

An Analysis of Teachers' Understanding and Readiness to Implement the Deep Learning Approach at SMP IT Hasanah Pantai Cermin

Sabila Zahira, Fetri Yeni, Novrianti, Khairul Alfahani

Universitas Negeri Padang, Indonesia

sabilazahira2@gmail.com

Submitted:	Revised:	Accepted:	Published:
Sep 16, 2026	Oct 15, 2026	Oct 26, 2026	Oct 31, 2026

Abstract

Teachers' conceptual understanding and pedagogical readiness are essential for implementing Deep Learning as an educational approach that promotes mindful, meaningful, and joyful learning. This study aimed to describe teachers' understanding, examine their readiness, and identify factors supporting or inhibiting implementation at SMP IT Hasanah Pantai Cermin. A qualitative approach with a descriptive research design was employed. Primary informants comprised 12 teachers from Grades VII–IX, while the principal and curriculum coordinator served as supporting informants, and six students provided additional perspectives. Data were collected through interviews, classroom observations, and documentation and analyzed qualitatively by comparing information across sources. The findings indicate that teachers demonstrated a basic understanding of mindful, meaningful, and joyful learning and the learning experiences of understanding, applying, and reflecting. However, conceptual understanding varied, particularly regarding the distinction between Deep Learning as an instructional approach and specific learning models, as well as the consistent application of its principles. Teachers showed psychological, professional, and pedagogical readiness, although further development was needed in instructional planning, assessment of students' thinking processes, time management, and reflective learning activities. Supporting factors included school support, training opportunities, teacher collaboration, learning facilities, and teacher motivation. Implementation barriers included time constraints, diverse student characteristics, differences in conceptual understanding, the need for

pedagogical adaptation, and occasional limitations in facilities or network access. These findings suggest that implementation requires continued attention to both conceptual clarity and practical teaching competencies. The study concludes that schools should establish structured professional development combining targeted training, mentoring, and collaborative reflection tailored to individual teachers' needs. Such support provides a direction for strengthening pedagogical competence and promoting more consistent implementation of Deep Learning in classroom practice.

Keywords: Teacher Understanding; Teacher Readiness; Deep Learning; Pedagogical Competence; Teacher Professional Development

INTRODUCTION

Education is a fundamental foundation for developing high-quality human resources who can adapt to the challenges of a changing world. In the context of globalization and the Fourth Industrial Revolution, education systems are expected to equip students with critical thinking, creativity, collaboration, and strong character. The curriculum serves as a key instrument for translating these demands into learning processes within educational institutions.

Efforts to promote active and meaningful learning in Indonesia have been underway for more than four decades, since the introduction of *Cara Belajar Siswa Aktif* (CBSA) in 1984, and for more than two decades, since the introduction of *Pembelajaran Aktif, Inovatif, Kreatif, Efektif, dan Menyenangkan* (PAIKEM) in 2002. Nevertheless, approaches such as CBSA, PAIKEM, and *Contextual Teaching and Learning* (CTL) continue to face considerable challenges, both in their practical implementation and conceptual foundations (Kemendikdasmen, 2025).

Deep learning has emerged as a pedagogical approach intended to enhance and extend conventional teaching practices by fostering more conscious, meaningful, and engaging learning experiences (Baihaqi et al., 2025). In the Indonesian educational context, deep learning is defined as an approach that emphasizes the creation of learning environments and processes characterized by mindful, meaningful, and joyful learning (Kemendikdasmen, 2025; Prihantoro et al., 2025). Beyond a set of instructional techniques, this approach emphasizes active student engagement, reflection, the construction of knowledge, and the application of learning to real-life contexts, drawing on constructivist

principles (Andayanie et al., 2025; Siregar et al., 2025). It also promotes holistic educational experiences by integrating intellectual development, ethical and emotional growth, aesthetic appreciation, and physical well-being through the interconnected dimensions of thinking, feeling, and physical activity (Nafi'ah & Faruq, 2025). Accordingly, deep learning aims to support the development of learners as whole individuals rather than focusing exclusively on cognitive achievement, while also fostering meaningful participation and personal growth (Andayanie et al., 2025).

Deep learning emphasizes three core principles: mindful, meaningful, and joyful learning. These principles aim to create learning experiences that are contextual, relevant to real-life situations, and emotionally engaging for students (Kementerian Pendidikan Dasar dan Menengah, 2025; Alim et al., 2025). Mindful learning encourages students to become active learners who understand their learning objectives and regulate their own learning processes, while meaningful learning enables them to connect new knowledge with prior experiences and apply it in authentic contexts (Kurnianingsih et al., 2026). Joyful learning fosters a positive learning environment that supports curiosity, active participation, and intrinsic motivation (Kementerian Pendidikan Dasar dan Menengah, 2025; Ryan & Deci, 2020). Furthermore, reflective and metacognitive activities enable students to monitor, evaluate, and regulate their learning strategies. Accordingly, teachers are expected to design learning experiences that integrate critical thinking, creativity, collaboration, and communication with the noble cultural values of the Indonesian nation, thereby supporting the development of both academic competencies and students' character (Kementerian Pendidikan Dasar dan Menengah, 2025; Thornhill-Miller et al., 2023).

The successful implementation of deep learning depends largely on teachers' readiness, given their central role in classroom instruction and pedagogical decision-making. Teachers are not merely implementers of educational policies but also designers and facilitators of meaningful learning experiences. Therefore, their understanding of the philosophy, principles, and implementation strategies of deep learning is essential to translating educational policy into effective classroom practices (Sari et al., 2025; Sudirman & Pandang, 2025). Without adequate conceptual understanding, teachers may interpret deep learning primarily as project-based learning or other forms of active learning, rather than as a comprehensive pedagogical approach. This concern is consistent with research highlighting gaps between teachers' conceptual understanding and their capacity to implement deep learning in classroom settings (Aeni et al., 2025; Sudirman & Pandang, 2025). In the

Indonesian educational context, deep learning is intended to build upon and refine earlier approaches, including Active, Innovative, Creative, Effective, and Joyful Learning (PAIKEM) and Contextual Teaching and Learning (CTL), rather than simply replace them (Fitri et al., 2025). Accordingly, teacher readiness warrants careful consideration across psychological, professional, and pedagogical dimensions, alongside institutional support and opportunities for sustained professional development (Budhi Santosa et al., 2025; Sari et al., 2025).

In line with these developments, SMP IT Hasanah proactively adopted the deep learning approach in the first semester of the 2025/2026 academic year as part of its efforts to improve instructional quality, address various learning-related challenges, and support curriculum implementation that emphasizes the development of students' competencies and character. As an Islamic-based school that is developing a values-oriented learning system, SMP IT Hasanah represents an educational institution with the potential to implement deep learning in a contextually relevant manner.

Preliminary observations and an interview conducted on February 21, 2026, with the vice principal for curriculum, who also teaches a subject, revealed several challenges in classroom learning. Students' attention typically lasted only 20–25 minutes, particularly during lecture-based instruction, before declining due to limited activity variation. Although teachers had introduced group discussions, question-and-answer sessions, and other interactive activities, sustaining students' engagement and active participation remained challenging.

These findings indicate the need to improve teachers' readiness to design and implement learning experiences that promote higher-order thinking skills. According to the interview, instruction before the implementation of the deep learning approach was predominantly teacher-centered, limiting student participation and contributing to difficulties in developing deeper conceptual understanding and applying knowledge across different contexts.

A preliminary study at SMP IT Hasanah, based on an interview with the vice principal for curriculum on February 21, 2026, revealed variations in teachers' understanding of the deep learning approach. Although the school had supported professional development through training, workshops, discussions, and learning communities, differences persisted in teachers' understanding and implementation. Some teachers could explain mindful,

meaningful, and joyful learning and distinguish deep learning as a pedagogical approach from instructional models such as Problem-Based Learning (PBL) and Project-Based Learning (PJBL), while others struggled to differentiate these concepts. These findings highlight the need to examine teachers' understanding of the concepts, principles, characteristics, and objectives of deep learning.

Investigating teachers' understanding and readiness to implement deep learning is particularly important at the lower secondary level. SMP IT Hasanah prohibits students from bringing or using mobile phones on school premises, creating challenges for activities that rely on digital technology. Teachers therefore cannot depend on students' personal devices and must creatively utilize available learning media and resources to facilitate meaningful, in-depth learning. This context underscores the importance of teachers' conceptual understanding and readiness to translate deep learning principles into effective classroom practices.

These conditions suggest that successful implementation of the deep learning approach requires more than familiarity with its terminology and principles; it also depends on teachers' ability to translate their understanding into instructional planning, implementation, and evaluation. Therefore, this study examines both teachers' conceptual understanding of deep learning and their readiness to implement it under actual classroom conditions. Conceptual understanding, psychological readiness, professional readiness, and pedagogical readiness are examined holistically to provide a comprehensive account of implementation at SMP IT Hasanah and identify teachers' professional development needs in response to the challenges they face.

Previous studies have examined the implementation of the deep learning approach and teachers' readiness to adopt it. Zainil et al. (2025) found that training and mentoring improved elementary teachers' understanding and ability to develop technology-based mathematics instructional materials. Mutmainnah et al. (2025) reported positive effects of deep learning on students' understanding and active engagement in elementary mathematics. In contrast, Sudirman et al. (2025) identified gaps in teachers' readiness to implement a deep learning-based curriculum in Bone Regency, emphasizing the need for structured training and mentoring. Similarly, Shabrina et al. (2026) examined teachers' readiness in homeschooling, while Royatun (2025) investigated deep learning implementation in relation

to the eight dimensions of the graduate profile, highlighting issues related to instructional planning and implementation challenges.

Nevertheless, previous studies differ in their educational contexts, learning environments, and implementation-related focuses. Further investigation is therefore needed to examine teachers' conceptual understanding, psychological, professional, and pedagogical readiness, and the factors supporting or hindering deep learning implementation at the lower secondary level. This need is particularly evident at SMP IT Hasanah Pantai Cermin, where the approach has been adopted despite variations in teachers' understanding and challenges in consistently applying its principles. Accordingly, this study addresses the gap by providing an integrated analysis of teachers' understanding, readiness, and contextual factors influencing deep learning implementation at the school.

The novelty of this study lies in its integrated examination of teachers' understanding and readiness to implement the deep learning approach at SMP IT Hasanah Pantai Cermin. It explores teachers' understanding of the approach's concepts, principles, characteristics, and objectives, alongside their psychological, professional, and pedagogical readiness and the factors facilitating or hindering implementation. The school's policy restricting students' mobile phone use provides a distinctive context for examining how teachers adapt instructional strategies, media, and resources to support deep learning. This study therefore offers context-specific insights into teachers' understanding, readiness, and implementation challenges at the lower secondary level.

The study draws on the deep learning framework, which emphasizes three principles—mindful, meaningful, and joyful learning—and three learning experiences: understanding, applying, and reflecting. Teachers' readiness is examined through psychological, professional, and pedagogical dimensions, encompassing their acceptance of change, mastery of relevant knowledge and competencies, and ability to plan, implement, and evaluate instruction. Integrating these frameworks enables a comprehensive analysis of how teachers' conceptual understanding and readiness shape the translation of deep learning principles into classroom practice.

Accordingly, this study aims to describe teachers' understanding of the Deep Learning approach, examine their readiness to implement it in the classroom, and identify the factors that facilitate or hinder its implementation. The findings are expected to provide a basis for developing training, mentoring, and professional collaboration programs tailored

to teachers' needs, thereby supporting the sustained implementation of the Deep Learning approach.

METHODS

This study employed a qualitative approach with a descriptive research design. This approach was selected to obtain an in-depth understanding of teachers' understanding of and readiness to implement the Deep Learning approach, including the factors facilitating and hindering its implementation. The study was conducted as field research, involving classroom observations and the collection of information from participants based on actual conditions at the school. A qualitative descriptive design was adopted because the study focused on understanding teachers' experiences, perceptions, and instructional practices rather than testing hypotheses or measuring relationships between variables.

The study was conducted at SMP IT Hasanah, located in Pantai Cermin District, Solok Regency, West Sumatra, Indonesia. Field data collection, including classroom observations, took place from July 27 to August 29, 2026, over approximately five weeks. The school was selected because it had implemented the Deep Learning approach since the first semester of the 2025/2026 academic year, making it a relevant setting for examining teachers' understanding and readiness after the approach had been introduced into classroom instruction.

The participants comprised 12 teachers from Grades VII–IX as the primary informants, the principal and vice principal for curriculum as supporting informants, and six students as additional informants. Teachers were selected as the primary informants because they had direct experience in understanding, planning, and implementing instruction. The principal and vice principal for curriculum provided information concerning policy support, training, mentoring, and the management of implementation at the school level. Meanwhile, the students provided supplementary information about their classroom learning experiences. Informant selection was guided by the relevance of the information to the research focus, enabling the phenomenon under investigation to be examined from multiple perspectives.

The researcher served as the primary instrument in this qualitative study, supported by interview guides, observation protocols, and documentation. The interview guides were used to explore teachers' understanding of the concepts, objectives, principles, and

characteristics of the Deep Learning approach, as well as their psychological, professional, and pedagogical readiness. Classroom observations were conducted to examine the alignment between teachers' reported understanding and their actual instructional practices. Documentation was used to examine instructional materials, including teaching modules or lesson plans, and other documents relevant to the implementation of the approach. Data were collected through interviews, observations, and documentation to obtain complementary sources of evidence.

Data were analyzed qualitatively through four stages: data collection, data reduction, data display, and conclusion drawing and verification. During data collection, the researcher gathered information from interviews, observations, and documentary records. Data reduction involved selecting, organizing, and focusing the information according to the research questions. The organized data were then displayed in descriptive narratives and tables, where appropriate, to clarify patterns in the findings. The final stage involved drawing and verifying conclusions by identifying relationships, similarities, and differences across the findings. The analysis focused on teachers' conceptual understanding, psychological, professional, and pedagogical readiness, and the factors facilitating or hindering the implementation of the Deep Learning approach.

Data trustworthiness was established through source triangulation, methodological triangulation, member checking, and persistent observation. Source triangulation involved comparing information obtained from teachers, the principal, the vice principal for curriculum, and students, as relevant to the research questions. Methodological triangulation involved comparing findings from interviews, observations, and documentation. Member checking was conducted by reconfirming information or interpretations with participants to ensure that they accurately reflected the accounts provided. Persistent observation involved repeated observations to obtain more comprehensive information and ensure that the findings reflected actual classroom conditions. Through these procedures, the study sought to produce a credible description of teachers' understanding of and readiness to implement the Deep Learning approach at SMP IT Hasanah.

RESULTS

1. Teachers' Understanding of the Deep Learning Approach

The findings indicate that teachers at SMP IT Hasanah had developed a basic understanding of the Deep Learning approach. Their understanding encompassed the principles of mindful, meaningful, and joyful learning, as well as the learning experiences of understanding, applying, and reflecting. Teachers also demonstrated an awareness of the importance of student-centered learning, active engagement, the application of knowledge to real-life situations, and reflection on the learning process. Nevertheless, the depth of their understanding varied, particularly in distinguishing Deep Learning as a pedagogical approach from specific instructional models.

Regarding the principle of *mindful learning*, most teachers understood the importance of awareness, focus, and learning objectives. However, classroom observations revealed that learning objectives included in lesson plans were not always communicated explicitly to students. More consistent practices were observed among G07 and G08, whose classroom instruction demonstrated alignment between their understanding of the mindful learning principle and its practical implementation. Regarding *meaningful learning*, all teachers demonstrated an understanding of the importance of connecting instructional content with students' experiences and real-life contexts. The principle of *joyful learning* was understood in terms of creating a comfortable, interactive, enjoyable learning environment that actively involved students.

Differences in understanding were also evident in teachers' ability to explain the relationship between the Deep Learning concept and classroom practice. Some teachers were able to connect their conceptual understanding with learning activities, knowledge application, reasoning, and reflection. Others had implemented activities consistent with the characteristics of Deep Learning but had not explicitly designed or conducted them within the framework of this approach. Thus, teachers' understanding varied in terms of conceptual depth and their ability to translate the concept into instructional practice.

2. Teachers' Readiness to Implement the Deep Learning Approach

a. Psychological Readiness

Psychologically, teachers generally demonstrated positive attitudes toward the Deep Learning approach and a willingness to learn and adapt their instructional practices. However, their levels of confidence and concern regarding its implementation differed. Some

teachers felt reasonably prepared after participating in training and gaining experience with active-learning practices, whereas others required more time to build confidence and adapt the approach to the characteristics of their subjects and students' learning needs.

The concerns identified primarily related to translating conceptual understanding into practice, managing classroom conditions, accommodating diverse student needs, dealing with time constraints, and maintaining consistency in implementation. Classroom observations also revealed confident behavior among some teachers. However, such behavior was not used as the sole basis for assessing their overall psychological readiness.

b. Professional Readiness

In terms of professional readiness, training, socialization activities, and collaboration among teachers had provided a foundation for competency development. Nevertheless, teachers required further support in understanding the distinctive characteristics of Deep Learning, adapting the approach to their respective subjects, designing in-depth learning activities, and developing assessments capable of capturing students' thinking processes.

The findings also indicated that teaching experience and subject-matter knowledge did not necessarily correspond to an equivalent level of competence in implementing Deep Learning. Teachers continued to require practical mentoring to establish consistent alignment among learning objectives, student activities, assessment, and reflection.

c. Pedagogical Readiness

In terms of pedagogical readiness, classroom practices exhibited several characteristics associated with Deep Learning, including active student engagement, contextualization of instructional content, varied learning activities, reasoning development, assessment, reflection, and the use of instructional media. Teachers also demonstrated the ability to select learning media according to instructional needs and classroom conditions, indicating that digital technology was not always necessary.

Nevertheless, the implementation of these principles was not consistent across all teachers. Time constraints sometimes resulted in reflection being conducted orally or omitted from certain lessons. In addition, variations in students' abilities and characteristics required teachers to adapt their instructional strategies. These findings indicate that pedagogical readiness involves not only the ability to conduct learning activities but also the capacity to establish coherent alignment among learning objectives, activities, assessment, and reflection within the Deep Learning framework.

3. Factors Facilitating and Hindering Implementation

The findings identified several factors affecting teachers' understanding of and readiness to implement Deep Learning. These factors were associated with institutional support, professional development, teacher characteristics, student characteristics, and the availability of learning resources.

Facilitating factors included school leadership and policy support, training and competency development, professional collaboration, the availability of facilities and learning resources, and teachers' motivation and experience. School support was provided through orientation activities, mentoring, supervision, feedback, and monitoring. Discussions and the sharing of good practices among teachers also served as opportunities to develop instructional strategies suited to students' learning needs.

Conversely, inhibiting factors included time constraints, variations in students' abilities and characteristics, differences in teachers' understanding and implementation practices, the need for pedagogical adaptation, inconsistent reflection practices, and occasional limitations in facilities or network connectivity. These challenges indicate that implementing Deep Learning requires ongoing adaptation at both the individual teacher and school levels.

To address these challenges, the school provided mentoring, discussion forums, opportunities to share good practices, training, and periodic evaluation. Teachers were also encouraged to experiment with instructional strategies, evaluate their implementation, and make gradual improvements. Nevertheless, further support through practice-oriented training, sustained mentoring, teacher collaboration, and adequate facilities remained necessary.

Based on the interviews, classroom observations, and document analysis, the findings concerning teachers' understanding of and readiness to implement Deep Learning at SMP IT Hasanah are summarized in Table 1.

Table 1. Summary of the Main Research Findings

Research aspect	Main findings	Areas requiring further development
Conceptual understanding	Teachers recognized the principles of mindful, meaningful, and joyful learning.	Distinguishing the Deep Learning approach from specific instructional models.
Psychological readiness	Teachers demonstrated positive attitudes and a willingness to learn and adapt.	Strengthening confidence and preparedness to address implementation challenges.

Research aspect	Main findings	Areas requiring further development
Professional readiness	Training, experience, and collaboration provided a foundation for competency development.	Designing in-depth learning activities and assessments of students' thinking processes.
Pedagogical readiness	Classroom practices included student engagement, contextual learning, varied activities, and reflection.	Maintaining consistent alignment among planning, implementation, assessment, and reflection.
Facilitating factors	School support, training, collaboration, facilities, motivation, and teacher experience.	Ensuring the continuity of mentoring and professional development.
Inhibiting factors	Time constraints, student diversity, variations in teacher understanding, and limitations in facilities or network connectivity.	Adapting instructional strategies and improving time management.

Findings that differed from the general pattern provided important insights into variations in the implementation of Deep Learning. The study found that learning activities consistent with the principles of Deep Learning did not necessarily indicate that teachers had explicitly and comprehensively implemented the approach.

This pattern was observed among G09, G10, and G12. G09 reported that Deep Learning had not been implemented as a distinct and comprehensive approach. G10 had implemented several relevant learning activities but had not explicitly designed or conducted them within the Deep Learning framework. Similarly, G12 reported not having implemented the approach explicitly, although the observed pedagogical practices exhibited several relevant characteristics.

Another finding concerned the principle of *mindful learning*. Some teachers had included learning objectives in their lesson plans but did not communicate them explicitly to students during the observed lessons. Regarding reflection, this activity was sometimes conducted orally or omitted because of time constraints. These findings indicate discrepancies among instructional planning, teachers' accounts during interviews, and their observed classroom practices.

These findings should not be interpreted as direct evidence of teachers' inability to implement Deep Learning. Rather, they suggest that teacher readiness is heterogeneous and develops progressively. Accordingly, instructional practices associated with Deep Learning should be analyzed in terms of the alignment among conceptual understanding, planning,

implementation, assessment, and reflection, rather than on the presence of isolated learning activities alone.

DISCUSSION

1. Analysis of Teachers' Understanding of the Deep Learning Approach

The findings indicate that teachers at SMP IT Hasanah had developed a basic understanding of the Deep Learning approach, although the depth of their understanding varied. Some teachers were able to relate the principles of mindful, meaningful, and joyful learning to student engagement, knowledge application, and learning reflection. However, others required further support in distinguishing Deep Learning as a pedagogical approach from specific instructional models. These findings suggest that familiarity with the terminology and principles of Deep Learning does not necessarily translate into comprehensive conceptual understanding.

This variation can be understood in terms of differences in teachers' ability to translate concepts into instructional practice. Teachers who are familiar with the principles of Deep Learning may not necessarily be able to integrate them consistently into learning objectives, activities, assessment, and reflection. For example, teachers may employ discussions, educational games, or contextual learning activities without explicitly designing them around the principles of Deep Learning. Therefore, the alignment of an activity with the characteristics of Deep Learning does not automatically indicate that the approach has been implemented comprehensively.

Regarding *mindful learning*, the finding that learning objectives were not always communicated explicitly to students indicates a gap between instructional planning and classroom implementation. Including learning objectives in instructional documents is an important part of planning; however, students also need to understand the purpose and direction of the activities in which they participate. In this context, mindful learning cannot be demonstrated solely by the presence of written objectives but should also be reflected in students' conscious engagement throughout the learning process.

Regarding *meaningful learning*, teachers' understanding of the importance of connecting instructional content with students' experiences and real-life situations provides a foundation for developing meaningful learning experiences. Nevertheless, meaningfulness should also be examined in terms of the relationships among instructional content, learning experiences, and students' ability to apply their knowledge in relevant contexts. Meanwhile,

joyful learning was reflected in efforts to create a comfortable, enjoyable, and engaging learning environment. However, an enjoyable learning atmosphere must remain directed toward achieving learning objectives and developing deeper understanding.

These findings are consistent with the Deep Learning framework, which positions mindful, meaningful, and joyful learning as the foundational principles underlying the learning experiences of understanding, applying, and reflecting. These principles should be understood as an integrated whole rather than as independent elements. For example, enjoyable learning does not necessarily lead to deep understanding if students are not given opportunities to apply their knowledge and reflect on their learning processes. Accordingly, the primary need for strengthening teachers' understanding at SMP IT Hasanah lies in integrating these principles consistently into instructional design and classroom practice.

2. Analysis of Teachers' Readiness to Implement the Deep Learning Approach

a. Psychological Readiness

Psychologically, teachers demonstrated acceptance of the Deep Learning approach and a willingness to learn and adapt. This constitutes an important foundation because implementing a new approach requires openness to changes in instructional practice. However, positive attitudes do not necessarily imply complete confidence in implementing the approach. Concerns regarding classroom management, diverse student needs, time constraints, and the translation of concepts into practice suggest that teachers were still developing their confidence and practical experience.

This situation indicates that psychological readiness involves not only acceptance of an educational policy but also teachers' confidence in addressing the demands of its implementation. Support through mentoring, discussions, and opportunities to experiment with instructional strategies may help teachers build confidence through practical experience. Nevertheless, observable confidence during classroom observations cannot serve as the sole basis for assessing psychological readiness comprehensively. Such an assessment must also consider teachers' accounts and the context of their professional experiences.

b. Professional Readiness

In terms of professional readiness, the training and orientation activities undertaken by teachers provided an initial foundation for understanding the Deep Learning approach. However, differences in teachers' understanding indicate that training alone does not necessarily result in uniform mastery. Teachers need opportunities to translate training

content into instructional designs that accommodate subject-specific characteristics, students' needs, and learning objectives.

This need is particularly evident in distinguishing the Deep Learning approach from instructional models such as Problem-Based Learning (PBL) and Project-Based Learning (PjBL). These models can be incorporated into learning experiences intended to foster deep understanding, but the use of a particular model does not automatically indicate the comprehensive implementation of all Deep Learning principles. Teachers need to understand the relationships among pedagogical approaches, instructional models, strategies, activities, and assessment to ensure coherence in classroom practice.

Furthermore, assessment design should consider not only students' final answers but also their thinking processes, application of knowledge, and capacity for reflection. Therefore, professional development should extend beyond the dissemination of conceptual information to include practice-oriented training, instructional material reviews, classroom observations, and feedback tailored to teachers' needs.

c. Pedagogical Readiness

In terms of pedagogical readiness, teachers demonstrated practices associated with the characteristics of Deep Learning, including contextual learning, active student engagement, varied learning activities, the use of instructional media, and reflection. These findings suggest that teachers possess pedagogical experience that can serve as a foundation for further developing their implementation of the approach. Existing instructional practices do not necessarily need to be abandoned; rather, they should be reviewed to establish clearer connections among learning objectives, thinking processes, assessment, and reflection.

Nevertheless, the findings indicate that consistency in implementation remains a challenge. Reflection, for example, was sometimes conducted orally or omitted because the allotted instructional time had ended. This suggests that reflection may still be treated as an additional end-of-lesson activity and is therefore vulnerable to omission when time is limited. One potential improvement is to design reflection as an integral component of the learning sequence and allocate sufficient time for its implementation.

Differences in students' abilities and characteristics also require teachers to adapt learning activities, levels of instructional support, and learning media. At SMP IT Hasanah, the school policy restricting students' use of mobile phones on school premises represents a contextual factor that must be considered in instructional planning. However, limited access to students' personal devices does not prevent the implementation of Deep Learning.

Teachers can still use whiteboards, pictures, concrete objects, presentations, videos accessed through school facilities, and other available learning resources. The more important consideration is the alignment of instructional media with learning objectives and experiences, rather than the use of digital technology itself.

Overall, the findings across these three dimensions indicate that psychological, professional, and pedagogical readiness are interrelated. A willingness to change must be supported by conceptual mastery, while conceptual mastery must be translated into consistent instructional planning and implementation. Consequently, developing teacher readiness requires a comprehensive approach rather than an exclusive focus on any single dimension.

The findings of this study can be compared with previous research on deep learning implementation and teacher readiness. Zainil et al., (2025) emphasized the role of training and mentoring in improving teachers' understanding and instructional material development. Similarly, the findings at SMP IT Hasanah highlight professional development as a foundation for implementation. However, training alone may not ensure consistent understanding and practice, underscoring the importance of follow-up activities, practical application, discussion, and mentoring.

Sudirman et al., (2025) also identified gaps in teachers' understanding and emphasized the need for structured training and mentoring. These findings align with the variations in conceptual understanding and the need for pedagogical adaptation observed at SMP IT Hasanah. Nevertheless, the present study extends this discussion by examining teachers' understanding and psychological, professional, and pedagogical readiness at the lower secondary level, considering the school's actual instructional conditions and institutional support.

Mutmainnah et al., (2025) highlighted the importance of learning practices that promote students' understanding and active engagement. This perspective is relevant to the present study's emphasis on contextual learning activities, student participation, and opportunities to apply knowledge. However, because this study did not quantitatively measure students' learning outcomes, the comparison concerns instructional characteristics rather than equivalent educational effects.

Munawaroh et al., (2026), as cited in the thesis, emphasized teacher learning communities, principal support, practice-oriented training, and strategies for addressing time

constraints. These factors are also relevant at SMP IT Hasanah, where professional collaboration, mentoring, and periodic evaluation support implementation, although strengthening teacher competencies and sustaining reflective practices remain important priorities.

Overall, this study extends previous research by examining teachers' conceptual understanding, psychological, professional, and pedagogical readiness, and the factors facilitating or hindering implementation within a single lower secondary school context. Its main contribution is not to establish the superiority of a particular instructional model but to explain variations in teachers' understanding and readiness and identify areas requiring further development to support deep learning implementation.

The findings have both theoretical and practical implications. Theoretically, teachers' understanding and readiness represent related but distinct constructs. Understanding deep learning principles provides a conceptual foundation, whereas readiness encompasses psychological acceptance, professional competence, and pedagogical capacity to apply these principles in actual classroom settings. Therefore, the presence of deep learning-related activities alone does not necessarily indicate comprehensive implementation.

Practically, teacher professional development should address the needs identified in this study. First, training should clarify the distinction between the deep learning approach and specific instructional models through subject-specific examples. Second, mentoring should help teachers align learning objectives, activities, assessment, and reflection in instructional plans. Third, teacher learning communities should facilitate knowledge sharing, collaborative problem-solving, and the development of strategies suited to students' characteristics. Fourth, school leaders should strengthen institutional support through developmental supervision, constructive feedback, and periodic evaluation. Fifth, instructional planning should allocate sufficient time for applying knowledge and reflecting on learning. Finally, learning media should be selected according to available facilities to ensure that limited access to digital devices does not hinder meaningful learning experiences.

These implications suggest that strengthening teacher readiness should be a gradual, sustained, and needs-based process. Such an approach would enable the school to maintain effective existing pedagogical practices while improving aspects of implementation that remain inconsistent.

This study has several limitations. First, it was conducted at a single school, SMP IT Hasanah Pantai Cermin, limiting the transferability of its findings to institutions with different characteristics. Second, the study involved 12 teachers from Grades VII–IX, with the principal and vice principal for curriculum as supporting informants and six students as additional informants. Although these participants provided multiple perspectives, the findings remain specific to the school's context. Third, data were collected from July 27 to August 29, 2026, providing a snapshot of instructional practices rather than evidence of long-term changes in teachers' readiness. Longitudinal research is needed to examine changes in understanding, consistency of implementation, and the effects of mentoring over time. Fourth, data were obtained through interviews, observations, and documentation. Although these methods enabled comparisons across participants' accounts, observed practices, and instructional documents, observations were limited to the study period and may not have captured all variations in teaching practices. Finally, the study did not use quantitative measures to assess teachers' readiness or evaluate the effects of deep learning on students' learning outcomes.

In light of these limitations, future research could involve multiple schools with different characteristics, employ longer observation periods, and examine changes in teachers' understanding and readiness following specific mentoring programs. Subsequent studies could also combine qualitative and quantitative approaches when the objective is to measure competency development or investigate relationships between teacher readiness and student learning outcomes.

Overall, this discussion indicates that the implementation of Deep Learning at SMP IT Hasanah is supported by teachers' foundational understanding, positive attitudes, relevant pedagogical practices, and school-level support. Nevertheless, variations in understanding, the need for professional adaptation, time constraints, and inconsistent reflection practices indicate that further development is required. Sustained training, mentoring, professional collaboration, and context-sensitive instructional planning are essential to supporting more consistent implementation of the Deep Learning approach.

CONCLUSION

Based on the research findings, it can be concluded that teachers at SMP IT Hasanah Pantai Cermin have generally developed a foundational understanding of the *Deep Learning* approach, particularly its core principles of *mindful learning*, *meaningful learning*, and *joyful learning*, as well as the learning experiences of understanding, applying, and reflecting. However, the depth of teachers' understanding remains varied, particularly in distinguishing the *Deep Learning* approach from instructional models and implementing its principles consistently. Teachers' psychological, professional, and pedagogical readiness also varies, indicating the need for further development in instructional planning, assessment of students' thinking processes, time management, adaptation of teaching strategies, and the implementation of reflection. The implementation of this approach is supported by school leadership, training, teacher collaboration, the availability of instructional resources, and teachers' motivation and experience. Meanwhile, the main inhibiting factors include time constraints, diverse student characteristics, differences in teachers' understanding and practices, and challenges in adapting instructional strategies and conducting reflection consistently. Therefore, strengthening teachers' understanding and readiness requires sustained efforts through training, practical mentoring, professional collaboration, and regular instructional evaluation to ensure that the *Deep Learning* approach is implemented in a more systematic and consistent manner.

REFERENCES

- Aeni, A. N., Hanifah, N., Rukmana, K., & Sujana, A. (2025). Pemahaman Guru tentang Deep learning dalam Pembelajaran Era Digital. *Prosiding Konferensi Ilmiah Dasar*, 6, 288–298. <https://prosiding.unipma.ac.id/index.php/KID/article/view/7697>
- Alim, S. F., Prayitno, H. J., Mu'ti, A., Sutopo, A., & Hastuti, W. (2025). Fundamental concepts of deep learning principles in advancing holistic education practices. *Journal of Deep Learning*, 1(2), 81–94. <https://doi.org/10.23917/jdl.v1i2.11597>
- Andayanie, L. M., Adhantoro, M. S., Purnomo, E., Kurniaji, G. T., & Jufriansah, A. (2025). Implementation of deep learning in education: Towards mindful, meaningful, and joyful learning experiences. *Journal of Deep Learning*, 1(1), 47–56. <https://doi.org/10.23917/jdl.v1i1.11157>
- Baihaqi, M. A., Prayitno, H. J., Ishartono, N., Hamranani, S. S. T., Putra, C. A., & Nizaar, M. (2025). Reimagining 21st-century higher education: A literature-based exploration of deep learning for cognitive, social, and emotional skill development. *Journal of Deep Learning*, 1(2), 139–168. <https://doi.org/10.23917/jdl.v1i2.11600>
- Budhi Santosa, E., Sukmawati, F., Ridhani, J., Trisnaningsih, S., & Prihatin, R. (2025). Teachers' readiness to implement the deep learning approach in Merdeka

- Curriculum: An analysis based on psychopedagogical characteristics. *JTP - Jurnal Teknologi Pendidikan*, 27(3), 765–773. <https://doi.org/10.21009/jtp.v27i3.58841>
- Fitri, R. M., Khoerunnisa, H., Andini, S. E., Herlina, Mahmudah, A. N., Nirmalasari, U., Kuswandari, E. A., & Alindra, A. L. (2025). Analisis Pengaruh Kemampuan Digitalisasi Guru terhadap Keberhasilan Kebijakan yang Diterapkan di Sekolah Dasar. *Socius: Jurnal Penelitian Ilmu-Ilmu Sosial*, 2(10), 405–408. <https://doi.org/10.5281/zenodo.15482839>
- Kementerian Pendidikan Dasar dan Menengah. (2025). *Naskah Akademik Pembelajaran Mendalam: Menuju Pendidikan Bermutu untuk Semua*. Pusat Kurikulum dan Pembelajaran, Badan Standar, Kurikulum, dan Asesmen Pendidikan. <https://gurudikdas.dikdasmen.go.id/storage/users/3/Berita/2025/PDF/Pembelajaran%20Mendalam.pdf>
- Kurnianingsih, E., Prayitno, H. J., Mu'ti, A., Baidhawiy, Z., & Jufriansah, A. (2026). Deep learning as an integrated pedagogical framework: Synthesizing mindful, meaningful, and joyful learning for transformative educational experiences. *Journal of Deep Learning*, 2(2), 125–143. <https://doi.org/10.23917/jdl.v2i2.16008>
- Munawaroh, L., Sofiana, I. A., & Hesta, O. Y. (2026). Persepsi dan Kesiapan Guru Sekolah Dasar terhadap Implementasi Pembelajaran Mendalam di Kota Tangerang. *Limas Pendidikan Guru Madrasah Ibtidaiyah*, 7(1), 45–57. https://doi.org/10.19109/limas_pgmi.v7i1.34451
- Mutmainnah, N., Adrias, A., & Zulkarnaini, A. P. (2025). Implementasi Pendekatan Deep Learning terhadap Pembelajaran Matematika di Sekolah Dasar. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 10(1), 858–871. <https://journal.unpas.ac.id/index.php/pendas/article/view/23781>
- Nafi'ah, J., & Faruq, D. J. (2025). Conceptualizing deep learning approach in primary education: Integrating mindful, meaningful, and joyful. *Journal of Educational Research and Practice*, 3(2), 225–237. <https://doi.org/10.70376/jerp.v3i2.384>
- Prihantoro, P., Prayitno, H. J., Indri, I., & Kusumaningtyas, D. A. (2025). Deep learning: Policies, concepts, and implementation in senior high schools in Indonesia. *Journal of Deep Learning*, 1(1), 11–24. <https://doi.org/10.23917/jdl.v1i1.10964>
- Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, 61, Article 101860. <https://doi.org/10.1016/j.cedpsych.2020.101860>
- Sari, F. A., Hasanah, E., & Hidayati, D. (2025). Teachers' readiness in implementing deep learning: Managerial studies in Islamic education. *Nidhomul Haq: Jurnal Manajemen Pendidikan Islam*, 10(3), 749–765. <https://doi.org/10.31538/ndhq.v10i3.255>
- Siregar, T., Fauzan, A., Yerizon, Y., & Syafriandi, S. (2025). Designing mathematics teaching through deep learning pedagogy: Toward meaningful, mindful, and joyful learning. *Journal of Deep Learning*, 1(2), 188–202. <https://doi.org/10.23917/jdl.v1i2.11969>
- Sudirman, Firdaus, Mujahidah, & Jafar, M. I. (2025). Peran Kesiapan Guru dalam Implementasi Kurikulum Berbasis Deep Learning: Studi di Sekolah Dasar Kabupaten Bone. In *Prosiding Seminar Nasional Hasil Penelitian 2025 Universitas Negeri Makassar* (pp. 794–811). Universitas Negeri Makassar. <https://ojs.unm.ac.id/semnaslemlit/article/view/78371>
- Sudirman, & Pandang, A. (2025). Implementation of deep learning pedagogy in curriculum reform: Primary school: Teachers' perspectives in Indonesia. *International Journal of*

- Learning, Teaching and Educational Research*, 24(11), 618–636.
<https://doi.org/10.26803/ijlter.24.11.29>
- Thornhill-Miller, B., Camarda, A., Mercier, M., Burkhardt, J.-M., Morisseau, T., Bourgeois-Bougrine, S., Vinchon, F., El Hayek, S., Augereau-Landais, M., Mourey, F., Feybesse, C., Sundquist, D., & Lubart, T. (2023). Creativity, critical thinking, communication, and collaboration: Assessment, certification, and promotion of 21st century skills for the future of work and education. *Journal of Intelligence*, 11(3), Article 54.
<https://doi.org/10.3390/jintelligence11030054>
- Zainil, M., Netrawati, N., Arwin, A., Kenedi, A. K., Suherman, D. S., & Mardin, A. (2025). Pelatihan Pembelajaran Deep Learning Berbasis STEAM untuk Guru Sekolah Dasar. *Jurnal Pengabdian Masyarakat (ABDIRA)*, 5(3), 1278–1287.
<https://doi.org/10.31004/abdira.v5i3.937>