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DEEP LEARNING CURRICULUM: EDUCATIONAL TRANSFORMATION OR A THREAT TO TEACHER DEHUMANIZATION

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Abstract

This study aims to analyze the dynamics of implementing the deep learning curriculum at Madrasah Aliyah Al Amiriyyah Blokagung Banyuwangi and to identify its implications for educational transformation and the potential dehumanization of teachers. A descriptive qualitative approach was employed, with data collected through interviews, observations, and documentation involving 25 informants, including the school principal, teachers, parents, and community leaders, during the period of April–August 2026. The findings reveal divergent perceptions among educators and parents regarding the deep learning curriculum: some view it as a transformative innovation fostering creativity and critical thinking, while others feel burdened by technological demands and pedagogical shifts. Furthermore, social resistance emerged from community members who protested against the curriculum, perceiving it as a threat to the religious and moral values traditionally upheld by Islamic education. “Academic outcomes among students also varied: improving for those who were digitally literate but declining for those less adaptive”. These findings suggest that digital transformation in education must be balanced with humanistic and spiritual values to prevent the erosion of teacher–student relationships and avoid the risk of educational dehumanization.

Keywords: Deep Learning Curriculum; Educational Transformation: Dehumanization of Madrasah Teachers

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A. Introduction

In recent years, the idea of incorporating deep learning, both as a pedagogical approach (deep learning) and as content related to artificial intelligence (deep learning/machine learning), into educational curricula has received widespread attention. Curriculum reform has increasingly focused on developing 21st-century competencies, such as critical thinking, creativity, and “deep” problem-solving skills, while also facing strong pressure to incorporate AI literacy and technical skills so that graduates are prepared to enter an increasingly digitalized world of work. (Ndlovu, 2026).

Theoretically, integrating deep learning elements into the curriculum has the potential to transform learning practices by shifting the focus from rote memorization toward meaningful learning, personalization, and project-based (Swargiary, 2025). However, in practice, discrepancies remain: curriculum policies are often implemented through a top-down approach, while teacher readiness, resources, and infrastructure vary considerably. As a result, the intended transformation has not always been consistently realized in practice (Orlikowski, 1996)

Socially, there is growing concern that the adoption of AI technologies and data-driven learning models may lead to the dehumanization of the teacher’s role by reducing human interaction, automating assessment, and diminishing teaching professionalism to the management of algorithms (García Espinoza et al., 2026). These concerns are not merely matters of public opinion; ethical studies and media reports have highlighted their potential impacts on teachers’ workloads, students’ academic integrity, as well as the risks of bias and lack of transparency in automated learning systems (Kohnke et al., 2025).

Several systematic reviews and empirical studies have examined the integration of AI into the field of education. A review of the literature on AI literacy in K–12 education indicates a strong focus on curriculum development (Ng et al., 2024), the need for teacher training, and research gaps beyond computer science subjects. Another review has examined the role of AI in supporting teaching practices and teachers’ professional development. However, most of these studies continue to emphasize the potential benefits and generic recommendations of AI integration without deeply exploring the dynamics of conflict between curriculum transformation and the risk of dehumanizing the teaching profession (Küçükuncular & Ertugan, 2025).

Methodological and Conceptual Gaps Previous studies have often been topical, focusing, for example, on how to teach AI or how AI can support adaptive assessment, or have been conducted on a large scale through reviews and position papers. However, relatively few studies have explored teachers’ perceptions, classroom experiences, and the trade-offs involving pedagogical values when deep learning is institutionalized as part of the formal curriculum (Bozkurt et al., 2024). In other words, there is a lack of contextual qualitative studies that examine the

contradiction between curriculum objectives, particularly pedagogical transformation, and their social implications, including the potential dehumanization of the teaching profession.

This study offers novelty by integrating curriculum policy analysis, in-depth interviews with teachers and educational stakeholders, and classroom observations to examine how and why the implementation of a deep learning curriculum can generate transformative effects while simultaneously creating risks of dehumanization. This multi-method approach seeks to address empirical and theoretical gaps by connecting the macro level (policy), meso level (school institutions), and micro level (teacher–student interactions), while providing contextual recommendations for the development of humane and ethical curriculum design. This contribution complements existing literature reviews by providing contextual empirical evidence.

This study aims to: (1) identify teachers' perceptions and experiences regarding the integration of deep learning elements into the curriculum; (2) analyze the extent to which such implementation transforms pedagogical practices; and (3) evaluate the potential and mechanisms through which the dehumanization of the teaching profession may occur, thereby formulating policy and curriculum design recommendations that balance technological innovation with humanistic values.

The main argument of this study is that a deep learning curriculum is inherently ambivalent: it has strong transformative potential to enhance the quality of learning when designed and implemented contextually with adequate teacher support. However, without sufficient attention to ethical considerations, teacher capabilities, and a balanced human AI relationship, such a curriculum may risk automating essential pedagogical tasks and eroding the human dimension of educational interactions. In other words, transformation may lead to dehumanization if it is not accompanied by appropriate policies, teacher training, and human-centered curriculum design.

This study is important because it provides empirical and analytical evidence that can assist policymakers, curriculum developers, and school practitioners in navigating the dilemma between leveraging AI technologies, including deep learning approaches, to improve learning quality and protecting teachers from potential negative impacts on their professional roles. The ultimate goal is to develop adoption strategies that are ethical, inclusive, and sustainable. The findings are also expected to contribute to the AI-in-education literature by providing a contextual perspective that remains relatively limited in general review studies.

B. Methods

This study employed a qualitative approach with an intrinsic case study design, as it focused on examining in depth a specific phenomenon occurring within a particular context, namely the implementation of a deep learning-based curriculum

at Madrasah Aliyah Al Amiriyyah Blokagung, Banyuwangi. A qualitative approach was selected to gain an in-depth understanding of the meanings and social dynamics emerging from the interactions among educational stakeholders in implementing the curriculum (Aguas, 2020). According to Creswell and Poth, qualitative research enables researchers to understand participants' subjective experiences and the social contexts in which phenomena occur (Poth, 2018). Meanwhile, the case study design was considered relevant because it provides an opportunity to examine reality holistically and contextually (Annamalah et al., 2026)

The study was conducted at Madrasah Aliyah Al Amiriyyah Blokagung, Banyuwangi, a pesantren-based secondary educational institution that is currently seeking to develop learning innovations through the implementation of deep learning principles within its curriculum. The site was selected because the madrasah is undergoing a transformation toward digital learning that emphasizes collaborative projects, problem-solving, and personalized learning.

The study involved 25 informants, consisting of the head of the madrasah, 10 teachers from various subject areas, 7 students' parents, and 7 community leaders or members of the madrasah committee. The informants were selected using purposive sampling, based on their involvement in and relevance to the implementation of the deep learning curriculum at the madrasah. This technique is considered appropriate for qualitative research because it enables researchers to obtain rich information from sources who have direct knowledge of the context under investigation (Lim, 2025).

Data were collected through three primary techniques: in-depth interviews, participatory observation, and document analysis. In-depth interviews were conducted with all informants using semi-structured interview guides to explore their perceptions, experiences, and views regarding the changes resulting from the implementation of the deep learning curriculum (Fitrah et al., 2025). Data analysis employed the interactive model developed by Miles and Huberman, which consists of three main components: data reduction, data display, and conclusion drawing and verification (Huberman & Miles, 1983)

Throughout the study, the research process consisted of three interrelated stages. The first stage was the pre-field stage, which included coordination with the madrasah, obtaining research permission, and preparing interview and initial observation instruments. The second stage involved primary data collection, conducted in April 2026 through in-depth interviews, classroom observations, and the collection of curriculum-related documents. The final stage was data analysis and validation, conducted in August 2026, which included coding, triangulation of findings, member checking, and the preparation of a comprehensive research report.

C. Results and Discussion

The findings of this study were obtained through a triangulation process involving in-depth interviews with the head of the madrasah, teachers, students' parents, and community leaders; observations of learning activities and curriculum meetings; and an analysis of policy documents and students' learning outcomes. Based on a thematic analysis of the field data, three main findings emerged, reflecting the dynamics of implementing the deep learning curriculum at Madrasah Aliyah Al Amiriyyah Blokagung, Banyuwangi.

The first finding indicates that educators and students' parents hold diverse views regarding the implementation of the deep learning curriculum. Most teachers welcomed the innovation as a form of educational transformation that emphasizes critical thinking, collaboration, and the use of technology in learning. They considered the new curriculum capable of helping students understand concepts more deeply rather than merely memorizing information. For example, a mathematics teacher stated that *"the deep learning model encourages students to think more actively and try to find solutions on their own."* However, other teachers expressed concerns about the increased workload, particularly due to the need to adjust learning materials, become familiar with digital platforms, and assess project-based learning outcomes. Parents also expressed diverse perspectives. Parents with higher educational backgrounds tended to support the approach because they viewed it as aligned with developments in modern technology, whereas some other parents found it difficult to understand the changes taking place. They considered the new approach overly demanding in terms of student independence and believed that it reduced the teacher's role as the primary source of guidance. These differing perspectives indicate that curriculum transformation has not yet been fully accepted as a shared necessity, but remains a subject of debate between enthusiasm for innovation and concerns about changes to traditional educational values.

The second finding reveals the presence of protests and resistance from some members of the community toward the implementation of the deep learning curriculum. Based on interviews with several community leaders and members of the madrasah committee, concerns were identified that the use of technology and project-based learning methods could shift the religious and cultural values that have traditionally characterized pesantren-based education. During a committee meeting, the researcher observed a relatively tense dialogue when several parents criticized the approach, stating that *"learning now involves too many computers and discussions, so the children are becoming less focused on adab and memorization."* This reaction demonstrates social resistance to curriculum modernization perceived as overly technology-oriented and insufficiently attentive to spirituality. Documentation of the madrasah meeting minutes further supported this finding, containing records of several community members requesting that the madrasah *"review the deep learning program"* because of concerns that it might reduce direct interaction between teachers

and students. This resistance indicates that the educational transformation process faces not only technical challenges but also deeply embedded social and cultural values within the madrasah education system.

The third finding shows that students' academic outcomes following the implementation of the deep learning curriculum varied considerably. Based on an analysis of semester report cards and teachers' evaluation records, some students demonstrated improvements in critical thinking and collaborative skills, particularly in science and language subjects. However, other students experienced declines in learning outcomes, particularly in subjects that require memorization and regular practice, such as Fiqh and Arabic. Classroom observations showed that students with higher levels of digital literacy tended to adapt more quickly and demonstrate better academic performance than students who were less accustomed to using technology. Teachers indicated that these differences were attributable to students' readiness, parental support at home, and variations in teachers' ability to implement deep learning principles. This condition demonstrates that curriculum innovation has not yet produced uniform academic outcomes, but has instead generated new disparities between students who are more technologically adaptive and those who remain oriented toward conventional learning approaches.

Table 1. Research Findings

Aspect / Field Evidence	Main Findings	Data Sources
Diverse perspectives among educators and students' parents	1. Teachers expressed differing views regarding the deep learning curriculum: some perceived it as a positive transformation that enhances student participation and critical thinking, while others felt burdened by the adaptation to new technologies and assessment systems. 2. Students' parents were also divided: more educated groups tended to support the innovation, whereas others considered the approach overly complex and believed that it reduced the teacher's role as the primary guide.	Interviews with teachers, the head of the madrasah, and students' parents; observations of learning activities; curriculum meeting documents.
Protests and resistance from the community	1. Several community leaders and members of the madrasah committee opposed the deep learning approach because they considered it overly technology-	Interviews with community leaders and madrasah committee members; observations of committee meetings; analysis of meeting

	oriented and potentially disruptive to religious values. 2. During committee meetings, requests emerged for the madrasah to review its learning policies, which were perceived as “placing insufficient emphasis on adab and memorization.”	minutes and community objection letters.
Hasil akademik yang bervariasi	1. Student achievement data and teacher evaluations indicated that learning outcomes were uneven. 2. Students with high levels of digital competence demonstrated improvement, whereas less technologically adaptive students experienced declines in performance. 3. Differences in performance were also observed between analytical subjects, which showed improvement, and memorization-based subjects, which showed declines.	Student report card documentation, teacher assessment records, classroom learning observations, and interviews with subject teachers.

Overall, the three findings indicate that the implementation of the deep learning curriculum at Madrasah Aliyah Al Amiriyyah Blokagung, Banyuwangi, remains in a complex transitional stage. On the one hand, there is a strong commitment to moving toward deeper, more collaborative, and future-oriented learning. On the other hand, social resistance, ethical concerns, and disparities in learning outcomes have emerged, potentially contributing to the dehumanization of the teacher’s role if this innovation is not accompanied by adequate policy support, teacher training, and community understanding.

Diverse Perspectives among Educators and Students’ Parent

The first finding indicates that educators and students’ parents hold diverse perspectives on the implementation of the deep learning curriculum. These differences in perception can be explained through educational theory, which suggests that every curriculum innovation is inevitably confronted with dynamics of resistance and adaptation among educational stakeholders (Kasuga & Kalolo, 2025). Teachers who perceive the deep learning curriculum as an opportunity for transformation tend to have a progressive learning orientation, whereas those who reject or remain uncertain about it often experience change fatigue resulting from continuous policy changes.

In this context, teachers at the madrasah who support the implementation of deep learning perceive this approach as enriching learning experiences and fostering

students' critical thinking skills. This perspective is consistent with the findings of which emphasize that integrating artificial intelligence (AI) technologies and deep learning into the curriculum can enhance student engagement and expand opportunities for pedagogical creativity (Romero, 2025). Nevertheless, teachers who feel burdened illustrate another dimension of transformation, in which curriculum innovation has not been accompanied by adequate professional capacity development and technical support. This is consistent with the findings who reported that teachers often experience digital literacy gaps and administrative pressure when adapting to AI-based learning (Jiang & Meng, 2025).

From the parents' perspective, the differing views indicate the existence of a socio-cultural divide regarding educational change. Parents with higher educational backgrounds tend to support curriculum innovation because they perceive its economic and global value, whereas parents from traditional communities place greater emphasis on moral and religious values as priorities in their children's education. Thus, these diverse perspectives demonstrate that the success of a deep learning curriculum depends not only on pedagogical design but also on social legitimacy and the cultural values embedded within the surrounding educational community.

Protests and Resistance from the Community

The second finding reveals social resistance in the form of protests and opposition from some members of the community toward the implementation of the deep learning curriculum at the madrasah. This resistance emerged because the technology-based curriculum was perceived as potentially shifting the religious and moral values, as well as the social relationships between teachers and students, that have traditionally characterized pesantren-based education. This phenomenon is consistent with the concept of educational dehumanization discussed by (Almashour et al., 2025), who argues that the modernization of education can marginalize the human dimension by replacing it with a technological orientation and an emphasis on system efficiency.

Field observations showed that community members perceived deep learning-based instruction as *"too digital"* and as *"placing insufficient emphasis on adab and memorization."* The community often views technology as a dominant force that can transform social structures without adequate consideration of human values (Alsaleh, 2024). When technology is introduced into traditional educational settings such as madrasahs, this tension becomes increasingly apparent between the desire to pursue innovation and the need to preserve moral and spiritual identity.

Furthermore, this resistance also indicates a communication gap among policymakers, schools, and the community. According to (Rojak, 2025), the successful implementation of technology-based curriculum innovation requires a

strong ecosystem of trust and community participation. When communities are not involved from the outset in the curriculum design and socialization processes, feelings of alienation and suspicion toward the changes may emerge. Therefore, community resistance should not be understood merely as opposition to technology, but also as a critique of an implementation process perceived as insufficiently humanistic and participatory.

Variations in Academic Outcomes

The third finding indicates that students' academic outcomes following the implementation of the deep learning curriculum tend to vary. Some students demonstrated improvements in analytical and collaborative skills, while others experienced declines in learning outcomes, particularly in subjects that emphasize memorization. This variation can be explained by (McLoughlin, 2002), who argues that learning success is strongly influenced by the interconnectedness of the formal learning context, social support, and access to digital resources.

Students with high levels of digital literacy benefited more from deep learning-based instruction, whereas those lacking such skills tended to fall behind. This phenomenon reinforces the findings of (Widyasari et al., 2024) which indicate that the implementation of AI and deep learning in education can often widen the gap between students who have access to digital resources and those who do not. In addition, teachers' readiness to design contextual learning is also an important factor. Teachers who understand the philosophy of deep learning are better positioned to guide students toward achieving deeper conceptual understanding, whereas teachers who remain oriented toward conventional methods may reduce the effectiveness of the curriculum.

From a sociological perspective, these variations in learning outcomes also indicate a new form of educational inequality that is no longer determined solely by economic factors, but also by digital competence and pedagogical readiness. According to (Love, 2026), this gap may contribute to "structural dehumanization," in which students and teachers lose the meaning of educational interaction as learning relationships become increasingly replaced by algorithms and data. Therefore, curriculum strategies are needed that balance technology with human interaction so that digital transformation in education does not ultimately lead to standardization and the erosion of human values.

Discussion Synthesis

Overall, the three field findings indicate that the implementation of the deep learning curriculum at Madrasah Aliyah Al Amiriyyah Blokagung, Banyuwangi, represents an ambivalent transformation process, containing both the potential for

innovation and the risk of dehumanization. These findings reinforce the idea proposed by Angranti and SosI (n.d.) regarding the importance of “human-centered education” amid the rapid expansion of digitalization. A deep learning-based curriculum can only be meaningful when teachers are empowered as agents of change rather than merely functioning as implementers of data-driven systems (Nopas, 2025). Therefore, the success of this curriculum depends not only on technological capabilities but also on the reconstruction of human values in everyday educational practices.

D. Conclusion

This study demonstrates that the implementation of the deep learning curriculum at Madrasah Aliyah Al Amiriyyah Blokagung, Banyuwangi, presents complex social and pedagogical dynamics. From the perspectives of educators and students’ parents, diverse perceptions of this curriculum innovation were identified. Some teachers and parents viewed it as a transformative step that could improve students’ critical thinking and digital adaptability. However, others felt burdened and experienced a loss of pedagogical meaning because technology was perceived as shifting the human role in the learning process. These findings indicate that curriculum transformation requires not only technical readiness but also value-based readiness and philosophical understanding among educational stakeholders.

Furthermore, the emergence of protests and community resistance demonstrates that the digitalization of education has not yet been fully accepted culturally. This resistance is rooted in concerns about the loss of religious values and humanistic relationships between teachers and students, which have traditionally characterized madrasah education. This phenomenon reveals a tension between modernization and tradition, whereby local communities perceive that education should not be separated from its moral and spiritual dimensions. Therefore, the implementation of a deep learning curriculum should be conducted through dialogical and participatory processes to bridge the values of innovation with the characteristics of religious and human-centered education.

From the perspective of learning outcomes, variations in students’ academic achievement indicate that the deep learning curriculum has the potential to create new learning gaps. Students with higher levels of digital competence demonstrated significant progress, whereas those who were less prepared experienced difficulties in adapting. This demonstrates that the success of the curriculum depends on teacher readiness, supporting facilities, and students’ social contexts. Therefore, the implementation of deep learning in madrasahs should be directed not only toward technological mastery but also toward strengthening humanistic and spiritual values in teacher–student relationships, so that educational transformation does not develop into a process of dehumanization but instead becomes a means of human empowerment and liberation.

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