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Literature Review on Deep Learning in Madrasah Ibtidaiyah: Meaningful, Mindful, and Joyful Learning Perspectives

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ABSTRACT

The lack of active participation and meaningful engagement in the learning process of Madrasah Ibtidaiyah students highlights the need for a transformation toward a deeper, more contextual, and student-centered learning approach. This study aims to examine the implementation of deep learning in the context of Madrasah Ibtidaiyah education through the integration of three core approaches: meaningful learning, mindful learning, and joyful learning. This research employs a literature review method, analyzing 20 relevant national and international scholarly articles. Data were collected from digital databases such as Google Scholar, ResearchGate, and Sinta, with publications ranging from 2020 to 2025. The selected literature includes national and international journals. Thematic content analysis was used to identify conceptual patterns related to deep learning. The findings reveal that the synergy of the three approaches significantly enhances student participation, deepens conceptual understanding through real-life relevance, and fosters reflective learning awareness in a joyful atmosphere. Therefore, deep learning is considered effective in strengthening active, authentic, and meaningful learning practices at the Madrasah Ibtidaiyah level. As a recommendation, future research should test the effectiveness of the deep learning approach in classroom settings through quantitative methods or classroom action research, as well as develop appropriate evaluation instruments to support its sustainable implementation in Madrasah Ibtidaiyah.

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Introduction

The role of primary education is crucial in shaping the intellectual, emotional, and spiritual foundations of students. As a primary educational institution rooted in Islamic values, *Madrasah Ibtidaiyah* (MI) carries the responsibility not only to deliver knowledge but also to internalize moral and spiritual values. Within this framework, there is a need for a learning approach that holistically integrates the cognitive, affective, and psychomotor dimensions in order to create a meaningful and comprehensive learning process (Ramadhan Lubis et al., 2025).

Along with the increasingly complex and dynamic development of educational paradigms, the needs of 21st-century learners demand a fundamental shift in learning approaches. Conventional models that position the teacher as the central source of information are becoming less relevant in addressing the challenges of modern education (Nopiyanti, 2025). Khairul Faizin (2023) highlights the low level of active student participation in *Madrasah Ibtidaiyah*, which is largely due to the dominance of one-way lecture methods. This approach tends to limit opportunities for student interaction and discussion, thereby hindering their engagement in deeper exploration of learning materials and resulting in limited understanding of the concepts being taught.

A learning approach that merely positions students as passive recipients of information is no longer aligned with the principles of humanistic and transformative education. Therefore, adaptive, participatory, and contextual learning strategies are needed to foster the development of critical thinking, innovative capacities, and students' emotional engagement in a holistic manner (Khawani & Rahmadana, 2023). This concept aligns with the principles of *Deep Learning*, which emphasizes deep conceptual understanding, interconnectedness of ideas, and the ability to apply knowledge in real-life contexts. *Deep Learning* does not simply focus on rote memorization, but rather involves a process of internalization that stimulates critical, creative, and reflective thinking in response to complex learning challenges.

In the context of implementing *deep learning* at the primary education level, particularly in *Madrasah Ibtidaiyah*, a study conducted by Winje & Løndal (2020) indicates that although the concept of deep learning has been widely explored at the secondary and higher education levels, its application in elementary education remains limited. This highlights the need for further exploration to address the diversity of learning styles and the individual needs of young learners. In line with this, a pedagogical approach that integrates *Meaningful Learning*, *Mindful Learning*, and *Joyful Learning* is considered relevant for creating a holistic learning environment. These three approaches complement one another in fostering not only active student engagement, but also reflective learning awareness, while providing a learning experience that is both positive and meaningful (Nafi & Faruq, 2025).

Meaningful learning emphasizes the integration of new knowledge with learners' prior experiences or previously acquired information (Huda & Djono, 2025). Ausubel, as cited in Zulkifli & Kholisah (2024), asserts that learning becomes more effective when new information can be logically and meaningfully associated with an existing cognitive structure. In the context of *Madrasah Ibtidaiyah* (MI), this approach can be implemented through contextual learning strategies, by linking instructional content to students' real-life experiences. In doing so, learners not only develop conceptual understanding but are also able to recognize the relevance and practical benefits of the knowledge they acquire in everyday life.

Mindful Learning, or learning grounded in awareness and reflective thinking, guides students to be fully present in the learning process by giving their full attention and focus to the material being studied (Mashuri & Yudasari, 2024). Langer, as cited in Pratama et al. (2024), explains that mindful learning involves openness to new perspectives, contextual awareness, and sensitivity to dynamics and changes that occur.

In the context of primary education, particularly in *Madrasah Ibtidaiyah*, this approach can be implemented through reflective activities, collaborative discussions, and simple thinking exercises aimed at developing students' self-awareness and emotional regulation skills (Flook et al., 2025). Thus, *Mindful Learning* not only fosters cognitive understanding but also nurtures students' affective and social sensitivity throughout the learning process.

Joyful Learning, or learning infused with joy, aims to create a positive and enjoyable learning atmosphere that stimulates students' intrinsic motivation (Azkiya & Istiqomah, 2025). This approach is believed to enhance students' emotional engagement in the learning process, which in turn significantly contributes to improved conceptual understanding and memory retention (Yasid, 2025). The implementation of *Joyful Learning* in the context of primary education can be realized through the use of various creative and enjoyable educational activities, such as instructional games, thematic songs, inspirational stories, and other interactive activities tailored to the developmental characteristics of the students. This approach not only fosters a pleasant learning climate but also strengthens students' emotional connection to the subject matter being taught.

The successful implementation of *deep learning* at the primary education level, particularly in *Madrasah Ibtidaiyah*, can be effectively supported through the application of integrative, contextual, and student-centered learning approaches. Research findings presented by Feriyanto & Anjariyah (2024) indicate that the combination of *Meaningful Learning*, *Mindful Learning*, and *Joyful Learning* significantly enhances students' active

engagement, intrinsic motivation, and conceptual mastery. When applied synergistically, these three approaches play a vital role in shaping a learning process that not only strengthens cognitive development but also accommodates the comprehensive growth of affective and psychomotor domains. Thus, the integration of these approaches reflects a comprehensive pedagogical strategy for fostering a holistic learning experience.

Although the integration of *Meaningful Learning*, *Mindful Learning*, and *Joyful Learning* within *Deep Learning* offers significant potential for improving the quality of education in *Madrasah Ibtidaiyah* (MI), its practical implementation in the field still faces various challenges. Key obstacles include limited educational resources, an overloaded curriculum, and the low readiness of educators to implement innovative teaching strategies. Therefore, strong collaboration among the government, educational institutions, and the wider community is essential to provide ongoing training, adequate resources, and both technical and moral support for teachers in order to optimally adopt these approaches.

Furthermore, systematic evaluation and more in-depth scientific studies on the effectiveness of implementing the three approaches within the context of Deep Learning in Madrasah Ibtidaiyah are critically important. Such efforts are expected to provide a comprehensive understanding of best practices, implementation challenges, and solution strategies that can be applied to improve the quality of learning. Based on this foundation, the present study aims to thoroughly examine the concepts and implementation of Meaningful, Mindful, and Joyful Learning in Deep Learning at the Madrasah Ibtidaiyah level. Through this review, it is hoped that tangible contributions will emerge in the development of learning strategies that are not only effective and innovative but also contextual and aligned with the developmental needs of students in Madrasah Ibtidaiyah.

Method

This study employs a literature review method, with data sources derived from articles published between 2020 and 2025 through digital databases, namely Google Scholar, ResearchGate, and Sinta. The inclusion criteria for this study are: (1) articles that have undergone a peer review process from 20 national and international scientific journals, (2) articles discussing the deep learning approach, and (3) articles written in Indonesian and English. The exclusion criteria include: (1) articles published before 2020, (2) articles that have not undergone peer review, such as blogs, opinions, or reports that do not meet academic standards, (3) articles not directly related to the deep learning approach, and (4) articles written in languages other than Indonesian and English.

The instrument used in this study is a literature review guide that functions as a tool to identify, evaluate, and select relevant sources based on specific indicators such as data recency, content relevance, source credibility, and contribution to the discussion on deep learning. The research implementation procedure includes several stages, namely: (1) identification of issues and problem formulation, (2) collection of literature sources, (3) selection and classification of sources based on themes, (4) content analysis of the collected literature, and (5) preparation of synthesis results and conclusions. The main themes analyzed include deep learning approach, meaningful learning, mindful learning, and joyful learning. Data analysis was conducted thematically using a thematic content analysis approach, which involved identifying conceptual patterns from the literature content related to educational management strategies. This process was carried out through in-depth reading, marking main themes, grouping based on central issues, and interpreting meanings based on the theoretical framework studied (Nasir & Sutiah, 2025). This approach aims to develop a comprehensive and integrative conceptual overview of the Deep Learning approach in learning at Madrasah Ibtidaiyah integrated with Meaningful, Mindful, and Joyful Learning.

Results and Discussion

1. The Concept of Deep Learning

In addressing the challenges of 21st-century learning, an approach is needed that not only directs students to understand content but also sharpens critical thinking, creativity, and problem-solving skills. Deep learning emerges as an alternative solution to traditional learning models that tend to prioritize memorization and repetition. Nofamataro Zebua (2025) emphasizes that this approach is constructive and reflective, encouraging students' cognitive as well as emotional involvement in the learning process. Thus, deep learning becomes a learning strategy that seeks to explore meaning in depth and build broad conceptual connections, as originally proposed by Marton and Saljo in 1976.

Furthermore, Putri et al. (2024) state that deep learning is a learning approach that specifically emphasizes mastery of concepts in depth, rather than merely the ability to memorize or quickly recognize information. This approach aims for students to understand the essence of a concept while relating it to real-life contexts. Through this strategy, students are encouraged to build more complex, holistic, and integrated understandings, enabling them to apply knowledge in various situations and diverse challenges. Therefore, deep learning is not only oriented toward academic success but also equips students with essential competencies relevant to facing the dynamics of real-world life.

(Nafi & Faruq, 2025) define deep learning as a learning approach that emphasizes deep conceptual understanding and the ability to apply knowledge critically. According to Hattie, as reported in (Kovač et al., 2025), the implementation of this approach yields an effect size of 0.69, indicating a significant and positive impact on students' learning outcomes. In line with these findings, (Mystakidis, 2021) views deep learning as a learning process that

involves active student engagement in exploring and applying key concepts, which in turn plays an important role in developing critical thinking skills and preparing students to face various challenges in real-life contexts.

In modern education, deep learning is not merely related to artificial intelligence (AI) technology but refers to a learning approach that stresses deep conceptual understanding and contextual application of knowledge. Unlike passive and mechanical rote memorization models, this approach encourages students to actively engage in a critical, reflective, and collaborative learning process. Students are trained to integrate various concepts, analyze information in depth, and design creative solutions relevant to real-world problems. Thus, deep learning becomes a key factor in preparing students to face the complexities of 21st-century life challenges.

In the context of modern education, deep learning not only refers to the application of artificial intelligence (AI) technology but also reflects a learning approach that emphasizes deep conceptual understanding and the meaningful application of knowledge. This approach differs from rote-based learning, as it encourages students to critically, actively, and reflectively explore information. The learning process is designed to be collaborative and ongoing, aiming to equip students with the ability to understand context, analyze information in depth, and formulate innovative solutions based on a strong conceptual foundation.

Deep learning is a learning approach focused on developing students' critical thinking skills. The information obtained is not simply received passively but processed through critical analysis to understand problems and formulate data- and fact-based solutions. This approach emphasizes meaningful learning experiences that are not only theoretical but also contextual. The knowledge gained by students is directed to be applicable in real-life situations. For example, in learning the Indonesian language, when students study various types of texts, such as argumentative texts, they are not only taught the correct writing structure but also trained in effective argumentation skills so that they can present their opinions convincingly and be accepted by their audience.

Deep learning not only promotes students' learning independence but also develops collaborative skills through activities such as group discussions, experiments, and research projects. Through this process, students are trained to build self-confidence while being given space to reflect on their learning experiences. Such reflection allows students to recognize weaknesses in the learning process, forming the basis for improving competencies and achieving optimal learning outcomes (Zhao & Qin, 2021). This deep learning approach emerges as a response to the need to develop higher-order thinking skills, which are considered essential in facing the complexities of changing times. In line with the view of (Kamalov & Gurrib, 2023), rapid andsignificant changes demand individual preparedness through strengthening deep thinking abilities (deep learning) as an adaptive strategy to these challenges.

Rianti et al., 2020) propose several advantages of deep dialogue or critical thinking learning, including: first, this approach is effective in training students' critical, imaginative, and logical thinking skills in analyzing facts as well as traditional ideas; second, deep dialogue/critical thinking can be combined with active learning methods to enrich the learning process; third, this approach is capable of connecting classroom learning with real-life contexts in a relevant manner; fourth, emphasis is placed on students' attitudes, personality, as well as socio-emotional and spiritual dimensions; fifth, deep dialogue/critical thinking enhances a deep and critical learning experience in intellectual, physical, social, and mental domains; and sixth, through this approach, a constructive

dialogical relationship is established between educators and students throughout the learning process.

2. The Application of Deep Learning in the Context of 21st Century Education

The importance of implementing deep learning continues to grow in line with the demands of 21st-century competencies. (Arianda et al., 2024) developed this concept by introducing six core competencies: Character, Citizenship, Collaboration, Communication, Creativity, and Critical Thinking (the 6Cs). Their research shows that schools adopting deep learning are able to significantly improve students' learning motivation as well as higher-order thinking skills. In line with this, (Astuti, 2024) emphasizes that critical thinking, creativity, communication, and collaboration are key in 21st-century learning, supporting students in effectively solving problems and working together to achieve shared goals.

3. Essential Pillars in the Deep Learning Approach

The deep learning approach in education is based on three main conceptual foundations: Meaningful Learning, Mindful Learning, and Joyful Learning. Meaningful Learning, introduced by David Ausubel, emphasizes the importance of connecting new knowledge with students' existing cognitive schemas to create deep and meaningful understanding. Mindful Learning, a concept developed by Ellen J. Langer, highlights full awareness and critical reflection during the learning process, contributing to enhanced cognitive focus and flexible thinking. Meanwhile, Joyful Learning, influenced by the ideas of Ki Hajar Dewantara and John Dewey, stresses the importance of creating a joyful and inspiring learning atmosphere to increase intrinsic motivation, creativity, and emotional engagement among students. These three foundations synergistically form a comprehensive framework for deep learning, integrating cognitive, affective, and psychosocial aspects to improve the quality of both the learning process and its outcomes.

4. Meaningful Learning

Meaningful learning is an essential foundation in the deep learning approach because it enables students to build a comprehensive understanding of the material being studied. According to (Huda & Djono, 2025), this process involves integrating new knowledge into pre-existing cognitive structures. This activity is not merely the addition of information but the formation of a more complex and interconnected conceptual network. When students actively relate new concepts to their existing knowledge, a deeper and more enduring understanding is reinforced, in contrast to rote learning, which is shallow and less long-lasting.

The implementation of meaningful learning in the learning process involves pedagogical strategies designed to encourage students' active construction of understanding. Teachers design learning activities that enable connections between new concepts and everyday experiences. The use of contextual and relevant examples facilitates comprehension of the practical applications of the material being studied. For instance, in elementary science learning, topics on plant growth and development can be linked to real-life situations such as planting mung beans at home, regularly observing their growth, and then documenting and analyzing the observations during class discussions. This strengthens the relevance and direct usefulness of the learning experience.

Meaningful learning emphasizes a student-centered approach, giving students opportunities to take an active role in the learning process. Strategies such as group discussions, collaborative projects, and independent research become key methods to encourage active participation. Thus, students are not merely recipients of information

but also knowledge builders capable of applying learned concepts in various diverse and complex contexts.

In practice, implementing mindful learning requires designing activities that stimulate students' reflection and self-awareness. Teachers can integrate methods such as reflective journaling, where students record their experiences and thoughts related to the learning process; metacognitive discussions that explore learning strategies and challenges faced; and constructive feedback sessions that help students identify their strengths and areas for improvement. These activities not only increase students' active engagement but also develop essential self-management skills critical for academic success and personal growth.

Mindful learning, as the second component, plays a crucial role in enhancing students' awareness and active engagement in the learning process. (Wijaya et al., 2025) emphasize that this approach encourages students to become reflective learners who are conscious of their own learning processes. Mindful learning focuses not only on concentration but also on developing metacognitive awareness that enables students to understand and manage their learning strategies and processes independently. Thus, students are invited not only to focus their attention on the learning material but also on the learning mechanisms themselves, the strategies applied, and efforts to improve learning effectiveness.

(Henriksen et al., 2020) present empirical findings that support the effectiveness of mindful learning in improving various aspects of learning. The research shows that this approach significantly contributes to the development of innovative thinking, enhances intelligence, and increases metacognitive awareness. Furthermore, mindful learning is positively correlated with the development of creativity and critical thinking skills. Students who adopt mindful learning tend to be capable of deeply analyzing information, evaluating diverse perspectives, and generating innovative solutions to problems they face.

In learning practice, implementing mindful learning requires designing activities that prioritize reflection and self-awareness. Teachers can integrate practices such as reflective journaling, where students document their experiences and thoughts related to the learning process; metacognitive discussions involving open dialogue about learning strategies and encountered challenges; and constructive feedback sessions that help students identify their strengths and areas for improvement. These activities not only increase active student engagement but also support the development of self-management skills essential for academic success and personal growth.

5. Joyful Learning

Joyful learning, as the third component, represents a substantial affective dimension in the learning process by positioning emotional aspects as catalysts for students' cognitive engagement. Azkiya and Istiqomah (2025) state that this approach integratively combines activeness, creativity, effectiveness, and elements of enjoyment in teaching and learning activities. Creating a joyful learning atmosphere not only maintains the essence and depth of the instruction material but also strengthens the overall effectiveness of the learning process. A positive and enjoyable learning environment plays a role in stimulating students' intrinsic motivation, which in turn encourages increased enthusiasm, active participation, and mental readiness to face various academic challenges.

The implementation of the joyful learning approach involves designing learning activities that systematically integrate elements of play, creativity, and exploration. Educators can adopt various strategies, such as game-based learning, a method that delivers academic concepts through educational games designed to capture students' interest. Additionally, involving students in creative projects provides opportunities to express ideas through art, design, or other forms of expression. Collaborative activities are also an important part of this approach, as they build teamwork skills and enhance constructive social interaction among students. With such an approach, the learning

process is perceived by students as an enjoyable and meaningful experience, thereby increasing comfort and intrinsic motivation to learn.

Joyful learning also accommodates the psychological and emotional dimensions of students by creating a learning environment that supports cognitive growth as well as holistic and balanced social-emotional development. Activities such as team-building, role-playing, and open discussions about personal experiences contribute to the development of social skills, including empathy, effective communication, and the ability to work in teams. Moreover, a positive and enjoyable learning atmosphere significantly helps reduce stress and anxiety often associated with the learning process, enabling students to absorb material more effectively and achieve better learning outcomes.

Ultimately, the application of the three main components meaningful, mindful, and joyful learning requires careful planning and a strong understanding of students' characteristics. Teachers need to design learning activities that balance these three aspects, so the learning process not only achieves academic goals but also provides valuable and enjoyable experiences. This approach enables the creation of learning that is more engaging, relevant, and positively impactful for students' overall development.

Conclusion

Deep learning is a strategic approach that aligns with the demands of 21st-century education, particularly in the context of Madrasah Ibtidaiyah. This study presents a novel contribution by designing a deep learning approach that integrates three pedagogical methods Meaningful Learning, Mindful Learning, and Joyful Learning along with the reinforcement of 6C Skills. This approach is aimed not only at enhancing students' cognitive achievements but also at developing their social, emotional, and spiritual skills in a balanced manner. This aspect remains underexplored in previous research, especially at the primary education level within an Islamic-based context.

Conceptually, deep learning emphasizes comprehensive and practical understanding, where learners do not merely memorize information but are able to internalize its meaning and apply it in real-life contexts. There are three main foundations that support this approach. First, Mindful Learning, which fosters full awareness during the learning process and plays a crucial role in enhancing concentration, emotional stability, and reducing academic anxiety. Second, Meaningful Learning, which enables the connection between new knowledge and the learner's existing cognitive structures, thereby strengthening knowledge construction. Third, Joyful Learning, which creates a positive and enjoyable learning environment that encourages intrinsic motivation, stimulates creativity, and enhances memory retention. The integration of these three approaches produces a holistic learning experience that significantly increases students' active participation and enthusiasm for learning.

As a recommendation for future research, it is necessary to test this deep learning model in real classroom implementations using quantitative approaches or classroom action research to measure its effectiveness on learning outcomes, student engagement, and the development of affective and spiritual aspects. Additionally, the development of assessment instruments aligned with the characteristics of deep learning is also an important agenda to support the sustainability of this approach in practice at Madrasah Ibtidaiyah.

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