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Implementation of Deep Learning in Islamic Religious Education Learning at SMP Muhammadiyah PK Kottabarat

Gina Rahma Giovanny*, Istanto
Pendidikan Agama Islam, Universitas Muhammadiyah Surakarta, Kartasura, 57169, Indonesia

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* *Corresponding author:*

E-mail: gina.giovanny29@gmail.com

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A B S T R A C T

This study aims to examine the application of the Deep Learning approach in Islamic Religious Education (PAI) learning at SMP Muhammadiyah PK Kottabarat. The research uses a descriptive qualitative method with a case study design. Data collection techniques were carried out through interviews, observations, and documentation of two PAI teachers and students. The results of the research show that the implementation of Deep Learning takes place through three main pillars, namely: (1) meaningful learning, which is realized through the contextualization of PAI material with the real lives of students, (2) mindful learning, which is developed through structured religious activities to foster spiritual awareness and self-reflection, and (3) joyful learning, which is applied through the use of digital technology and interactive learning methods. The research findings reveal that the application of this approach is able to increase student engagement, deepen spiritual understanding, and create meaningful and pleasant learning experiences. The implementation of Deep Learning is supported by internal factors in the form of the openness and adaptive attitude of teachers, as well as external factors in the form of institutional support and infrastructure. The constraints faced include limited learning time and variations in the pedagogical creativity of teachers. This study offers a useful contribution to the progress of Islamic Religious Education teaching that is relevant to the demands of students in the digital era.

1. Introduction

Education in the digital era is undergoing a significant transformation that demands smart, contextual, and sustainable adaptation. This change presents its own challenges for religious institutions in maintaining the purity of religious values amidst the heavy flow of modernization and digital globalization (Syamraeni et al., 2024). Therefore, a more engaging and contextual learning approach is needed, because conventional methods that are one-way and passive are increasingly

considered ineffective in fostering the active participation of students (Falaqi et al., 2025). In this context, progressive educational theory, such as that championed by John Dewey with his "*learning by doing*" concept, asserts that education must be centered on the experiences and needs of students, preparing them not only to know, but to live (Canillo & Bendanillo, 2023).

Deep Learning is present as a pedagogical approach that is relevant to the essence of digital era education (Adascalitei, 2023). Deep learning is understood as a learning approach that emphasizes meaningful understanding, where students do not only memorize material, but are able to relate, reflect, and apply knowledge in real-life contexts (McClelland & Botvinick, 2024). Abdul Mu'ti emphasized that Deep Learning is not a curriculum, but a learning approach that plays a role in increasing students' ability to understand subject matter deeply (Kemendikbud, 2025). Previous research by Setiani has examined the perceptions of "*Guru Penggerak*" (activist teachers) toward the implementation of the Deep Learning approach in primary and secondary schools, showing that teachers view Deep Learning as an approach capable of increasing student engagement, critical thinking, and meaningful learning (Setiani et al., 2025).

The main problem in *PAI* learning is still dominated by surface learning, where students only memorize verses, prayers, or definitions without contextual understanding, causing a gap between knowledge and real behavior (Sulaiman et al., 2024). This condition is seen at the junior high school level, including memorization without reflection on religious meaning. This inhibits the achievement of Islamic character education goals (Azima et al., 2023). A study researched by Megawati states that the conventional methods of *PAI* teachers hinder students' deep understanding, especially due to limited mastery of the material and lack of innovation (Megawati, 2025).

The application of Deep Learning in Islamic Religious Education (*PAI*) learning still shows a research gap, namely that there have not been many studies examining the three main elements simultaneously: Meaningful Learning, Mindful Learning, and Joyful Learning. Most research is still focused on one particular aspect of Deep Learning, such as Meaningful Learning which emphasizes the understanding of religious concepts or mindful learning in strengthening students' spiritual awareness (Balqisa et al., 2025;Yahriyah et al., 2025). Meanwhile, an approach that synergizes the three dimensions of Deep Learning (meaningful, mindful, and joyful learning) simultaneously is still very limited. In fact, the integration of the three has the potential to create religious learning that is more holistic, reflective, and pleasant (Musringah & Dharin, 2025). Noor and Abdullah also emphasized that the main challenge for *PAI* teachers is the limitation of learning models capable of combining aspects of meaning, mindfulness, and joy in one complete pedagogical design (Noor & Abdullah, 2021).

SMP Muhammadiyah PK Kottabarat has implemented the three elements of Deep Learning in *PAI* learning. In the Meaningful Learning aspect, teachers connect material such as *thaharah* and prayer with the context of students' lives, creating deep relevance (Joy & George, 2023). Mindful Learning is realized through

structured religious programs such as mentoring and joint worship, which aim to build spiritual awareness and self-reflection (Eslit, 2023). Meanwhile, Joyful Learning is created with participatory discussion strategies and the use of digital quiz platforms to increase engagement and motivation (Prihantini et al., 2025). Overall, teachers at SMP Muhammadiyah PK Kottabarat show good learning management and consistent efforts in applying these three elements of Deep Learning.

Based on the phenomenon above, this research aims to analyze in depth how SMP Muhammadiyah PK Kottabarat applies the Deep Learning approach in PAI learning. The focus of the analysis includes implementation strategies for the three pillars of Deep Learning, their impact on student engagement, as well as supporting and inhibiting factors in their implementation. The results of this research are expected to provide practical contributions to the development of *PAI* learning that is relevant to the needs of the digital era.

2. Methodology

In understanding the overall process of deep learning integration in Islamic Religious Education (*PAI*) learning, this research uses a descriptive qualitative research method (Adlini et al., 2022). Qualitative methods were chosen because they allow researchers to examine learning phenomena realistically and contextually through direct interaction with research subjects (Ding, 2021). According to Sugiyono (2022), qualitative research emphasizes meaning over the generalization of research findings and positions the researcher as the primary instrument in examining the object of research in its natural condition.

This research was conducted at SMP Muhammadiyah PK Kottabarat, which was chosen purposively because it has the characteristics of an Islamic school that implements active and Islamic value-based learning. The research subjects included Islamic Religious Education (*PAI*) teachers and students directly involved in the learning process. The selection of participants using the purposive sampling technique aimed to obtain relevant and in-depth data according to the focus of the study. This approach is in line with the opinion of Creswell (2012), who stated that the selection of participants in qualitative research must be based on their direct involvement in the phenomenon being studied so that the data obtained is rich in meaning and valid (Ishtiaq, 2019).

Data collection was carried out through observation, in-depth interviews, and documentation studies (Blehr, 2023). This research refers to aspects of deep learning that can be seen in Table 1 to observe PAI learning practices that reflect elements of meaningful, mindful, and joyful learning. In-depth interviews aim to explore the perceptions and experiences of teachers and students related to the implementation of deep learning. Meanwhile, documentation includes Lesson Plans (*RPP*), teaching modules, and other supporting documents. The combination of these techniques is intended to obtain comprehensive and in-depth data (Merriam & Tisdell, 2022).

Table 1. Interview Question

No	Indicator	Question
1	Opening	• Bagaimana Bapak/Ibu pertama kali mengenal konsep "Deep Learning" sebagai pendekatan pembelajaran? Apakah ada pelatihan atau pembinaan khusus dari sekolah? • Dalam pemahaman Bapak/Ibu, apa yang dimaksud dengan pendekatan Deep Learning? Bisakah Bapak/Ibu menjelaskan tiga pilarnya (Meaningful, Mindful, Joyful Learning) dengan kata-kata sendiri? • Sejauh mana pemahaman tersebut mempengaruhi cara Bapak/Ibu dalam menyusun Perencanaan Pembelajaran (seperti RPP atau Modul Ajar) untuk mata pelajaran PAI? Bisakah saya melihat contoh RPP-nya? • Bagaimana Bapak/Ibu memilih materi PAI tertentu untuk diterapkan pendekatan Deep Learning? Apakah ada pertimbangan khusus? • Sejauh mana Bapak/Ibu melihat keselarasan antara pendekatan Deep Learning dengan prinsip-prinsip Kurikulum Merdeka dan Projek Penguatan Profil Pelajar Pancasila (P5)?
2	*Meaningful Learning*	• Bisakah Bapak/Ibu menceritakan satu contoh kegiatan pembelajaran PAI dimana Bapak/Ibu berusaha menghubungkan materi dengan kehidupan nyata siswa *(meaningful learning)*? • Strategi apa yang paling efektif untuk membuat siswa merasa bahwa materi PAI relevan dengan dunia mereka saat ini? • Apakah Bapak/Ibu pernah melibatkan siswa dalam proyek atau tugas lapangan? Bagaimana respon siswa terhadap kegiatan semacam itu?
3	*Mindful Learning*	• Dalam konteks PAI, bagaimana Bapak/Ibu menciptakan ruang untuk refleksi dan perenungan mendalam (mindful learning) di dalam kelas? • Bisakah Bapak/Ibu memberikan contoh pertanyaan pemantik yang pernah digunakan untuk merangsang berpikir kritis dan reflektif pada siswa? • Bagaimana Bapak/Ibu mengintegrasikan nilai-nilai mindfulness atau kesadaran spiritual dalam praktik keagamaan di sekolah, seperti shalat Dhuha?
4	*Joyful Learning*	• Media atau metode apa yang paling sering Bapak/Ibu gunakan untuk menciptakan suasana belajar yang menyenangkan (joyful learning) dalam PAI? • Dari pengalaman Bapak/Ibu, jenis aktivitas joyful learning mana yang paling disukai siswa dan sekaligus efektif mencapai tujuan pembelajaran? • Bagaimana Bapak/Ibu menyeimbangkan antara unsur "kesenangan" dengan kedalaman materi agama yang serius?
5	Evaluation	• Perubahan apa yang Bapak/Ibu amati pada siswa setelah diterapkannya pendekatan ini? • Bagaimana Bapak/Ibu mengevaluasi keberhasilan pembelajaran yang menggunakan pendekatan Deep Learning? Apakah hanya dengan tes tertulis, atau ada penilaian lain seperti observasi sikap, penilaian proyek, atau portofolio? • Dari sisi Bapak/Ibu sendiri, apa tantangan atau kendala terbesar dalam menerapkan pendekatan Deep Learning ini secara konsisten? • Menurut Bapak/Ibu, faktor apa saja dari dalam diri guru (internal) dan dari lingkungan sekolah (eksternal) yang paling mendukung keberhasilan penerapan Deep Learning? • Dukungan seperti apa dari sekolah (misal: pelatihan, fasilitas, waktu) yang paling Bapak/Ibu butuhkan untuk mengoptimalkan penerapan pendekatan ini ke depannya?

6	Closing	• Secara keseluruhan, bagaimana pengalaman Ibu mengajar PAI dengan pendekatan Deep Learning dibandingkan dengan metode konvensional? • Apakah ada pesan, saran, atau pembelajaran berharga yang ingin Bapak/Ibu bagikan kepada rekan guru lainnya yang ingin menerapkan Deep Learning?

The validity of the data is maintained by applying source and technique triangulation. Source triangulation is carried out by comparing data from teachers and students (Meydan & Akkaş, 2024). Meanwhile, technique triangulation involves comparing the results of interviews, observations, and documents. This step aims to increase the credibility and reliability of the research findings (Creswell, 2012). Data analysis was carried out continuously and interactively through the stages of data reduction, data presentation, and conclusion drawing. This analysis procedure aims to find patterns and meanings from the data collected regarding the application of deep learning in Islamic Religious Education (*PAI*) learning. This analysis approach refers to Miles, who stated that qualitative data analysis includes the process of data reduction, data presentation, and drawing conclusions carried out interactively (Miles & Huberman, 2003).

3. Results and Discussion

Results

Implementation of Deep Learning Approach in PAI Learning

This research was carried out in one of the classes at SMP Muhammadiyah PK Kottabarat which became the location for observing the implementation of Islamic Religious Education learning. The class observed was a regular class with 32 students, consisting of 15 male students and 17 female students. In general, the condition of the class was conducive and well-organized, both in terms of physical aspects and the learning climate. The classroom is equipped with learning support facilities such as smart TVs, whiteboards, and flexible desk and chair layouts that allow for individual or group learning arrangements. Interaction between teachers and students took place relatively actively, although on several occasions class dynamics were still found in the form of differences in the level of participation between students. Sociologically, the character of the students is quite heterogeneous, both in terms of academic ability, family background, and learning style, which demands adaptive learning strategies from the teacher.

Before the systematic application of deep learning-based learning approaches, this class generally used conventional learning methods combined with simple discussions. The learning process was dominated by teacher explanations (teacher-centered), followed by questions and answers and written assignments as a form of evaluation. Although teachers occasionally utilized audiovisual media and group work, learning tended to be oriented toward material delivery and achievement of curriculum targets. However, the school already has an academic culture that supports innovation, characterized by policies on using digital media, teacher professional development workshops, and structured religious programs such as

morning mentoring and worship practices. This initial condition becomes an important context in understanding the learning transformation that occurred, as well as providing an empirical basis for analyzing how the deep learning approach is implemented and responded to by students in a real classroom setting.

Based on class observations and in-depth interviews with *PAI* teachers, the mechanism of deep learning at SMP Muhammadiyah PK Kottabarat takes place through systematic and integrated stages in the entire learning process. The learning begins with planning oriented toward selecting contextual materials and methods relevant to student characteristics, so teachers do not just focus on content delivery, but also on creating meaningful learning experiences. This learning process is through the integration of three main components, namely meaningful learning, mindful learning, and joyful learning. This process allows students to link *PAI* material with daily life realities while developing reflective awareness of Islamic values. This approach is in line with the policies of the Ministry of Education, Culture, Research, and Technology which encourages the creation of meaningful, mindful, and joyful learning as a basis for strengthening character and developing student competence as a whole (Kemendikbudristek, 2022). The learning mechanism is also strengthened by spiritual habituation and reflection at the beginning and end of learning, which encourages students' affective and spiritual involvement. Furthermore, the learning atmosphere is designed to be pleasant through ice breaking, digital gamification, and educational rewards to maintain students' intrinsic motivation without reducing the depth of the material. Learning evaluation is carried out comprehensively through cognitive assessment, attitude observation, participation, and project assignments, so that the deep learning mechanism not only produces conceptual understanding, but also forms attitudes, awareness, and internalisation of values sustainably.

1. Mechanism of Meaningful Learning Implementation

The implementation of the Meaningful Learning pillar in Islamic Religious Education (*PAI*) learning at SMP Muhammadiyah PK Kottabarat shows that teachers do not only convey religious knowledge abstractly, but consciously link Islamic concepts with the real experiences of students. In the learning of *thaharah* material in grade VII, teachers connect the concept of purity with real-life situations and involve students directly through good and correct wudu practices, including simulations of funeral management practices. This approach shifts the learning of fiqh from merely delivering normative concepts toward contextual and relevant life practices for students.

In addition, teachers apply group discussion strategies and collaborative projects to build collective understanding. In learning Islamic history, students discuss stories of the prophets which are then developed into an e-book creation project on the Prophet's stories, thus encouraging students to link exemplary values with contemporary life realities. Meaningful learning as applied also shows the characteristics of problem-based learning, where teachers use contextual problems as the starting point for learning. For example, a grade VIII *PAI* teacher asks a trigger question, "*Bagaimana jika harus memandikan jenazah tanpa kehadiran*

orang dewasa?", which encourages students to perform authentic inquiry by linking fiqh law and possible real situations they might face.

Based on field findings, students gave positive responses to the effectiveness of the meaningful learning approach applied. They stated that the learning material was successfully linked to real-life contexts, especially on the topic of funeral management, thus providing practical clarity to religious concepts. Students also expressed that this contextual approach helped them understand the rationality behind commands and prohibitions in Islam more deeply. These findings show that meaningful learning not only builds substantive conceptual understanding, but also goes beyond merely procedural rote learning.

2. Mechanism of Mindful Learning Implementation

The implementation of the Mindful Learning pillar at SMP Muhammadiyah PK Kottabarat shows a comprehensive approach, through structured religious infrastructure and a school culture that supports the development of students' spiritual awareness. At SMP Muhammadiyah PK Kottabarat, this is realized through a systematic morning mentoring program starting at 06:30; upon arrival, students are directed to perform wudu and go to the prayer room according to their level, followed by reciting and praying together. This program functions as building a routine of spiritual consciousness "mindfulness" for students. These repetitive and structured activities are not just a "program," but are a form of attentional training that creates a zone of routine awareness before academic learning begins

The school also developed the ISMUBA program which includes ritual aspects (virtual tahajud), cognitive (tahfidz class, Arabic language), and social-preaching (digital preaching on Instagram), reflecting an ecosystem approach in character education. The completeness of this program shows a holistic approach in religious education, which integrates ritual, intellectual, and social aspects in one systemic unit. In addition, in the classroom, teachers develop mindful learning through reflective questions that stimulate critical thinking and self-awareness. A Grade 8 *PAI* teacher gave an example: "*Di akhir selalu saya tekankan : kenapa dari pembelajaran ini kita harus mempelajari sejarah dinasti Fathimiyah ini? Buang-buang waktu gak sih?*". This provocative question pushes students to look for meaning and relevance behind every lesson, developing a critical attitude toward the knowledge received. Reflection on Islamic values is also developed explicitly. A Grade 8 *PAI* teacher explained the goals of learning Islamic history: "*Agar kita tau bahwa keilmuan kedokteran itu asal ilmunya dari Islam bukan orang Barat, agar kita tidak dibodohi oleh mereka.*" This statement shows the teacher's effort to build historical awareness and a positive Islamic identity, while developing a critical attitude toward dominant knowledge narratives.

3. Mechanism of Joyful Learning Implementation

Implementation of Joyful Learning is through learning designs that prioritize active involvement, positive emotional activeness, and the use of technology relevant to the students' world. *PAI* teachers at SMP Muhammadiyah PK creatively integrate

elements of fun as an intrinsic motivation driver, not just as mere entertainment. The main strategy seen is the adoption of digital gamification platforms such as Quizizz, Blooket, and Kahoot for interactive quizzes. This use is not incidental, but designed for the material review phase or formative assessment. This shows the teacher's understanding that technology functions as a way to attract attention and re-process material in a fun way, thereby reducing anxiety and increasing memory retention. Teachers utilize digital technology creatively to increase student engagement. These digital platforms show teacher adaptation to the characteristics of the digital native generation.

The strategy for opening the lesson is also designed to create a positive atmosphere. The teacher explained: *"Di awal pembelajaran saya adakan ice breaking sehingga mood anak sudah bagus".* This approach is in line with principles of educational psychology that positive affective conditions increase learning readiness, memory retention and add to children's interest in learning so that learning feels fun. Interestingly, the element of fun is not only on the surface, but is also embedded in the process of discussion and reflection. Teachers encourage sharing personal experiences related to religious values with storytelling methods or case-based group discussions. Students do not just listen to lectures, but actively share, debate, and reflect. One student stated,

"Pembelajaran terasa menyenangkan karena guru menjelaskan materi secara jelas diselingi game. Sesekali kita juga dapat reward kecil-kecilan seperti jajanan atau permen. Tapi yang paling seru itu kalau diskusi tentang masalah kita sehari-hari, kayak pacaran atau medsas, terus dicari hukum dan solusinya bersama-sama." .

This statement reveals that true joyful learning emerges when students feel the material is relevant and their voices are heard, where joy comes from a sense of ownership over the learning process.

Supporting and Inhibiting Factors of Deep Learning Implementation

Supporting Factors of Implementation:

1. Internal Factors:

Implementation of Deep Learning is significantly supported by the proactive and adaptive attitude of teachers toward the latest pedagogical developments. Teachers show a growth mindset that views innovation as a professional development opportunity, not as an additional burden. This attitude is visible from active involvement in collegial learning communities where exchange of knowledge and experience in implementing new strategies occurs. Teachers develop a constructive culture of collaboration through mechanisms for sharing good practices and mutual learning among peers.

2. External Factors:

The school provides strong structural support through teacher capacity development programs that are planned and sustainable. Various workshop activities facilitated

by the institution do not only focus on technical-operational aspects, but also include conceptual and strategic strengthening in the fields of pedagogy and educational technology relevant to contemporary learning demands. This support is reinforced by the statement of a *PAI* teacher who said that "*di sekolah ini sering diadakan workshop terkait Deep Learning, pemanfaatan media sosial, pembuatan konten pembelajaran, hingga penggunaan kecerdasan buatan (AI*)". These development programs provide space for teachers to continue updating their insights and increasing their competence in implementing innovative and meaningful learning.

In addition to professional development program support, the availability of adequate facilities and infrastructure is also a significant external supporting factor. The school has provided learning facilities such as smart TVs in every classroom, computer laboratories, and prayer rooms on every level, which support the smooth and diverse PAI learning activities. These facilities allow teachers to integrate digital media, technology-based learning, and reinforcement of religious practices in a balanced manner. In addition, the support of students' parents also plays an important role in creating a conducive and sustainable learning environment, so that the implementation of Deep Learning can run optimally both in the school environment and outside of school.

Impact of Implementation on Students' Learning Process and Results

The implementation of the three pillars of Deep Learning produces a significant impact on students' learning processes and results. Teachers observed an increase in engagement and interest in learning. A Grade 7 teacher at SMP Muhammadiyah PK stated, *"Tetap ada pengaruh karena anak jadi tertarik dalam pembelajaran, bahkan Pembelajaran ini bisa sampai menyentuh hati mereka, sehingga mereka lebih sadar dalam menjalankan ibadah."*. The learning process experienced by students is not limited to the cognitive domain, but also includes affective and spiritual dimensions.

One of the students put forward a reflection on a memorable learning experience, especially on the activity of practicing shrouding a corpse. He stated that the activity provided practical knowledge regarding funeral management procedures while presenting a pleasant atmosphere when one of the students acted as the corpse. *"Kalau kemarin habis pembelajaran jenazah, karna saya menunjukkan bagaimana proses kematian lalu kehidupan setelah kematian sperti apa sakarotul maut, itu mereka berikir bagaimana kalau itu terjadi ke aku bagaimana , pembelajaran ini bisa sampai menyentuh hati mereka,sehingga mereka lebih sadar dalam menjalankan ibadah."* This statement describes the integration between joyful learning which fosters a positive learning atmosphere, meaningful learning which emphasizes procedural understanding and religious meaning of activities, and mindful learning which develops spiritual awareness of the value of life and death.

Discussion

Implementation of Deep Learning in PAI Learning

Research findings show that the implementation of Deep Learning in Islamic Religious Education (*PAI*) learning at SMP Muhammadiyah PK Kottabarat takes place through the integration of three main pillars, namely meaningful learning, mindful learning, and joyful learning. This integration confirms that *PAI* learning is not only directed at achieving cognitive competence, but also at strengthening spiritual awareness, positive emotional involvement, and internalisation of Islamic values in students' lives. This is in line with research findings showing that the use of technology and reflective approaches in learning are able to strengthen learning engagement and meaning of values in students (Mardhiah et al., 2025). This is consistent with progressive educational theory, such as that championed by John Dewey with his "learning by doing" concept, which asserts that education must be centered on the experiences and needs of students, preparing them not only to know, but to live (Canillo & Bendanillo, 2023)

In the aspect of meaningful learning in PAI learning at SMP Muhammadiyah PK Kottabarat, it succeeded in shifting the focus from normative memorization toward substantive contextual understanding. Teachers consciously associate Islamic concepts, such as *thaharah* and funeral management, with the real experiences of students through direct practice, simulations, and problem-based discussions. Strategies such as problem-based learning are applied by presenting contextual trigger questions, for example, "*Bagaimana jika harus memandikan jenazah tanpa kehadiran orang dewasa?*", which encourages authentic inquiry and collaborative projects, such as the creation of an e-book of the prophet's stories. This approach is in line with Ausubel's meaningful learning theory which emphasizes the importance of integrating new knowledge with the cognitive structures already owned by students (Barbosa, 2024). As shown in research by Putri et al (2025) which emphasizes the importance of experience-based learning and the use of contextual digital media in building students' learning meaning. Positive student responses show that learning associated with daily life makes *PAI* material clearer and more meaningful. This approach helps students understand not only religious practices, but also the reasons behind Islamic law, so that learning goes beyond memorization and encourages understanding of Islamic values in real life (Suhadak & Inayati, 2025).

The implementation of Mindful Learning at SMP Muhammadiyah PK Kottabarat shows a comprehensive approach through structured religious routines and a school culture that fosters students' spiritual awareness. The morning mentoring program starting from *wudhu*, joint worship, to reading the Al-Qur'an functions as attentional training that helps prepare students' mental readiness before core learning. This approach is consistent with Mindful Learning theory which emphasizes reflective awareness of the learning experience to avoid automatic learning without meaning (Langer, 2016).

In addition, religious programs (ISMUBA) which include memorization of the Al-Qur'an, Arabic, virtual tahajud, to social activities, form students' knowledge and character as a whole while providing room for real action (Triyanto & Ramly,

2022). This is also reinforced by research by Hasan & Inayati (2025) that consistent religious habituation in the school environment plays a significant role in forming students' spiritual awareness and Islamic character. In the classroom, *PAI* teachers also encourage reflection through critical questions, especially on Islamic history material, so that students do not only memorize events, but understand their relevance for today's life. This strategy has proven effective in fostering moral knowing and contextual value awareness (Dalimunthe, 2024). Thus, the implementation of Mindful Learning at SMP Muhammadiyah PK Kottabarat not only strengthens students' mental readiness, but also fosters a reflective and contextual Islamic character.

Joyful Learning implementation is carried out through learning designs that prioritize active involvement, positive emotions, and the integration of digital technology relevant to the character of the digital native generation. *PAI* teachers utilize digital platforms such as Quizizz, Kahoot, and Blooket as effective review and formative evaluation tools in increasing students' intrinsic motivation, not just mere entertainment. This approach is in accordance with Ki Hadjar Dewantara's idea that ideal learning must be joyful, but still educational and meaningful (Dwipratama, 2023).

Previous research also shows that the use of AI-based interactive technology and digital platforms is able to increase students' learning motivation when designed pedagogically and oriented toward learning goals (Yusriani & Fithriani, 2025). These findings are reinforced by previous research which shows that the use of digital-based educational game media in Al-Qur'an and Hadis learning is able to increase learning motivation and student learning outcomes significantly if designed according to pedagogical goals (Hidayati et al., 2026). Teachers also combine ice breaking activities and reflective discussions with storytelling of religious values relevant to adolescent life, creating meaningful and contextual learning experiences. This is in line with Self-Determination theory which emphasizes that learning motivation grows optimally when needs for autonomy, competence, and social relatedness are met through pleasant and meaningful learning experiences (Deci & Ryan, 2012).

Supporting and Inhibiting Factors of Deep Learning Implementation

The success of implementing Deep Learning in *PAI* learning is influenced by internal and external factors (Hidalgo Cajo & Gisbert-Cervera, 2022). Internal factors mainly relate to the proactive and adaptive attitude of teachers who show a growth mindset toward pedagogical innovation. A culture of collaboration through teacher learning communities encourages the exchange of good practices and mutual reflection, which supports the sustainability of deep learning implementation. This finding is in line with Mwamakula's (2024) research which emphasizes the importance of teachers' professional capacity and collegial collaboration in learning innovation.

External factors include school structural support through continuous professional development programs, availability of learning facilities and infrastructure, as well

as parent involvement. Pedagogical and technological workshops facilitated by the school strengthen teachers' competence in implementing Deep Learning contextually. These findings are in line with Zainil's research which shows that a supportive school ecosystem is a prerequisite for the success of innovative learning (Zainil *et al*., 2025). As for the inhibiting factors found, they are limited and situational, such as limited ideas in designing ice breaking activities and limited allocation of learning time. These constraints do not show fundamental weaknesses in teacher competence, but reflect practical challenges in maintaining pedagogical creativity sustainability. These findings are consistent with previous research stating that the main challenge of innovative learning lies in the aspect of sustainability and systemic support, not on teacher resistance to change (Valdés Sánchez & Gutiérrez Esteban, 2023).

4. Conclusion

This research concludes that the implementation of Deep Learning in Islamic Religious Education (*PAI*) learning at SMP Muhammadiyah PK Kottabarat has run effectively through the integration of three main pillars, namely meaningful learning, mindful learning, and joyful learning. *PAI* learning is not only oriented toward cognitive achievement, but is also able to build contextual understanding, spiritual awareness, and positive emotional involvement of students. The integration of these three pillars makes *PAI* learning more meaningful, reflective, and relevant to students' real lives.

In the aspect of meaningful learning, linking *PAI* material with direct experience and contextual problems proved to help students in understanding Islamic values deeply and applicably. Mindful learning plays a role in developing spiritual awareness and self-reflection through the habituation of religious activities and reflective questions in learning. Meanwhile, joyful learning contributes to increasing motivation and active involvement of students through the use of digital media, gamification, and discussions relevant to the students' world.

The success of implementing Deep Learning is supported by internal factors in the form of a teacher growth mindset and a professional collaboration culture, as well as external factors in the form of school structural support, adequate learning facilities, and parental involvement. As for the constraints found, they are limited and situational, especially related to limited ideas in lesson-opening activities and time management, which do not reduce the quality of implementation as a whole. Thus, Deep Learning can be recommended as a relevant and sustainable approach in *PAI* learning to support the formation of student religious character holistically.

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