

Reimagining madrasah education management: Critical and sustainable strategies for advancing the SDGs

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Abstract

The consistently low student enrollment at Madrasah Aliyah Nurul Rahmat, averaging around 30 students per cohort, presents a significant challenge to the institution's growth and visibility. As a religious educational institution, the madrasah is often expected to affiliate with larger national or urban schools to improve accessibility and recognition. This study aims to examine the transformation of education management at Madrasah Aliyah Nurul Rahmat from 2018 to 2024, focusing on advancing Sustainable Development Goals (SDGs) through critical and sustained educational efforts. Employing a qualitative, exploratory approach, data were collected through silent observation and in-depth interviews with the madrasah's head, teachers, and students. The findings indicate that despite various challenges, visionary leadership grounded in religious principles has successfully fostered a strong religious ethos, an inclusive learning environment, and increased student productivity. Students' academic performance has shown continuous improvement across multiple subjects, supported by teachers' dedication to professional growth and the cultivation of student leadership skills. Additionally, graduates have achieved notable success at both local and national levels, reflecting the effectiveness of the implemented educational strategies. These results highlight the critical role of effective leadership and innovative management in transforming educational institutions to meet broader developmental goals, suggesting that similar approaches could be beneficial in comparable contexts.

Keywords: Critical and sustainable education, education management transformation, educational leadership and innovation, *madrasah aliyah* (Islamic high school), sustainable development goals (SDGs)

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Introduction

Madrasahs play a vital social role in shaping a generation that is both knowledgeable and morally grounded. However, many madrasahs, including Madrasah Nurul Rahmat Takalar, face persistent challenges such as low student enrollment, with fewer than 30 students per cohort. This enrollment is significantly lower compared to public schools in the same region,

largely due to community perceptions, limited marketing, and inadequate facilities (Febrianti & Dasari, 2024; Garira, 2020). These social factors hinder madrasahs' ability to attract and retain students, threatening their sustainability and relevance.

Literature highlights that madrasahs, as faith-based institutions, have the potential to contribute meaningfully to the Sustainable Development Goals (SDGs), especially in delivering quality education (Eberling & Langkau, 2024; Galeazzo et al., 2024). Yet, they struggle with systemic issues such as resource limitations, competition from better-funded public schools, and challenges in integrating modern pedagogical approaches (Ahmar, Magfirah, et al., 2023; Perry & Booth, 2024). These constraints affect their capacity to provide equitable and contemporary education aligned with 21st-century demands.

This study aims to explore the transformation of education management at Madrasah Nurul Rahmat Takalar from 2018 to 2024, focusing on innovative strategies that promote critical and sustainable education to advance SDG attainment. By examining leadership initiatives, curriculum reforms, and capacity-building efforts, the research seeks to identify effective practices that address enrollment challenges and improve educational quality in madrasahs.

It is hypothesized that visionary leadership and targeted educational innovations have enabled Madrasah Nurul Rahmat Takalar to overcome structural challenges, fostering an inclusive learning environment and enhancing student outcomes. This transformation is expected to demonstrate how faith-based schools can balance religious values with modern educational imperatives, contributing positively to national education goals and sustainable development (Kummanee et al., 2020; Wannapiroon & Pimdee, 2022).

Method

Research Focus

This study aims to explore the transformation of education management at Madrasah Nurul Rahmat Takalar from 2018 to 2024, focusing on supporting critical and sustainable education to achieve the Sustainable Development Goals (SDGs). The urgency of this research stems from the challenges madrasahs face in maintaining relevance and competitiveness in modern education (Eberling & Langkau, 2024; Galeazzo et al., 2024). By examining managerial strategies and innovations, this study seeks to provide insights into effective education management within faith-based institutions.

Research Design

A qualitative, exploratory case study design was employed to gain an in-depth understanding of the development and management practices at Madrasah Nurul Rahmat Takalar. The case study approach was chosen for its ability to capture the complexity and contextual factors influencing the madrasah's educational transformation (Yin, 2018). This design facilitates a comprehensive examination of the institution's history, challenges, and progress in enhancing educational quality and competitiveness.

Research Participants

Participants included the madrasah principal, teachers, students, alumni, and community leaders actively involved in the madrasah's development. Purposive sampling was used to select participants who could provide diverse perspectives on the changes in education management and their impacts. Their experiences and insights are crucial for understanding the multifaceted nature of the madrasah's transformation (Creswell & Poth, 2018).

Data Collection

Data were collected through two primary methods: open-ended interviews and direct observation. Interviews allowed participants to share detailed accounts of the madrasah's

history, challenges, and innovations from 2018 to 2024. Observations focused on the implementation of education management systems, infrastructure development, teaching and learning dynamics, and interactions between teachers and students. This dual approach provided rich triangulated data to enhance validity (Patton, 2015).

Data Analysis

Thematic analysis was conducted systematically, involving data reduction, data display, conclusion drawing, and verification. Key themes representing the evolution of madrasah education management were identified and used to categorize data from observations and interviews. This method facilitated a clear understanding of the critical factors driving educational transformation (Braun & Clarke, 2006).

Data Validity

To ensure data validity and reliability, the study applied source and method triangulation. Method triangulation combined interviews and observations as primary data collection techniques, while source triangulation compared information from multiple respondents. This strategy strengthened the credibility of findings and provided a comprehensive understanding of Madrasah Nurul Rahmat Takalar's innovative education management in promoting SDGs through critical and sustainable education (Denzin, 2017).

Results

The following table summarizes the key themes and sub-themes identified from interviews with teachers and students at Madrasah Nurul Rahmat Takalar. It highlights the critical aspects of leadership, teaching practices, professional development, student motivation, and future aspirations. Teachers consistently emphasized the principal's visionary leadership in fostering a religious and inclusive school culture, alongside diverse instructional methods and ongoing professional training aimed at enhancing student competitiveness. Meanwhile, the majority of students reported feeling motivated by the supportive and value-driven learning environment, with strong aspirations toward higher education, career development, and continued religious commitment. These findings provide valuable insights into the educational dynamics and transformative efforts within the madrasah.

Table 1

The Results of Teacher and Student Interviews at Madrasah Nurul Rahmat Takalar

Participant	Main Theme	Sub-theme / Coding	Description
Teachers (A1 – A5)	Leadership and School Culture	Visionary leadership, religious culture, inclusive values	All teachers emphasized the role of the principal's leadership in creating a religious-based and inclusive culture
Teachers (A1 – A5)	Teaching Methods and Academic Support	Individual mentoring, digital media use, leadership training	4 out of 5 teachers applied various methods to improve student competitiveness
Teachers (A1 – A5)	Professional Development	Workshops, seminars, SDGs-related training	3 teachers actively participated in professional training programs
Students (B1 – B25)	Learning Motivation	Positive environment, religious values, academic support	22 students felt motivated by the religious and inclusive environment
Students (B1 – B25)	Future Aspirations	Higher education goals, career ambition, religious commitment	21 students aspired to continue education and contribute to society

The table 1 above reveals several key themes related to leadership, teaching practices, professional development, student motivation, and future aspirations. Teachers unanimously highlighted the principal's visionary leadership in fostering a religious and inclusive school

culture. Most teachers employed diverse teaching methods, including individual mentoring and digital media, to enhance student competitiveness, while a majority also engaged in professional development activities such as workshops and SDG-related training. On the student side, the vast majority reported feeling motivated by the supportive and value-driven learning environment. Additionally, most students expressed strong aspirations toward pursuing higher education, career advancement, and maintaining their religious commitments.

The data indicate a clear pattern of alignment between leadership vision, teaching strategies, and student experiences. The principal’s leadership appears to be a central driving force in cultivating an inclusive and religiously grounded school culture, which positively influences both teaching and learning. Teachers’ active adoption of varied instructional methods and commitment to professional growth suggest a proactive approach to improving educational quality. Correspondingly, students’ high levels of motivation and ambitious future goals reflect the effectiveness of this environment in nurturing academic and personal development. Overall, the data suggest a cohesive and supportive educational ecosystem that integrates faith-based values with modern pedagogical practices. According to the findings of a study that involved open interviews with the head of the madrasah, professors, and students as well as direct observation, Madrasah Aliyah Nurul Rahmat underwent substantial progress in a number of areas between 2018 and 2024. Even though there were still less than thirty pupils in each batch during this time, the madrasah demonstrated gains in student achievement, religious character development, and the quality of education management.

Building upon the insights gained from teacher and student perspectives, Table 2 presents the core components of educational management transformation at Madrasah Nurul Rahmat Takalar, alongside the innovative strategies implemented to support these changes. This table also links each component to the relevant Sustainable Development Goals (SDGs), illustrating how the madrasah’s efforts align with global educational and developmental priorities. The integration of visionary leadership, inclusive school culture, academic development, character building, professional growth, and community engagement collectively demonstrates a comprehensive approach to advancing quality education and sustainable development within the institution.

Table 2.

Components of Educational Management Transformation, Innovative Strategies, and Relevant SDGs

Components of Educational Management Transformation	Innovative Strategies	Related SDGs Goals
Visionary Leadership	Integrating religious values with modern educational leadership	SDG 4 — Quality Education
Madrasah Culture and Environment	Creating a religious, inclusive, and respectful school culture	SDG 16 — Peace, Justice, and Strong Institutions
Academic Development Programs	Implementing mentoring, academic competitions, and project-based learning	SDG 4 — Quality Education
Student Character and Leadership Building	Leadership training, personal mentoring, and extracurricular leadership programs	SDG 4 — Quality Education and SDG 8 — Decent Work and Economic Growth
Teacher Professional Development	Workshops, seminars, SDGs integration in teaching content	SDG 4 — Quality Education
Community and Stakeholder Engagement	Collaborating with alumni, parents, and local community leaders	SDG 17 — Partnerships for the Goals

The Table 2 above outlines key components of educational management transformation at Madrasah Nurul Rahmat Takalar, paired with innovative strategies and their alignment with

relevant Sustainable Development Goals (SDGs). Visionary leadership is characterized by the integration of religious values with modern educational practices, supporting SDG 4 on Quality Education. The madrasah's culture emphasizes creating a religious, inclusive, and respectful environment, contributing to SDG 16 on Peace, Justice, and Strong Institutions. Academic development is fostered through mentoring, competitions, and project-based learning, further advancing SDG 4. Student character and leadership are cultivated via leadership training, personal mentoring, and extracurricular activities, linking to both SDG 4 and SDG 8 on Decent Work and Economic Growth. Teacher professional development includes workshops and SDG-focused training, while community engagement involves collaboration with alumni, parents, and local leaders, supporting SDG 17 on Partnerships for the Goals.

The data reveal a holistic and integrated approach to educational transformation that aligns institutional values with global development priorities. Leadership and school culture serve as foundational pillars, embedding religious principles within modern frameworks to foster inclusivity and respect. Academic and character development programs demonstrate a commitment to nurturing well-rounded students prepared for future challenges. Continuous teacher development ensures that educators remain equipped to deliver quality education aligned with SDGs. Moreover, active community and stakeholder engagement highlight the madrasah's recognition of collaborative partnerships as essential for sustainable progress. Overall, the strategies reflect a comprehensive model that bridges faith-based education with sustainable development objectives.

Leadership at Madrasah Aliyah Nurul Rahmat is characterized as visionary and deeply rooted in Islamic values, fostering an inclusive and supportive learning environment. By embedding strong moral and religious principles, the leadership has cultivated a welcoming atmosphere that not only shapes students' character but also inspires greater dedication and commitment among the teaching staff toward the madrasah's development. This Islamic cultural foundation has been instrumental in strengthening the community's cohesion and educational mission.

Students at Madrasah Aliyah Nurul Rahmat have demonstrated notable academic achievements, particularly at the district level, alongside successes in extracurricular activities and religious competitions. Teachers employ innovative instructional strategies, including individualized mentoring, integration of basic digital media, and the promotion of student leadership skills. The accomplishments of alumni, who have excelled both locally and nationally and pursued higher education at reputable institutions, further attest to the effectiveness of these approaches.

Moreover, the madrasah's human resources have been significantly enhanced through continuous professional development. Teachers actively participate in workshops, seminars, and training programs focused on addressing the challenges of SDG-oriented education. The findings of this study suggest that madrasahs can successfully adapt and remain competitive with public schools when managed with creativity, religious commitment, and adaptability.

Discussion

Based on the research results, the findings reveal that visionary leadership rooted in Islamic values has fostered an inclusive, supportive school culture that inspires both teachers and students. Educators have adopted diverse instructional methods—such as individualized mentoring, digital media integration, and leadership training—and engaged in professional development to enhance educational quality and align teaching with the Sustainable Development Goals. Reflecting these efforts, students report high motivation driven by the values-based environment and demonstrate strong future aspirations for higher education and

career advancement. Collectively, these strategies have created a cohesive educational ecosystem that balances faith-based principles with modern pedagogy, resulting in improved student outcomes and broader institutional sustainability.

Educational Development Patterns at Madrasah Aliyah Nurul Rahmat

The significant development of Madrasah Aliyah Nurul Rahmat underlines the critical role of visionary leadership combined with a strong religious culture in transforming educational institutions facing resource constraints and competitive pressures. This growth is not merely about improving academic outcomes but also about fostering holistic student development, including character and independence grounded in Islamic values. Such a dual focus addresses both cognitive and affective domains of education, which is essential for producing well-rounded graduates capable of contributing meaningfully to society. The madrasah's success in raising academic standards and student competitiveness despite limited enrollment highlights the potential for faith-based schools to thrive through adaptive and value-driven management, offering a replicable model for similar institutions (Ahmar, Patmasari, et al., 2023).

The madrasah's progress can be attributed to the principal's adaptive leadership style, which integrates religious values with modern educational strategies to create an inclusive and dynamic learning environment. This approach aligns with the notion that effective educational leadership must balance administrative competence with cultural and ethical stewardship (Mayangsari et al., 2024; Zikriati et al., 2024). By embedding Islamic principles into daily practices and curriculum design, the madrasah nurtures students' moral character alongside academic skills, thereby supporting Sustainable Development Goals related to quality and inclusive education. Furthermore, the curriculum's responsiveness to student needs and emphasis on critical thinking equip learners to navigate global challenges, demonstrating the importance of contextualized and flexible educational management (Angraini et al., 2024; Budiaji et al., 2024).

The findings from Madrasah Aliyah Nurul Rahmat resonate with existing educational leadership theories that emphasize transformational and culturally responsive leadership as drivers of school improvement (Leithwood & Jantzi, 2006; Shields, 2010). Similar to studies on faith-based education, this madrasah exemplifies how religious culture can serve as a foundation for character education and community cohesion, which in turn enhances academic engagement and achievement (Eberling & Langkau, 2024; Galeazzo et al., 2024). Moreover, the madrasah's strategic integration of SDG-related goals into its management and curriculum reflects global trends advocating for education systems that are both locally relevant and globally oriented (UNESCO, 2017). This case thus contributes empirical evidence supporting the effectiveness of combining visionary leadership, cultural values, and innovative pedagogy in advancing sustainable educational development.

Transformative Growth and Sustainable Educational Practices at Madrasah Aliyah Nurul Rahmat

The significant improvements in student academic and extracurricular performance at Madrasah Aliyah Nurul Rahmat demonstrate the tangible impact of holistic education management that integrates both intellectual and character development. This progress is crucial because it challenges the common perception that faith-based schools with limited resources cannot compete with public schools. The madrasah's success in nurturing confident, skilled, and morally grounded graduates highlights the potential of such institutions to contribute meaningfully to national education goals and workforce readiness. Moreover, the rise in student achievements and alumni success stories serves as evidence that sustainable

educational reforms can yield long-term benefits, reinforcing the importance of continuous innovation in teaching and learning (Aziziyah et al., 2024).

The madrasah's growth can be attributed to its adaptive and student-centered educational approach, which combines personalized academic mentoring with strong character-building initiatives rooted in Islamic values. This dual focus aligns with educational theories emphasizing the importance of addressing both cognitive and affective domains to foster well-rounded learners (Bloom, 1956; Noddings, 2013). The principal's leadership, which promotes an inclusive and respectful environment, further supports this development by motivating teachers to employ innovative teaching methods and prioritize individual student needs (Leithwood & Jantzi, 2006). Additionally, the madrasah's investment in teacher professional development and infrastructure improvements creates a supportive ecosystem conducive to effective learning and sustainable growth (Aziziyah et al., 2024).

The findings from Madrasah Aliyah Nurul Rahmat resonate with transformational leadership theory, which posits that visionary leaders who inspire and empower their staff can drive significant institutional change (Bass & Riggio, 2006). Similar to studies on faith-based education, this madrasah exemplifies how religious culture can be leveraged to enhance student motivation, character formation, and academic success (Eberling & Langkau, 2024; Galeazzo et al., 2024). Furthermore, the integration of Sustainable Development Goals (SDGs) into the curriculum and management practices reflects global educational trends advocating for inclusive, quality education that prepares students for the challenges of the 21st century (UNESCO, 2017). This case study thus contributes to the growing body of evidence supporting the effectiveness of combining cultural values, innovative pedagogy, and leadership in advancing sustainable education.

Conclusion

This study reveals that Madrasah Nurul Rahmat Takalar has undergone a significant transformation in education management between 2018 and 2024, driven by visionary leadership deeply rooted in Islamic values. The madrasah has successfully fostered an inclusive and supportive school culture that integrates religious principles with modern pedagogical practices. Teachers have adopted diverse instructional methods and engaged in continuous professional development, while students demonstrate high motivation and strong aspirations for higher education and career advancement. These efforts collectively contribute to improved student outcomes, enhanced teacher competencies, and alignment with Sustainable Development Goals (SDGs), particularly in quality education, peace and justice, and partnerships for development.

A key strength of this study lies in its qualitative, exploratory case study design, which allowed for an in-depth and contextualized understanding of the madrasah's educational transformation. The use of multiple data sources—including open-ended interviews with diverse stakeholders and direct observations—enabled rich triangulation, enhancing the validity and reliability of the findings. Furthermore, the study's focus on a faith-based institution contributes valuable insights into how religious values can be harmonized with contemporary educational goals, offering a replicable model for similar schools striving to achieve sustainable and critical education aligned with global development priorities.

Despite its contributions, the study has limitations that should be acknowledged. The case study's focus on a single madrasah limits the generalizability of the findings to other contexts, especially those with different cultural, socio-economic, or institutional characteristics. Additionally, the relatively small sample size and purposive sampling may introduce bias, as participants who are more engaged or positively inclined toward the madrasah's initiatives

might have been overrepresented. Future research could address these limitations by incorporating comparative studies across multiple madrasahs and employing mixed methods to capture broader perspectives and quantitative measures of educational impact.

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Conflict of interests

The author(s) declare that they have no conflict of interest.

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