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Research Article

Deep Learning Approach Through Meaningful, Mindful, and Joyful Learning: A Library Research

F Feriyanto*, and Deka Anjariyah

Department of Mathematics Education, Universitas Islam Majapahit, Mojokerto East Java, Indonesia
*Corresponding Author: muhammad.feriyanto@unim.ac.id | Phone Number: +6289654442364

ABSTRACT

In modern education, fostering effective learning strategies is essential to improve educational outcomes. This study explores the integration of Meaningful Learning, Mindful Learning, and Joyful Learning within the Deep Learning approach, aiming to enhance student engagement and comprehension. Meaningful Learning connects new knowledge with prior understanding, Mindful Learning emphasizes full attention and reflection, and Joyful Learning creates an enjoyable and motivating environment. Using a library research method, this study analyzed data from journal articles, books, and prior studies published between 2000 and 2024 to examine how these approaches support Deep Learning implementation. Results indicate that Meaningful Learning facilitates critical thinking and problem-solving skills through project-based and gamified educational methods. Mindful Learning enhances cognitive abilities, focus, and academic performance using techniques such as mindfulness training and AI-assisted personalization. Joyful Learning fosters emotional engagement and retention through arts integration, game-based activities, and scaffolded learning. Together, these approaches improve conceptual understanding, creativity, and motivation. The study concludes that integrating these three approaches within Deep Learning provides a holistic framework for enhancing educational quality. Future research should investigate the application of this framework across diverse educational settings, including technology-driven and distance learning environments, to maximize its effectiveness.

Keywords: Deep Learning; Meaningful; Mindful, Joyful; Educational Strategies

1. INTRODUCTION

In modern education, effective learning approaches are crucial to improving educational quality. One approach gaining popularity, as advocated by the Ministry of Primary and Secondary Education, is the Deep Learning approach. This method emphasizes deep comprehension and active student engagement in the learning process. Deep Learning enables students to understand material comprehensively through meaningful experiences, focused attention, and enjoyable learning activities. It extends beyond mere information mastery by fostering students' ability to connect new knowledge with prior understanding and apply it in diverse contexts (Hussain et al., 2021)

This approach can be integrated with the concepts of Meaningful Learning, Mindful Learning, and Joyful Learning to create richer and more engaging educational experiences. These three concepts have been identified as critical pillars supporting the success of Deep Learning in various educational contexts (Langer et al., 1989)Meaningful Learning involves processes where students relate new information to their prior knowledge, creating relevant and contextual connections (Polman et al., 2021). Mindful Learning emphasizes full attention to the learning process to enhance cognitive flexibility and student engagement (Geng et al., 2011). Joyful Learning underscores the importance of a learning environment that fosters happiness and intrinsic motivation, which has been shown to significantly improve learning outcomes (Bhakti et al., 2019).

This study aims to explore the contributions of these three elements in supporting the implementation of Deep Learning using the library research method, drawing references from relevant literature (Z. Zhang et al., 2022). The research question are a) How do the concepts of Meaningful, Mindful, and Joyful Learning support the implementation of Deep Learning in education?. b) What are examples of implementing these three elements in educational contexts?, c) How do previous studies demonstrate the effectiveness of this approach?.

2. RESEARCH METHOD

This study employs the library research method, involving activities such as collecting, reading, recording, and analyzing data from various relevant literature sources on Deep Learning, Meaningful Learning, Mindful Learning, and Joyful Learning. The sources include journal articles, books, and prior studies discussing these concepts (Hamzah, 2020). The data obtained is qualitatively analyzed to identify the relationships between these learning approaches. The analysis process includes identifying key themes, organizing information, and drawing conclusions based on the data. Empirical findings from previous studies are also considered to provide a more comprehensive understanding. The data collection process focuses on articles published in international journals between 2000 and 2024 that are relevant to the research topic.

3. RESULTS AND DISCUSSION

3.1 Meaningful Learning

According to (Ausubel, 2003) meaningful learning occurs when students can connect new information with their prior knowledge. This approach encourages active student engagement, enabling them to associate new knowledge with previous experiences sebelumnya (Mystakidis et al., 2019). In the context of deep learning, meaningful learning helps students understand the context and relevance of the material being studied. Thus, it can be concluded that meaningful learning emphasizes the linkage between new information and prior knowledge or experiences. (Polman et al., 2021) demonstrated that meaningful learning also enhances critical thinking and problem-solving skills through relevant learning experiences. Examples of implementing meaningful learning in deep learning include:

a. Project-Based Learning (PBL)
   Research indicates that project-based learning promotes deep learning by stimulating critical thinking and problem-solving skills. By applying real-world and relevant contexts, students become more motivated to learn and actively engage in the process (Weng et al., 2023). In technical education, PBL has been shown to foster a deep understanding by involving students in challenging and meaningful practical activities.
b. Gamification in Education
   Gamification facilitates meaningful learning by creating scenarios that enable students to construct knowledge through interactive experiences. For instance, gamification in philosophy courses utilizes game-based software to make learning more enjoyable and relevant (Zepeda & Cantarero, 2021).

3.2 Mindful Learning

Mindful learning focuses on full attention during the learning process. (Geng et al., 2011) found that this approach can improve cognitive abilities such as mental rotation and cognitive flexibility. Moreover, mindful learning enhances students' focus and attention, which are critical in mastering complex and deep learning topics (Sonia Piscayanti, 2018).
By employing mindful learning techniques, students are better prepared to address challenges in deep learning. Consequently, mindful learning is defined as an approach that underscores the importance of full awareness and deep engagement in the learning process.

The Role of Mindful Learning in Deep Learning

The role of mindful learning is significant in the context of deep learning. (Levin, 2024) explains that mindful learning in professional education helps students develop a deeper understanding of material, enhance engagement, and improve learning outcomes. Several applications of mindful learning in deep learning are as follows:

a. Mindful Awareness Training
   A 10-minute daily audio-based program has been shown to improve students' quarterly grades without disrupting teaching operations. This intervention leverages focused attention exercises to support social-emotional learning (Bakosh et al., 2016). Research findings indicate significant improvements in students' performance in reading and science subjects. In other words, mindfulness-based approaches have proven effective in enhancing students' academic abilities in formal educational settings.

b. Story and Game-Based Learning
   A story-based learning system, such as "Treasure Hunt," which integrates geography and creativity, successfully enhances students' creative mindsets and mastery experiences. Mindful learning is applied by deeply engaging students in interdisciplinary storytelling and game-based activities.

c. Integration of Artificial Intelligence

(Rosalina & Sen, 2022) demonstrated that integrating Artificial Intelligence (AI) with mindful learning creates more adaptive learning experiences. AI enables personalized learning by recommending materials tailored to individual needs and abilities. This helps students remain focused on relevant tasks and receive timely feedback, thereby improving the effectiveness and efficiency of learning. Additionally, AI can monitor students' progress in real time, providing teachers with insights to adjust teaching strategies accordingly.

3.3 Joyful Learning

Joyful Learning is an approach that places students' happiness and emotional engagement at the heart of the learning process. This method aims to create a positive learning environment where students feel comfortable, motivated, and enthusiastic about their studies. (Bhakti et al., 2019) emphasize that happiness-based learning enhances students' emotional engagement and helps them grasp material more deeply. Based on this premise, it can be concluded that Joyful Learning significantly contributes to fostering positive learning experiences and supporting students' emotional engagement.

Examples of Joyful Learning Applications in the Context of Deep Learning

1. Integration of Performing Arts

Incorporating performing arts such as music, dance, and drama into the teaching and learning process creates a joyful and transformative learning environment. Research has shown that integrating arts enhances learning retention and makes the learning experience more meaningful (Agarwal & Verma, 2023).

2. Game-Based Learning

A study by (Sundaram & Ramesh, 2022) demonstrated that using a blended learning approach based on educational games significantly improves knowledge retention and learning outcomes. This research, conducted with 10th-grade students, employed card-based games as a medium for learning chemistry. The results revealed an increase in the average test scores before and after the intervention. Additionally, this method fostered a fun learning environment and encouraged reflective learning.

3. Scaffolded Learning Integration

(Yabo, 2020) reported the success of scaffolded learning methods grounded in Joyful Learning for mathematics education. The findings showed that students taught using this approach not only improved their mathematics performance but also developed a positive attitude toward the subject. Engaging and enjoyable learning activities activated students' cognitive and psychomotor skills through interactive and creative tasks. Joyful Learning not only creates an enjoyable learning atmosphere but also fosters deeper learning. (Ford & Opitz, 2015) argued that enjoyable learning experiences enhance both cognitive and affective dimensions of students, enabling them to achieve a better understanding of the material. This approach leverages interactive media and technology to enrich the learning experience, aligning with the principles of deep learning. Furthermore, Joyful Learning not only increases student engagement but also helps develop positive attitudes toward learning. Studies have shown that when students feel happy and engaged, they are more likely to succeed in achieving their learning objectives (Vargas-Hernández & Vargas-González, 2021).

Application of Meaningful Learning in Deep Learning

Meaningful Learning plays a vital role in Deep Learning by helping students connect new information with their prior knowledge. This connection enhances comprehension and retention of information. According to (Kikas et al., 2024), students engaged in meaningful learning are more capable of applying their knowledge across different contexts, which is at the core of Deep Learning. Research by (F. Zhang et al., 2024) also demonstrates that applying Meaningful Learning strategies in technology-based learning significantly improves student outcomes.

The Role of Mindful Learning

Mindful Learning contributes to Deep Learning by enhancing students' awareness of their learning processes. Through mindfulness techniques, students can focus better and engage more deeply in their studies. (Sun & Hong, 2024) found that students practicing Mindful Learning exhibited improvements in critical thinking and reflective skills, which are crucial for Deep Learning. Additionally, research by (Doleck et al., 2020) indicates that Mindful Learning helps students manage stress and boosts their learning motivation, thereby supporting the Deep Learning process.

Integration of Joyful Learning

Joyful Learning creates an enjoyable learning environment that fosters student motivation and engagement. By incorporating elements of play, collaboration, and creativity into the learning process, students are more likely to actively

participate. Research has shown that enjoyable learning experiences enhance academic outcomes and student satisfaction (Wen & Ma, 2024). Moreover, (Gupta & Singh, 2023) reported that leveraging multimedia technology in learning increases Joyful Learning elements, contributing to a more positive learning experience.

Impact of Integrating the Three Approaches

The integration of Meaningful Learning, Mindful Learning, and Joyful Learning in Deep Learning can have a significant impact on students' learning outcomes. Combining these three approaches also creates a more holistic and effective learning experience in Deep Learning. Research by (Hussain et al., 2021) indicates that students engaged in learning that incorporates these approaches demonstrate improvements in critical thinking skills, creativity, and learning motivation. Furthermore, (F. Zhang et al., 2024) emphasize the importance of appropriate instructional support in integrating these approaches to achieve optimal learning outcomes. Meaningful Learning ensures that students connect new knowledge with prior understanding, Mindful Learning fosters focus and reflection, while Joyful Learning enhances motivation and emotional engagement. Together, these approaches can enhance students' conceptual understanding, critical thinking skills, and learning motivation.

4. CONCLUSION

A Deep Learning approach supported by Meaningful, Mindful, and Joyful Learning represents an effective strategy in modern education. This study highlights that these three elements enhance students' deep understanding, engagement, and learning outcomes. Future research could further explore the integration of these elements across various educational contexts, including distance education and technology-driven learning environments.

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