

21st Century Educational Transformation and Graduate Quality: A Case Study of Ma'had Darussalam

Ummu Jauharin Farda¹, Nurul Azizah², Wahyu Arif Raharjo³, Linda Indiyarti Putri⁴, Laili Fauziya⁵, Abdul Rahman bin Ibrahim⁶

Universitas Wahid Hasyim, Indonesia^{1,2,3,4,5}. and Ma'had Darussalam, Vietnam⁶.

Co-Responding Author: Ummu Jauharin Farda (ummujauharinfarda@unwahas.ac.id)

Abstract

This study aims to analyze the 21st-century educational transformation at Ma'had Darussalam, particularly in the implementation of a deep learning approach to graduate quality. The study used a descriptive qualitative approach with a case study design. Data were collected through interviews, observations, and documentation involving the school's leadership, teachers, students, and academic document managers. Data analysis was conducted using thematic analysis to identify key themes related to educational transformation. The results show that Ma'had Darussalam is gradually integrating 21st-century competencies through strengthening 4C skills, technological literacy, and life and career skills in learning and educational management. This implementation is supported by curriculum development, teacher capacity building, and student habituation activities that encourage independence, responsibility, and career readiness. The novelty of this study lies in the study of the transformation of Islamic education based on a deep learning approach in the context of Islamic educational institutions in Vietnam, which has been little researched. This study contributes as a reference for the development of adaptive and globally competitive Islamic education. However, this research is limited to one study location, so the findings cannot be generalized widely.

Keywords: 21st Century Educational Transformation; Deep Learning; Graduate Quality; Ma'had Darussalam.

Abstrak

Penelitian ini bertujuan menganalisis transformasi pendidikan abad ke-21 di Ma'had Darussalam, khususnya dalam implementasi pendekatan deep learning terhadap kualitas lulusan. Penelitian menggunakan pendekatan kualitatif deskriptif dengan desain studi kasus. Data dikumpulkan melalui wawancara, observasi, dan dokumentasi yang melibatkan pimpinan ma'had, guru, santri, serta pengelola dokumen akademik. Analisis data dilakukan menggunakan thematic analysis untuk mengidentifikasi tema-tema utama terkait transformasi pendidikan. Hasil penelitian menunjukkan bahwa Ma'had Darussalam secara bertahap mengintegrasikan kompetensi abad ke-21 melalui penguatan keterampilan 4C, literasi teknologi, serta life and career skills dalam pembelajaran dan pengelolaan pendidikan. Implementasi tersebut didukung oleh pengembangan kurikulum, peningkatan kapasitas guru, dan pembiasaan kegiatan santri yang mendorong kemandirian, tanggung jawab, dan kesiapan karier. Kebaruan penelitian ini terletak pada kajian transformasi pendidikan Islam berbasis pendekatan deep learning dalam konteks lembaga pendidikan Islam di Vietnam yang masih terbatas diteliti. Studi ini berkontribusi sebagai referensi pengembangan pendidikan Islam yang adaptif dan berdaya saing global. Namun, penelitian ini terbatas pada satu lokasi studi sehingga temuan belum dapat digeneralisasi secara luas.

Keywords: Transformasi Pendidikan Abad ke-21; Deep Learning; Kualitas Lulusan; Ma'had Darussalam.

INTRODUCTION

The transformation of twenty-first-century education has become a strategic issue in the development of global education quality. The paradigm shift from teacher-centered learning to student-centered learning requires educational institutions to integrate 4C competencies, namely critical thinking, creativity, collaboration, and communication, as well as digital literacy and collaborative learning into the educational process (Trilling & Fadel, 2009a). This transformation aims not only to improve students' academic abilities but also to produce graduates who are adaptive, creative, and competitive in global dynamics. In Southeast Asia, Vietnam is among the countries that have demonstrated significant progress in competency-based education reform and the strengthening of twenty-first-century skills (Minh, n.d.).

In the context of Islamic education, educational transformation is not solely oriented toward the mastery of global competencies but also toward strengthening students' spiritual values, character, and morality. The profile of high-quality graduates in Islamic educational institutions encompasses higher order thinking skills (HOTS), digital literacy, collaborative abilities, as well as strong religious character and independence (Prof. Dr. I Wayan Redhana, 2024) (Farda, U. J., Putri, L. I., & Mumpuni, 2024). Therefore, Islamic educational institutions are required to integrate Islamic values with learning approaches that are relevant to the challenges of the twenty-first century (Saepurrohman et al., 2023).

Previous studies have shown that instructional strategies such as project-based learning, problem-based learning, and collaborative learning are effective in enhancing students' twenty-first-century skills (Halili, 2019) (Farda et al., 2023). The integration of educational technology also contributes to the improvement of digital literacy and the creation of more interactive learning experiences (Zhao & Watterston, 2021). In boarding school environments such as ma'had, learning strategies are also influenced by institutional cultures that emphasize discipline, social control, and character habituation (Basuki et al., 2024). However, most of these studies have focused on public schools or Islamic educational institutions in Indonesia. Studies that specifically examine the transformation of twenty-first-century education through a deep learning approach in Islamic educational institutions outside Indonesia, particularly in Vietnam, remain very limited. This limitation indicates a research gap concerning the implementation of Islamic educational transformation in the context of Muslim minorities and different socio-cultural environments.

Ma'had Darussalam is one of the Islamic educational institutions that seeks to develop competency-based education through curriculum strengthening, collaborative learning, and the formation of Islamic character. The position of this institution is interesting to examine because it lies at the intersection between the

demands of global competencies and the effort to preserve local Islamic identity. Based on an initial interview with the ma'had administrator, K. Abdul Rahman, pedagogical transformation has become an urgent need to ensure that Islamic educational institutions remain relevant and are able to produce competitive graduates without losing Islamic values. Ma'had Darussalam must be able to integrate Islamic values with relevant and effective learning approaches so that its graduates are not only spiritually and morally excellent but also equipped with the twenty-first-century skills needed in the global world (Sipos, 2022).

Nevertheless, the implementation of the deep learning approach in the ma'had environment still faces various challenges, such as limited human resources, teacher readiness, curriculum adaptation, and the utilization of educational technology. These conditions indicate that educational transformation in Islamic educational institutions is not only related to curriculum change but also to institutional readiness to build a learning culture that supports twenty-first-century skills. The OECD emphasizes that the profile of twenty-first-century graduates must integrate academic competencies, strong character, and digital literacy in order to compete globally (Schleicher Andreas, 2018).

Based on the preceding discussion, this study aims to analyze the transformation of twenty-first-century education at Ma'had Darussalam, particularly in the implementation of the deep learning approach and its contribution to the formation of high-quality graduate profiles. The novelty of this study lies in its empirical examination of deep learning-based Islamic educational transformation in the context of Islamic educational institutions in Vietnam, which remains underexplored. This study is expected to provide both theoretical and practical contributions to the development of an adaptive, progressive, and competitive Islamic education model in the era of globalization.

RESEARCH METHODS

This study employed a descriptive qualitative approach with a case study design (John W Creswell, 1999)(RK, 2017). This approach was selected because it enabled the researcher to explore in depth the phenomenon of educational transformation within the real-life context of Ma'had Darussalam. The case study design was used to comprehensively understand educational strategies, policies, and practices in addressing the challenges of the twenty-first century, particularly in the implementation of the deep learning approach (Creswell, J W., & Poth, 2023).

The informants were selected through purposive sampling based on their direct involvement in the educational transformation process and the implementation of learning in the ma'had. The research informants consisted of the ma'had leader, teachers or ustadz and ustadzah, santri or students, and academic document

administrators. Data were collected through in-depth interviews, observation, and documentation to obtain a comprehensive picture of the ongoing educational transformation.

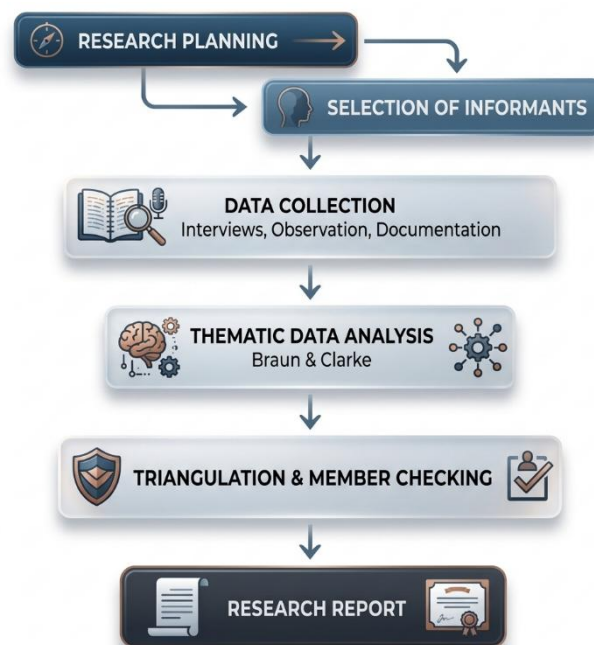
In conducting the interviews, this study adhered to research ethics by obtaining informants' consent before the data collection process was carried out. All informants were provided with an explanation of the research objectives, data confidentiality, and their right to provide or discontinue information during the research process. The identities of the informants were kept confidential to protect the privacy and comfort of the participants.

Data analysis was conducted after all field data had been collected and organized. This study employed thematic analysis to identify, analyze, and report the main themes within the qualitative data. The analysis process was supported by Quirkos software to facilitate the systematic organization and visualization of the data. The analysis followed the six phases proposed by Braun and Clarke (Braun & Clarke, 2006), namely: (1) familiarizing with the data through a comprehensive reading of interview, observation, and documentation results; (2) generating initial codes based on significant patterns; (3) searching for major themes; (4) reviewing the alignment of themes with the entire dataset; (5) defining and naming the themes; and (6) preparing a comprehensive research report.

To enhance the credibility and validity of the data, this study employed source triangulation and method triangulation. Source triangulation was conducted by comparing information obtained from the ma'had leader, teachers, santri or graduates, and academic documents, while method triangulation was carried out by comparing the results of interviews, observations, and documentation. In addition, this study applied member checking by reconfirming several interview findings with the informants to ensure the accuracy of meaning and data interpretation. This strategy was implemented to strengthen the trustworthiness of the research findings.

To provide a clear description of the research procedure, a research flowchart was developed and presented in Figure 1. The flowchart illustrates the sequential stages of the study, including research planning, selection of informants, data collection through interviews, observations, and documentation, data analysis using thematic analysis assisted by Quirkos software, triangulation and member checking, and the preparation of the research report.

Figure 1. Research Flowchart



RESULTS AND DISCUSSION

Ma'had Darussalam is the first formal Islamic educational institution in Vietnam to obtain an operational permit through Number 2947/UBND-DT dated November 7, 2014. This institution provides tahfidz education and religious education over a six-year period. Its education system, curriculum, and learning model have largely adopted the pesantren-based education pattern from Malaysia (Khozin, 2019). As an Islamic educational institution in a Muslim-minority country, the ma'had has undertaken various educational adaptations to respond to globalization, technological development, and the demands of twenty-first-century competencies. This transformation is realized through curriculum integration, the strengthening of 4C competencies, technological literacy, and the development of life and career skills. As the first and only formal Islamic school in Vietnam, Ma'had Darussalam has carried out adaptations to address the challenges of globalization, technological disruption, and the needs of the Muslim community in Vietnam (Qian Tang, 2015). These adaptations and transformations are not limited to the domain of classical religious sciences but also include curriculum integration, soft skills, and twenty-first-century competencies (Firmansyah et al., 2025). Therefore, policies were formulated and subsequently implemented in the learning process at Ma'had Darussalam, Vietnam.

Twenty-First-Century Educational Transformation Policy

George R. Terry explains that policy is one of the strategies used in institutional development, including in educational institutions (George R. Terry, 1954). This is also reflected in the efforts undertaken by Ma'had Darussalam in responding to the transformation of twenty-first-century education. This policy was formulated by the

Director of Ma'had Darussalam, Ustadz Abdurrahman, together with the curriculum division and other asatidz. The policies formulated and implemented focus on several aspects, including: (1) curriculum integration; (2) strengthening teacher capacity; and (3) reinforcing the pesantren tradition.

The findings show that educational transformation at Ma'had Darussalam is implemented through three main policies, namely curriculum integration, strengthening teacher professionalism, and reinforcing the pesantren tradition. **First; Curriculum integration** is carried out by combining the diniyyah curriculum with the modern curriculum. The diniyyah curriculum includes aqidah, fiqh, tafsir, hadith, tahfidz, and Arabic, while the modern curriculum is realized through entrepreneurship activities, competitions, and project-based learning. In terms of learning methods, the ma'had does not only use traditional methods such as bandongan, sorogan, and halaqah, but also applies problem solving, peer learning, and critical discussion. This curriculum integration is essential for Islamic educational institutions in order to respond to the needs of society (Azizah, 2020) (Suparjo, Nurul Azizah, 2022). The purpose of this integration is to ensure that santri do not merely master religious materials, but also develop a broader perspective on the needs and problems emerging in Vietnamese society. Santri do not only study texts, but also learn how to apply Islamic values in a multicultural and minority context. In terms of learning methods, Ma'had Darussalam does not only implement traditional methods, namely bandongan, sorogan, and halaqah (Mastuhu, 1994) but also applies various innovative methods, including problem solving, peer learning, and critical discussion.

Second; Teacher professional development. This policy is formulated and implemented through scheduled musyawarah and learning workshops. The musyawarah for ustadz is organized by Ma'had Darussalam to share teaching experiences, discuss classroom problems, and formulate collective solutions. A mentoring program between senior ustadz and young ustadz is also conducted to ensure that the quality of teaching remains consistent and continues to develop. Through these efforts, the ma'had has successfully created an environment that encourages ustadz to continuously innovate and improve their professionalism. In addition, strengthening is also carried out through exemplary practices among caregivers so that the asatidz and santri have role models (Nurul Azizah, 2021). Learning training or workshops are also organized by inviting facilitators from both within the country and abroad. For instance, last August, the ma'had invited a facilitator from Universitas Wahid Hasyim, Indonesia, to strengthen peace education within the Ma'had Darussalam environment. Ustadz Durrahman, as the caregiver of the ma'had, stated:

“We once received a visit from lecturers from Universitas Wahid Hasyim,

Indonesia. They came as a group of three people to provide training for the teachers at the ma'had. The training was related to anti-violence education. Prior to this, the teachers had never received such training. Therefore, this training was very beneficial, and we were very pleased”.

Third; The strengthening of the pesantren tradition. Abuddin Nata defines the pesantren tradition as all values that are understood, habituated, internalized, and practiced within the pesantren environment (Abudin Nata, 2012). Although Ma'had Darussalam adopts a modern learning system, it remains committed to strengthening the pesantren tradition as the foundation of Islamic education in Vietnam. Among the traditions firmly upheld are mutual cooperation among santri, respect for ustadz and caregivers, love of knowledge, simplicity, adherence to adab or proper manners, and submission to Allah. This is reflected in the statement of Ustadz Durrahman.

“All santri here are trained to uphold morality and discipline. They are required to participate in all activities and comply with the rules of the ma'had. If any of them are unable to participate in the activities or adhere to the rules of the ma'had, they will be sent home.”

Figure 2. Documentation with the director of the Ma'had Darussalam Tay Ninh, Vietnam



From the explanation above, it can be seen that Ma'had Darussalam Vietnam has formulated progressive educational policies that are aligned with the needs of the twenty-first century. These policies emphasize curriculum integration, the strengthening of 4C competencies, and the implementation of modern pedagogy that promotes creativity and active learning. Through these efforts, the ma'had is able to create an adaptive and relevant educational environment that supports the development of high-quality graduate profiles.

Implementation of the 4Cs in the Transformation of Twenty-First-Century Education at Ma'had Darussalam, Vietnam

The transformation of twenty-first-century education is marked by a paradigm shift from teacher-centered to student-centered learning (Zuhri et al., 2025) as well as efforts to develop the 4C skills, namely communication, critical thinking,

collaboration, and creativity (Virza & Lestari, 2023). The implementation of the 4Cs in the transformation of twenty-first-century education at Ma'had Darussalam, Vietnam, represents a strategic effort to align the educational process with the demands of global competencies without neglecting the pesantren identity. Through the strengthening of communication, collaboration, critical thinking, and creativity, the ma'had seeks to develop graduates who are adaptive, visionary, and morally grounded. The integration of the 4Cs serves as an essential foundation for creating learning that is more relevant, interactive, and future-oriented.

Commonucations

The development of communication between ustadz and santri, as well as among santri themselves, is evident when they engage in discussions on certain subjects. For example, in tafsir learning, santri are assigned a particular theme to present to other groups. During the presentation, each group is given the opportunity to provide responses, feedback, and questions regarding what has been delivered by the presenters. This is reflected in the statement of Ustadz Rosyid.

“Usually, the ustadz divides the class into seven to eight groups. In each meeting, the ustadz asks each group to take turns presenting the material. In this way, they can learn more independently, and active communication can take place.” (Interview: 19/09/2025)

Collaboration.

The urgency of collaboration in learning lies in enabling santri to exchange ideas and perspectives, as well as to support one another in completing certain tasks (David W Johnson, 1998). Ma'had Darussalam implements this by assigning santri to conduct mini-research projects in groups. Each group member shares responsibilities: some prepare summaries, some search for supporting religious arguments, some create concept maps, and others present the project results. Each santri appears engaged with their respective assigned roles. Some santri are also seen experiencing difficulties and asking other santri for assistance. Each santri collaborates within their respective group (Observation: 20/09/2025). Through this collaboration, learning is not merely a process of knowledge transfer but also serves as a strategy for character formation and the development of social values through mutual assistance and the exchange of ideas (Zuhri et al., 2025).

Critical Thinking.

In this phase, the ustadz asks santri to solve problems that occur in their daily lives, for example, in fiqh learning on the legal rulings of online buying and selling. Santri are asked to analyze religious evidence, select relevant legal principles, and formulate their own opinions. They then present their assignments, which are critically reviewed by other santri. Some disagree, some add other supporting

evidence, and others provide further explanations. They also frequently engage in argumentation due to differences of opinion. In this situation, the ustadz provides guidance and clarifies differences of opinion among the santri. The presence of various arguments from the santri is consistent with the deep learning approach, which emphasizes in-depth understanding (Zuhri et al., 2025).

Creativity.

The development of santri creativity is carried out through both learning activities and extracurricular activities. In classroom learning, santri creativity is evident, for example, in Arabic language learning. Santri are asked to create calligraphy and prepare vocabulary cut-outs according to their respective creativity. In extracurricular activities, they are trained in rebana, nasyid, theater, and public speaking. Each semester, the ma'had also organizes competitions involving all santri. Waly emphasized that these activities not only enhance santri creativity but also increase their learning motivation (Waly, 2024).

The implementation of the 4Cs in learning at Ma'had Darussalam demonstrates that Islamic-based education, which is often associated with traditional education, is also able to adapt to the development of modern education that emphasizes cognitive, emotional, social, and technological aspects in contemporary learning contexts (Aisa & Aziz, 2025). Although, in practice, the implementation of technology in learning remains limited, despite being one of the key emphases of twenty-first-century learning (Wijaya et al., 2016) (Murniyati 2025), learning at the ma'had has demonstrated a transformation aligned with twenty-first-century education (Trilling & Fadel, 2009b).

Technology and ICT Literacy in the Transformation of Twenty-First-Century Education at Ma'had Darussalam, Vietnam

The findings show that the process of technology-based educational transformation at Ma'had Darussalam has been implemented, although it remains at an early stage. Interviews with the principal, teachers, and santri indicate positive developments, as well as significant challenges that affect the optimization of ICT implementation within the ma'had environment. The interview with the principal revealed that Ma'had Darussalam has a strong awareness of the urgency of technology in education. The head of the ma'had stated:

“Technology has been very helpful for us, particularly in administration, archiving, and communication among teachers. Although it is still simple, we have begun to become accustomed to using digital devices to accelerate our work.” (W1-KM)

He also added that the use of technology has begun to become a necessity rather than merely an option:

“Without using technology, work today feels slow. Therefore, we encourage teachers to utilize it in teaching.” (W2-KM)

This finding reinforces previous studies showing that technology plays a fundamental role in creating an efficient, adaptive, and collaborative education system in the twenty-first-century era (Trilling & Fadel, 2009b). From a management perspective, technology is primarily used for santri data management, internal communication, and digital document storage. This is consistent with the integration of technology in school administration, which enhances managerial effectiveness, efficiency, and transparency. (Ghavifekr et al., 2015).

The use of technology in learning at Ma’had Darussalam has begun to emerge, although it has not yet been implemented evenly. Teachers use projectors, laptops, and digital materials to support students’ understanding. One teacher stated:

“I often use videos or images to explain the lesson. Santri find it easier to understand, especially when the material is abstract.” (W3-G). Another teacher added:

“We do not yet have many devices, but we use whatever is available as much as possible. The projector is used alternately among classes.” (W4-G).

This condition indicates that technology can improve the quality of learning, as emphasized in previous studies on multimedia learning, which show that the use of visual media can strengthen students’ cognitive processes (Mayer, n.d.). Other studies have also demonstrated a similar pattern. The use of digital media increases students’ enthusiasm and conceptual understanding in madrasah settings, although it is constrained by limited facilities and varying levels of teacher competence (Permana, 2024). The findings of this study confirm this pattern: technology integration has begun to take place, but it has not yet been optimized due to limitations in infrastructure and teachers’ ICT competence.

Life and Career Skills in the Transformation of Twenty-First-Century Education at Ma’had Darussalam, Vietnam

The findings show that the strengthening of Life and Career Skills is one of the focuses of twenty-first-century educational transformation at Ma’had Darussalam, Vietnam. These skills include independence, responsibility, leadership, time management, adaptability, and work ethic, all of which are essential in facing global dynamics and professional life (Trilling & Fadel, 2009a). The implementation of Life and Career Skills at Ma’had Darussalam is reflected in a series of habituation activities, disciplinary structures, learning models, and non-academic activities that consistently train students to become independent, disciplined, and prepared to enter both the world of work and social life. Ma’had Darussalam has a daily habituation system that requires santri to take responsibility for their routines, ranging from room cleanliness

and preparation for worship to readiness to participate in learning activities. In an interview, one ustadzah stated:

“Santri here are habituated to be independent from the beginning. They have to manage their daily needs by themselves, from waking up in the morning to going to bed at night, and everything is scheduled. This is intended to train their sense of responsibility.” (W5-U)

Figure 3. Interview with the ustadzah of the Ma’had Darussalam Tay Ninh, Vietnam



This finding is consistent with previous studies showing that pesantren habituation is an effective mechanism for fostering independence and responsibility among students (Saepurrohman et al., 2023). The boarding school-based ma’had environment provides an effective space for training time management. A dense daily schedule, ranging from tahfidz, kitab learning, extracurricular activities, to cleaning duties, shapes santri discipline in managing their activities. Ustadz Durrahman stated:

“In the ma’had, everything follows a schedule. If santri do not participate in activities on time, it will disrupt the process. Therefore, santri learn the importance of discipline and hard work.” (W6-PH)

The culture of discipline, hard work, and orderliness in pesantren shapes a strong work ethic and serves as an important foundation for future career life (Basuki et al., 2024). Life and Career Skills are also developed through santri organizational structures, such as dormitory administrators, class coordinators, and cleanliness coordinators. This system provides santri with opportunities to lead, plan activities, and solve problems collectively. A santri administrator stated:

“Santri who serve as leaders or persons in charge are given the authority to manage their peers. They learn to lead and make decisions.” (W7-S)

Figure 4. Interview with the santri of the Ma'had Darussalam Tay Ninh, Vietnam



Group work-based learning and structural responsibility significantly enhance leadership and problem-solving skills (David W Johnson, 1998). As a Muslim minority in Vietnam, santri at Ma'had Darussalam grow up in a social context that requires a high level of adaptability. The educational process at the ma'had encourages santri to understand a multicultural environment and prepare themselves to face social realities beyond the institution. One santri stated:

“Studying in Vietnam as a Muslim is different. At the ma'had, we are trained to be prepared to engage with the wider community, to conduct ourselves properly, and to maintain good character.” (W8-S)

This is in line with the findings of Qian Tang, who emphasized that religious educational institutions in Muslim-minority countries need to foster social adaptability as part of life skills (Goal, n.d.). Ma'had Darussalam has begun to instill entrepreneurial skills through extracurricular activities and simple training programs, such as small business training in culinary and craft activities, the management of internal bazaar activities, public speaking and tarbiyah classes, and arts training, including nasyid and theater, which develops creativity and teamwork. An interview with one of the ustadz revealed:

“We want santri not only to be strong in religion but also to have life skills. Therefore, we organize simple entrepreneurship activities so that they can learn how to work.” (W9-U)

The integration of entrepreneurial skills into Islamic education can strengthen students' life skills and work readiness (Pare & Sihotang, 2023). As explained in the 4C section, santri are involved in mini-research projects, problem-solving discussions, and group presentations. This model not only develops critical thinking but also

professional skills, such as formal communication, report writing, collaboration, public speaking, and case analysis. Based on the results of observations and interviews, several challenges were identified, including limited facilities and career training resources, limited access to professional mentors, and the suboptimal integration of digital literacy, although digital literacy is an important component of twenty-first-century career skills. In addition, the dominance of the diniyyah curriculum has resulted in a limited portion of modern life skills development. Nevertheless, the ma'had has shown positive progress through teacher workshops, collaboration with Indonesian higher education institutions, and the strengthening of extracurricular programs.

The findings of this study affirm that the strengthening of Life and Career Skills at Ma'had Darussalam is aligned with the twenty-first-century competency framework developed by the OECD (Schleicher, 2018) and the Partnership for 21st Century Learning (P21) (Partnership for 21st Century Skills, 2015). The ma'had has carried out transformation through character habituation, time management, leadership, entrepreneurship, project-based learning, a culture of discipline, and the strengthening of ethical and moral values. This transformation demonstrates that pesantren, as traditional educational institutions, remain capable of adopting modern values without abandoning their Islamic identity. The integration of moral values and career skills represents the distinctiveness of Ma'had Darussalam in responding to the challenges of the twenty-first century. This finding supports previous studies emphasizing that holistic education based on values and competencies serves as a fundamental foundation for facing the digital era (Pare & Sihotang, 2023).

CONCLUSION

The transformation of twenty-first-century education at Ma'had Darussalam indicates that the institution has gradually integrated 4C competencies, technological literacy, and life and career skills into its learning system and educational management. This transformation is realized through the integration of the diniyyah curriculum and the modern curriculum, the strengthening of teacher capacity, the implementation of collaborative learning, and character habituation that supports santri independence, discipline, responsibility, and career readiness. This study also shows that the values of the pesantren tradition are maintained and integrated with the competency demands of modern education. These findings affirm that Islamic educational institutions in Muslim-minority environments are still able to adapt to global changes without losing their Islamic identity. Thus, Ma'had Darussalam can serve as a model for developing Islamic education that is adaptive, holistic, and oriented toward twenty-first-century competencies.

Nevertheless, the implementation of educational transformation still faces several challenges, particularly limited technological infrastructure, suboptimal digital literacy, and limited development of modern career skills. Therefore, strengthening institutional policies, improving ICT facilities, and implementing continuous teacher training programs are needed so that the integration of twenty-first-century competencies can be carried out more optimally and sustainably. This study recommends that Islamic educational institutions strengthen collaboration with higher education institutions, training centers, and international educational institutions in curriculum development, digital literacy, project-based learning, and deep learning. In addition, future research is recommended to conduct comparative studies of Islamic educational institutions in other Muslim-minority countries to obtain a broader understanding of models of twenty-first-century Islamic educational transformation in a global context.

AI USE DECLARATION

During the preparation of this article, the authors used ChatGPT to assist with language refinement, grammar checking, and improving the clarity of academic writing. After using this tool, the authors reviewed and edited the content as necessary and take full responsibility for the content of the publication.

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