, norms, and practices to normalize literacy as an integral part of the institutional identity of Islamic boarding schools.

This study shows a correlation between (1) the transformation of Nyai's authority, (2) institutional restructuring, and (3) the internalization of literacy as an essential skill. This transformation of authority can be understood through the framework of gendered organization (Acker, 1990), which explains how women build authority through competence and performativity in masculine structures. The institutional restructuring carried out by Bu Nyai is in line with the theory of institutional entrepreneurship (Garud et al., 2007), which is the effort of agents to initiate structural change by creating new rules, institutions, and routines. The internality of literacy as social and cognitive capital is consistent with the theory of cultural capital (Reed & Johnson, 2023) and the model of literacy as future capability (Anderson-Levitt, 2021), showing that Bu Nyai not only builds technical competence but also professional capital (Nolan & Molla, 2017) through the habit of reading, writing, and discussing works.

Furthermore, these findings contribute new insights to the study of female leadership in Islamic boarding schools, which has previously been dominated by narratives of domestic or complementary roles (Fatmawati et al., 2024). This study shows that Bu Nyai acts as an institutional and epistemic leader, consistent with the findings of Singh et al. (2023) on transformative female leadership that encourages social and intellectual change. The novelty of this study also lies in the integration of pesantren literacy traditions with a modern program- and institution-based approach, which is in line with the concept of preservation-through-innovation (Hojeij, 2024). The context of the Annuqayah pesantren, which has a long-standing intellectual tradition, is an important variable that explains the success of the literacy strategy, in line with Rahman's (2022) argument about pesantren as a cultural system and Sumanti et al's (2024) argument about the continuity of Islamic education. Thus, these findings not only expand the theory of women's leadership in Islamic education but also enrich the literature on literacy as a cultural, institutional, and transformative process.

Bu Nyai Transformative Leadership in Pesantren Literacy Development

The second research finding shows that Bu Nyai Fadilah's leadership systematically encourages literacy development at the Lubangsa Utara Putri Islamic Boarding School through three main mechanisms: the obligation to read and review books, the establishment of literacy-based institutions, and support for the publication of students' written works. The obligation to read and write reviews builds a consistent habitus of literacy at all levels of education, while the establishment of literacy institutions since 2018 confirms the integration of literacy into the institutional structure of the pesantren. Bu Nyai's support for the publication of students' work, including the activation of wall magazines and direct

guidance, fosters intrinsic motivation, epistemic trust, and intellectual expression (Levy, 2016). Conceptually, these findings confirm that literacy is not only a technical skill, but also a strategic competency that is internalized through transformative and participatory leadership (Bass & Riggio, 2006; Boyatzis, 2008).

Furthermore, the second finding shows a mutually reinforcing interaction between literacy policies, institutional structures, and pedagogical practices. Reading and review requirements form the foundation of a literacy habitus that motivates santri; the establishment of literacy institutions creates a formal structure to support these practices; while publication support links literacy practices with social recognition and the development of santri's expressive abilities. This mechanism is in line with the concepts of institutional work (Lawrence & Suddaby, 2006) and transformative leadership (Bakker et al., 2023), in which female leadership actors strategically normalize literacy practices as an integral part of the pesantren identity. The relationship between these variables forms a literacy ecosystem that is sustainable, adaptive, and relevant to contemporary educational challenges.

In a comparative literature review, these findings expand our understanding of the role of women in pesantren leadership, which was previously widely viewed as a domestic or complementary role (Hanafi et al., 2021; Fatmawati et al., 2024). The integration of regulatory policies, institutional formation, and publication support demonstrates leadership innovation that combines pesantren literacy traditions with modern educational strategies, in line with the concept of preservation-through-innovation (Siddiqui et al., 2024; Hojeij, 2024). Contextually, the Annuqayah pesantren with its hereditary literacy tradition provides a cultural and institutional basis that enables Bu Nyai's strategy to succeed, demonstrating how female leadership can significantly drive cultural and academic change in Islamic education (Rahman, 2022).

Women's Leadership in Building a Sustainable Literacy Culture in Pesantren

Based on the findings of the third study, Bu Nyai Fadilah's leadership at the Lubangsa Utara Putri Islamic Boarding School played a central role in shaping a sustainable literacy ecosystem oriented towards character development among students. The findings show that visionary female leadership, characterized by strategic guidance, managerial improvements, and literacy-based instruction, directly influences the students' motivation to learn, a conducive learning climate, and the development of literacy skills. The high motivation of the students is reflected in their independent learning initiatives, the formation of discussion groups, and the production of literary works such as anthologies, while the friendly and spiritual learning climate strengthens affective engagement and adherence to literacy practices. Institutional support, including cooperation between caregivers, administrators, student guardians, and the availability and management of libraries by students, further emphasizes that literacy success is not merely an individual achievement, but a product of social interaction and the organizational structure of the pesantren.

Literacy development in this Islamic boarding school is interdependent and synergistic. Bu Nyai's transformative and participatory leadership serves as the main driving force that connects student motivation, learning climate, and institutional support. The authority given to students through trust and delegation of responsibility, for example in library management and publication of works, creates positive feedback that strengthens literacy habits, expressive skills, and innovative capacity (Davies et al., 2013). In other words, literacy in Islamic boarding schools is not only built through formal policies, but also through social interactions that affirm the role of women as pedagogical leaders and agents of institutional

transformation. This mechanism is in line with the concept of relational and cultural capital (Coleman, 1988; Roaldsnes, 2024) as well as the principle of servant leadership that empowers followers in the context of Islamic education.

This third finding expands our understanding of women's leadership in Islamic boarding schools, which has previously been viewed as a domestic or complementary role (Hanafi et al., 2021; Fatmawati et al., 2024; Flechtner et al., 2024). The integration of visionary leadership, intrinsic motivation of santri, institutional support, and literacy resource management demonstrates innovation that combines pesantren traditions with modern literacy practices, in line with the theory of transformative female leadership (Singh et al., 2023) and institutional work (Lawrence & Suddaby, 2006). Contextually, the success of this strategy is closely related to the pesantren culture that emphasizes spiritual values, collective education, and the continuity of literacy traditions, demonstrating how social, cultural, and institutional factors shape the effectiveness of female leadership in fostering a sustainable literacy culture.

Overall, the findings of this study present a novelty by emphasizing the role of transformational female leadership in building a sustainable literacy ecosystem in Islamic boarding schools. Unlike previous literature that placed women in domestic or complementary roles, Bu Nyai Fadilah acted as an institutional and epistemic leader who integrated pesantren literacy traditions with modern practices based on programs, institutions, and publications of santri works. This study also shows the synergistic interaction between santri motivation, learning climate, and institutional support, as well as the application of the principles of servant leadership, competency-based leadership, and institutional work, so that literacy becomes a cultural, pedagogical, and transformational process that strengthens the character and innovative capacity of santri.

Overall, this research contributes to the enrichment of theories on female leadership, educational literacy, and institutional work by demonstrating how transformational leadership and professional competence among women foster a culture of sustainable literacy. The findings confirm the relevance of transformative female leadership (Singh et al., 2023), competency-based leadership (Murray, 2003), and cultural & social capital (Coleman, 1988; Reed & Johnson, 2023) in the context of Islamic boarding schools, as well as expanding the understanding of the integration of institutional structures, pedagogical practices, and student motivation. Practically, female leadership can integrate literacy policies into pesantren structures, encourage reading and writing habits, and support the publication of santri works. Caregivers, teachers, and guardians of santri are empowered to strengthen intrinsic motivation, literacy habits, and intellectual expression. Sustainable literacy is achieved through social collaboration, innovation, and visionary leadership that connects pesantren traditions with modern educational practices.

Furthermore, in terms of limitations, this study has limitations related to the research context, which only focuses on one female Islamic boarding school, so that generalizations of the findings to other Islamic boarding schools or similar Islamic educational institutions must be made with caution. The data used is qualitative and focuses on the experiences of students and observations of Bu Nyai's leadership, so quantitative analysis and measurement of long-term literacy effectiveness are not included. Future research could expand the sample across Islamic boarding schools, compare female and male leadership, and systematically assess the impact of literacy on academic outcomes and character development. Additionally, future research could explore the role of digital technology and curriculum innovation in strengthening an adaptive and sustainable literacy ecosystem.

CONCLUSION

Based on the above discussion, Bu Nyai's leadership at the Islamic boarding school plays a central role in shaping a sustainable literacy culture oriented towards character development among students. Visionary, transformational, and participatory leadership encourages students' intrinsic motivation through reading policies, book reviews, the establishment of literacy institutions, and the publication of works. The interaction between institutional structures, pedagogical practices, and social support creates an adaptive and synergistic literacy ecosystem. Students demonstrate active engagement through discussions, writing habits, and work production, while a friendly and spiritual learning climate strengthens affective and compliance with literacy practices. These findings confirm that literacy is not merely a technical skill, but social, cultural, and professional capital acquired through female leadership as agents of institutional transformation in Islamic boarding schools, while also emphasizing the importance of integrating tradition and modern literacy innovation.

ACKNOWLEDGEMENT

AUTHOR CONTRIBUTION STATEMENT

Herlina: Conceptualization; Data curation; Formal Analysis; Investigation; Methodology; Project Administration; Writing Original Draft. **Munawara**: Conceptualization; Formal Analysis; Methodology. **Irmak Sude Gurel**: Supervision; Visualization; Writing Review & Editing.

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