

Deep Learning Based Learning Management at Nur Syamsiyani Islamic Elementary School, Bintang Meriah Village, Batang QuizSafran^{1*}, Erni Suyani²Universitas Islam Negeri Sumatera Utara*¹Universitas Dharmawangsa Medan²*¹email: safranhsb@uinsu.ac.id²email: ernisuyani@dharmawangsa.ac.id**Abstract**

The development of artificial intelligence and the demands of 21st-century learning underscore the urgency of implementing immersive learning in elementary schools so that students not only master the material but also think critically, analytically, and contextually. This study aims to analyze immersive learning management at Nur Syamsiyani Islamic Elementary School, including planning, implementation, evaluation, and supporting and inhibiting factors. A descriptive qualitative approach was used, with data collected through observation, in-depth interviews, and documentation studies. Data analysis was conducted in accordance with the Miles, Huberman, and Saldana model. The results show that teachers have integrated immersive learning principles through HOTS-based objective design, the use of PjBL, PBL, and Inquiry models, and authentic assessment. This approach positions students as active actors involved in exploration, collaboration, and problem-solving. Evaluation is conducted holistically through portfolios, process observations, and reflection. Supporting factors include teacher creativity, principal support, the flexibility of the Independent Curriculum, and a supportive classroom environment. Existing barriers include limited time, facilities, and differences in student abilities. This study emphasizes the importance of systematic and adaptive learning management to strengthen deep learning practices in elementary schools and recommends further research on developing implementation models for more diverse Islamic school contexts.

Keywords: Deep Learning; Learning Management; Islamic Elementary School; Independent Curriculum.

Abstrak

Perkembangan kecerdasan buatan dan tuntutan pembelajaran

Artikel Info**Received:**

December 21, 2025

Revised:

January 23, 2026

Accepted:

March 25, 2026

Published:

June 10, 2026

abad ke-21 menggarisbawahi urgensi penerapan Deep Learning di sekolah dasar agar siswa tidak hanya menguasai materi tetapi juga berpikir kritis, analitis, dan kontekstual. Studi ini bertujuan untuk menganalisis *manajemen pembelajaran berbasis Deep Learning di SD Islam Nur Syamsiyani, termasuk perencanaan, implementasi, evaluasi, serta faktor pendukung dan penghambatnya*. Pendekatan kualitatif deskriptif digunakan, dengan data dikumpulkan melalui observasi, wawancara mendalam, dan studi dokumentasi. Analisis data dilakukan sesuai dengan model Miles, Huberman, dan Saldana. Hasil penelitian menunjukkan bahwa guru telah mengintegrasikan *prinsip-prinsip Deep Learning* melalui desain tujuan berbasis HOTS, penggunaan model PjBL, PBL, dan Inquiry, serta penilaian autentik implementasi pembelajaran menempatkan siswa sebagai aktor aktif yang terlibat dalam eksplorasi, kolaborasi, dan pemecahan masalah. Evaluasi dilakukan secara holistik melalui portofolio, observasi proses, dan refleksi. Faktor pendukung meliputi kreativitas guru, dukungan kepala sekolah, fleksibilitas Kurikulum Independen, dan lingkungan kelas yang mendukung. Hambatan yang ada meliputi keterbatasan waktu, fasilitas, dan perbedaan kemampuan siswa. Studi ini menekankan pentingnya manajemen pembelajaran yang sistematis dan adaptif untuk memperkuat *praktik Deep Learning* di sekolah dasar dan merekomendasikan penelitian lebih lanjut tentang pengembangan model implementasi untuk konteks sekolah Islam yang lebih beragam.

Kata Kunci: Deep Learning; Manajemen Pembelajaran; Sekolah Dasar Islam; Kurikulum Mandiri.

A. Introduction

The Development of artificial intelligence (AI) and deep learning over the past decade has transformed the way people work, communicate, and learn. In the education sector, global investment in AI in education is estimated to reach approximately USD 5.88 billion by 2024. Projections indicate this figure

will exceed USD 32 billion by 2030, driven by the need for more personalized and adaptive learning in schools (Butt et al., 2025) . International reports also indicate increasing adoption of AI tools by educators for lesson planning, material Development, and student progress analysis. However, this adoption remains accompanied by

skepticism and a need for adequate training. (Carnegie Learning, 2024) . In this context, learning management in elementary schools is no longer sufficient to focus solely on content delivery; it must also manage the learning process to encourage deep learning, critical thinking, and student independence.

Globally, various studies confirm that *Deep Learning* at the elementary school level fosters high cognitive engagement through higher-order mental activities, such as analysis, synthesis, evaluation, and critical reflection on learned information. (Abd. Rahman Saleh & Salmiah, 2025; Budhiarti et al., 2025) . This approach is rooted in constructivist theory, meaningful learning, and mindful education, thereby extending learning beyond memorization to include the ability to connect concepts to real-world contexts. The integration of *Deep Learning* requires teachers to design rich, contextual, and collaborative learning experiences, supported by relevant media and technology. This is where learning management, encompassing planning, implementation, and evaluation, plays a key role in

ensuring that the learning process produces deep understanding rather than merely administrative curricular achievements.

However, various indicators of education quality indicate that the challenges to improving the quality of learning in Indonesia, including in elementary schools, remain significant. The results of the 2018 Program for International Student Assessment (PISA) indicated that only approximately 30% of Indonesian students achieved minimum proficiency levels (Level 2 or higher) in reading, 28% in mathematics, and 40% in science, well below the national average. (OECD, 2018) . Furthermore, the proportion of students achieving high proficiency levels (Levels 5-6) is tiny, indicating that higher-order thinking skills and complex literacy remain weak. These findings imply that learning in elementary schools remains shallow, oriented towards completing material and taking exams rather than developing critical thinking, creative thinking, and in-depth problem-solving skills. (Martanti, 2024) .

Various studies in Indonesia show that the implementation of *Higher Order Thinking Skills* (HOTS) in elementary schools remains suboptimal across multiple learning models, media, and assessments. Shalikhah and Nugroho (2023) Found that many elementary school teachers have not comprehensively implemented HOTS-based learning due to limited practical guidance and structured implementation modules (Shalikhah & Nugroho, 2023) . Another study in Islamic elementary schools found that, although the curriculum requires strengthening higher-order thinking skills, the learning and assessment processes are still dominated by activities that emphasize memorization and low-level understanding. (Mislikhah, 2021) . On the other hand, recent research on HOTS-based science learning in Islamic elementary schools shows that when teachers design lesson plans and assessments aligned with HOTS, students' critical and analytical thinking skills improve. However, barriers such as limited resources and diverse student abilities persist (Abdul Gofur et al., 2025) . These findings emphasize the

importance of systematic learning management to direct teaching toward deep learning.

Within the national policy framework, the 2013 Curriculum and the Independent Curriculum both emphasize strengthening 21st-century competencies, including critical thinking, creativity, collaboration, and communication. Several recent studies have shown that the Independent Curriculum, implemented through a Deep Learning approach in elementary schools, can strengthen students' character and deep-thinking skills, particularly when teachers integrate contextual projects with authentic assessments (Abdul Gofur et al., 2025). However, the implementation of this curriculum policy depends heavily on how schools manage learning at the educational unit and classroom levels. In Islamic elementary schools, including Islamic elementary schools (SD Islam), the challenges are even more complex because they need to integrate Islamic dimensions, character values, and mastery of literacy and numeracy in a balanced manner.

Nur Syamsiyani Islamic Elementary School in Bintang Meriah Village, Batang Kuis, exemplifies an Islamic elementary school in a community with unique social, economic, and cultural dynamics. On the one hand, the school is required to produce graduates with noble character and a strong understanding of religion; on the other hand, the school must be responsive to the demands of 21st-century competencies and to the Development of AI and digital technologies that are increasingly prevalent in everyday life. In this context, *Deep Learning-based learning management is crucial to ensure that the learning process not only teaches religious knowledge and general knowledge separately, but also integrates them into meaningful, critical, and contextual learning experiences. The main issues discussed are the extent to which the planning, implementation, and evaluation of learning at Nur Syamsiyani Islamic Elementary School adopt Deep Learning principles, and how the school manages the supporting and inhibiting factors.*

A literature review shows that several studies have examined Deep Learning in primary education and the implementation of HOTS in Islamic elementary and primary schools. (Budhiarti et al., 2025) . However, there is still limited research that explicitly examines Deep Learning-based learning management in Islamic education units at the elementary school level, employing a comprehensive approach that encompasses planning and organization, *implementation, and evaluation of learning.* This gap is even more pronounced when linked to a specific local context, such as Nur Syamsiyani Islamic Elementary School in Bintang Meriah Village, Batang Kuis, which has not been widely documented scientifically. Thus, there is an urgent need to present an empirical description of how *Deep Learning-based learning management in this school is designed, implemented, and evaluated, and how it contributes to the Development of students' deep-thinking competencies.*

Based on the context, urgency, and gaps, this article analyzes Deep Learning-based learning management at Nur Syamsiyani Islamic Elementary

School in Bintang Meriah Village, Batang Kuis. Specifically, this article seeks to: (1) describe the learning plans designed by teachers and school officials within *the Deep Learning framework*; (2) examine the implementation of learning in the classroom, including strategies, models, and media used to promote deep understanding; (3) explain forms of learning evaluation that support the Development of HOTS and *Deep Learning*; and (4) identify supporting and inhibiting factors for its implementation in the school environment. Theoretically, this article is expected to contribute to the Development of *Deep Learning-based studies in learning management in elementary education, especially in Islamic schools*. Practically, the findings of this article are expected to provide material for reflection and recommendations for school principals, teachers, and educational stakeholders to strengthen the design, implementation, and evaluation of learning that is more meaningful, in-depth, and relevant to the challenges of the 21st Century and the Development of AI technology in the present and future.

B. Methods

This study uses a descriptive qualitative design to explore in depth learning management based on Deep Learning (deep learning in Islamic elementary schools). This approach was chosen because it can capture learning phenomena naturally by interpreting the experiences and practices of educational practitioners. (Mulyana et al., 2024; Sumilih et al., 2025). Its descriptive nature allows mapping the planning, implementation, and evaluation processes without manipulating field conditions (Haki et al., 2024). This research was conducted at Nursyamsiani Islamic Private Elementary School in Deli Serdang Regency in November 2025. The research stages included instrument Development (November 1–10), data collection through observation, interviews, and documentation (November 10–26), and analysis of findings (November 20–31).

Participants included principals, teachers, students, and educational staff selected through purposive sampling based on their direct involvement in implementing *deep learning*. Primary data were collected through classroom

observations, semi-structured interviews, and documentation of learning activities. Conversely, secondary data were obtained from school documents, including lesson plans, teaching modules, and administrative files. The research instruments included observation sheets, interview guides, and document analysis formats. (Pahleviannur et al., 2022) . Observations focused on planning alignment with *Deep Learning principles*, learning strategies, teacher-student interactions, and authentic assessments. Interviews explored teachers', principals', and students' understandings and experiences regarding planning, implementation, and barriers to learning. Instrument validity was strengthened through *expert assessment*, limited pilot testing, and instrument revision.

Data collection was conducted through three main procedures: (1) in-depth interviews to obtain participants' perspectives on *Deep Learning practices*; (2) participant observation to observe the implementation of the PjBL model, Inquiry Learning, and collaborative strategies; and (3)

documentation studies to obtain supporting data from teaching materials and student learning products. Data analysis applied the Miles, Huberman, and Saldana interactive model, which includes data reduction, data presentation, and thematic analysis. Data validity was strengthened through triangulation of sources and methods by comparing findings from interviews, observations, and documentation. (Putra Yasa et al., 2025) .

C. Results and Discussion Deep Learning Based Learning Management

This research was conducted at Nursyamsiani Islamic Private Elementary School, an Islamic elementary school that integrates religious values with active learning based on the Independent Curriculum. The school's educational vision balances knowledge, morality, and spirituality, thus guiding its pedagogical approach to fostering critical, creative, and noble student character. Data were collected over a month through classroom observations, in-depth interviews with the principal, teachers, and students, and analysis of learning documents, including teaching modules, lesson

plans, student portfolios, and teacher reflection notes.

This research focuses on deep learning-based learning management, encompassing the planning, implementation, and evaluation stages, as well as supporting and inhibiting factors. Teachers at Nursyamsiani Islamic Elementary School act not only as information providers but also as facilitators of deep thinking, value advisors, and directors of collaborative learning activities. The implementation of the Deep Learning approach aligns with the school's focus on developing critical and analytical thinking, as well as problem-solving skills, through contextual and meaningful learning.

Teachers' learning management plans demonstrate concrete efforts to provide more meaningful learning experiences for students. Based on document analysis and interviews, it appears that teachers have developed lesson plans that systematically integrate Deep Learning principles into the teaching modules. These plans focus not only on delivering content but also on how students can develop a deeper understanding through higher-order

thinking processes. The first step is to establish learning objectives that lead to the Development of analytical, evaluative, and creative skills. Teachers no longer emphasize objectives focused on memorizing or repeating information; instead, they encourage students to critique phenomena, evaluate information, and generate new ideas or solutions. This emphasis on Higher-Order Thinking Skills (HOTS) provides an essential foundation for Deep Learning in the classroom.

In the next stage, teachers choose learning models that support active knowledge construction. Models such as Project-Based Learning, Problem-Based Learning, and Inquiry Learning are selected because they provide space for students to explore authentic problems, ask questions, conduct investigations, and present their findings. These three models not only stimulate students' curiosity but also foster critical thinking and creativity, which are hallmarks of deep learning.

Learning planning also includes activities relevant to students' real-life situations. Teachers design various activities, such as explorations of

environmental phenomena around the school, relevant yet simple social case studies, and small projects that teach moral values and positive behavior. Teachers design authentic assessment methods that enable a more comprehensive evaluation of the learning process and outcomes. Analytical rubrics are used to assess students' work and thinking processes, portfolios serve as a means to document their progress, and group presentations provide opportunities to demonstrate understanding through communication and collaboration. This assessment approach aligns with the characteristics of deep learning, which evaluates higher-order thinking skills rather than memorization.

A teacher's pedagogical readiness is reflected in their ability to design a coherent, structured learning sequence that aligns with deep learning objectives. Teachers demonstrate a strong understanding of constructivist learning models and can manage each stage of learning so that students can explore, analyze, reflect, and generate new ideas. This aligns with the research findings of Feri et al., that comprehensive learning

planning is crucial for implementing Deep Learning in elementary schools, as it addresses challenges such as limited teacher training and rigid curricula, enabling educators to design contextual, meaningful, and collaborative learning experiences that foster holistic student Development.

Implementation of Deep Learning Based Learning

Classroom implementation demonstrates that teachers have successfully integrated Deep Learning principles through various activities that encourage exploration, collaboration, and problem-solving. Field observations indicate that the learning environment is no longer teacher-centered, but rather positions students as active participants in constructing their own knowledge. Each activity is designed to create meaningful, contextual learning experiences and to encourage the Development of higher-order thinking skills.

One approach that stands out is Project-Based Learning (PBL). Teachers assign simple project assignments directly related to students' daily lives, such as conducting a mini-research

project on the school environment, creating a morality campaign poster, or composing a visual narrative about Islamic figures. Through these activities, students analyze information, make important decisions in project planning, and produce creative products that reflect their deep understanding of the material. These projects also foster students' sense of responsibility and independence.

In addition to projects, teachers also implement Problem-Based Learning (PBL). Learning begins with the presentation of a real-world problem relevant to students' lives, such as improving mutual assistance in the classroom or the importance of maintaining a clean school environment. Students are divided into groups to collect data, discuss, and formulate solutions based on their observations and experiences. This process fosters active and fluid discussion dynamics, significantly improving students' critical thinking, argumentation, and collaboration skills.

The Inquiry Learning approach is also evident in simple investigative activities guided by higher-level

questions from the teacher. Students are encouraged to observe the environment and social phenomena and conduct small experiments related to the lesson theme. At each stage, the teacher encourages students to ask questions, gather information, and draw their own conclusions. These activities strengthen scientific thinking skills and deepen conceptual understanding.

To support all of these processes, teachers consistently facilitate collaborative learning. Many learning activities take place in groups, whether through discussions, project work, *peer teaching*, or collaborative reflection sessions. In this environment, students learn to express their opinions, provide feedback, and accept others' ideas more openly. Interactions between students become more lively, and their confidence in communicating increases over time.

Evaluation of Learning Based on Deep Learning

Learning evaluation in the context of Deep Learning is conducted comprehensively to capture student Development across knowledge, thinking processes, and social skills.

Teachers do not rely solely on written tests; instead, they use a variety of authentic assessments that reflect students' abilities in real-world contexts. This evaluation approach provides a more comprehensive picture of the quality of learning and the extent to which students achieve a deep understanding of the material.

One dominant form of evaluation is authentic assessment. Teachers ask students to compile project portfolios that document the process and results of their work, from planning and data collection to the final product. Students also demonstrate and present their learning outcomes to the class. Various products, such as posters, mini-research reports, or visual narratives, provide concrete evidence that students not only understand the material but also transform it into new, valuable forms. With this type of assessment, the learning process appears more natural and contextual.

In addition to assessing learning outcomes, teachers also conduct ongoing performance observations throughout the learning process. Student interactions, involvement in group activities, and how

they express their opinions are essential indicators observed. Teachers pay attention to how students process information, respond to challenges, and collaborate with their peers. Through these observations, teachers can see the Development of students' critical thinking skills and social-emotional abilities in real-life situations.

Additionally, teachers encourage students to reflect on their learning through learning journals. In these journals, students write about what they understand from the lesson, any difficulties they encounter, and strategies they find compelling. This reflective activity helps students become aware of how they learn and how to improve their weaknesses. These journals provide insight into the Development of students' metacognition, the ability to recognize and regulate their own thinking.

To assess cognitive aspects more deeply, teachers use analytical rubrics. These rubrics include indicators of students' analytical skills, creativity, argumentation, and product quality. Using rubrics makes assessments more objective, transparent, and understandable for students. They can

identify which aspects have developed and which areas still need improvement.

Throughout the evaluation process, teachers consistently provide constructive feedback. This feedback not only addresses errors but also provides guidance that helps students refine their understanding and improve their learning. This evaluation approach supports the Development of metacognition, as students learn to review their thinking processes, devise new strategies, and take responsibility for their own Development.

Student Responses and Participation in Deep Learning-Based Learning

Student responses to Deep Learning-based learning were very positive. During observations, students appeared enthusiastic about activities that required exploration, discussion, and problem-solving. Learning provided them with space to think, ask questions, and create a more lively and interactive classroom atmosphere. These positive changes were evident across all domains of students' cognitive, affective, and behavioral Development.

In terms of cognitive abilities, students demonstrate increasingly mature capacities for analyzing information, understanding relationships among concepts, and completing tasks creatively. They no longer memorize material; they can process it into new ideas or products relevant to their projects. This progress is evident when students can present arguments during discussions, draw conclusions from investigations, or produce visual works that demonstrate their in-depth understanding.

Regarding the affective aspect, students' self-confidence was clearly evident. They demonstrated courage in asking questions, expressing opinions, and presenting their work to their peers. Their enthusiasm for learning also increased; students appeared to look forward to subsequent activities and voluntarily participated in group assignments. The collaborative classroom environment fostered a positive emotional atmosphere in which students felt valued and played a significant role in the learning process.

Behaviorally, students demonstrated active participation in

every class activity. They engaged in group discussions, collaborated on projects, and diligently followed learning instructions. This engagement was evident not only among typically high-achieving students but also among those who had previously tended to be passive. Learning designed around real-life experiences provides opportunities for all students to contribute according to their abilities and interests.

Based on the explanation above, this finding is consistent with the research of Zhou et al. (2025) Showed that project-based learning (PBL) and inquiry-based learning (IBL) significantly improved fourth-grade students' critical thinking skills and teamwork abilities compared to traditional teaching methods, highlighting their effectiveness in elementary school education. Deep Learning-based instruction implemented by teachers not only affects learning outcomes but also student motivation, self-confidence, and classroom interaction patterns.

Supporting and Inhibiting Factors

The implementation of Deep Learning-based instruction is influenced

by various factors that influence its success. Field observations and findings indicate that some conditions support meaningful learning, but there are also obstacles that teachers must overcome. The combination of these two aspects provides a comprehensive picture of the dynamics of Deep Learning implementation in the classroom.

From a support perspective, teacher creativity is crucial. Teachers can design a variety of learning activities, from real-life projects to contextual problem-solving. These designs facilitate students' understanding of the material through hands-on experience. Principal Leadership also strengthens this process through policies and support that encourage learning innovation, providing space for teachers to experiment with various pedagogical approaches.

The Independent Curriculum provides teachers with the flexibility to select strategies that are relevant to students' needs. This curriculum emphasizes in-depth learning, thus aligning with classroom approaches. A supportive classroom environment, both in terms of atmosphere and student

relationships, also plays a crucial role. A safe, inclusive, and collaborative classroom environment encourages students to be more active in discussions and teamwork.

However, the implementation of deep learning-based learning also faces several inhibiting factors. One major obstacle is the limited time available to complete complex projects. Deep learning requires exploration, reflection, and production, which cannot be done instantly. In addition to time constraints, variations in students' higher-order thinking skills also pose a challenge. Not all students have the same speed or readiness to analyze information or solve problems.

Limited digital facilities also hamper some technology-based activities, particularly when projects require access to specific devices or applications. This situation impacts the smooth production of digital works or research activities that require technological support.

However, teachers can overcome these barriers through a variety of adaptive strategies. They differentiate instruction by adjusting assignments

based on students' abilities and needs, ensuring that every student can participate optimally. Furthermore, flexible classroom management helps teachers manage time, divide tasks, and prioritize the most relevant activities. Teachers also simplify projects without sacrificing the essence of deep learning, ensuring that goals are achieved even with limited resources. The combination of strong supporting factors and teachers' ability to overcome obstacles demonstrates that deep learning-based instruction can be effective. With the support of a supportive school environment and adaptive planning, this approach has the potential to significantly impact students' cognitive, social, and emotional Development.

Discussion

The implementation of Deep Learning-based learning management at Nursyamsiani Islamic Elementary School demonstrates the alignment between the demands of modern education and the school's Islamic values. The entire learning process, from planning and implementation to evaluation, indicates that teachers focus not only on delivering material but also

on building deep understanding through meaningful learning experiences. Careful planning, the selection of project- and problem-based learning models, and the use of authentic assessments confirm that the school's learning management has moved toward a pedagogical approach that better supports students' cognitive, affective, and social Development.

When analyzed from a learning theory perspective, the implementation of activities such as projects, investigations, group discussions, and collaboration aligns closely with Vygotsky's constructivism. This theory emphasizes that knowledge is constructed through social interactions and meaningful activities. In practice, students in the classroom do not simply receive information passively; they actively engage in activities that require analysis, argumentation, and problem-solving. Through group work, they interact, share ideas, and build shared understanding—a process that illustrates Vygotsky's Zone of Proximal Development (ZPD).

Furthermore, the teacher's approach reflects Ausubel's principle of

meaningful learning, where learning experiences relevant to students' lives enable them to connect new concepts to existing knowledge structures. Activities such as mini-research projects on the school environment, simple analyses of social phenomena, and morality campaign projects provide real-world contexts that help students understand concepts more fully. Thus, learning is not merely theoretical but also applicable and meaningful.

The use of reflection and authentic assessment further strengthens the in-depth learning process. Through learning journals, presentations, and portfolios, students are encouraged to reflect on their thinking, the strategies they use, and how their learning outcomes are shaped. This approach aligns with Flavell's concept of metacognition, where students are trained to understand and regulate their own thinking processes. (Sumitha & Mandal, 2022) . As noted in Hepsi's research, (2020) Metacognitive abilities are essential for enhancing reflective mathematical thinking and learning independence, as they enable individuals to monitor their thinking processes and regulate their

learning effectively, thereby facilitating deeper understanding and problem-solving in mathematics.

Practices at Nursyamsiani Islamic Elementary School demonstrate that Deep Learning is not simply a teaching technique or a specific learning model, but rather a pedagogical culture that requires systematic management, teacher creativity, and institutional support. Teachers act as designers of learning experiences, facilitators of collaboration, and providers of constructive feedback. Meanwhile, the school provides a safe and flexible environment to encourage exploration and innovation.

This finding strengthens the research results of Alfianingtias & Sofian Hadi. (2025) And Nurhidayati et al. (2025) , which showed that the success of Deep Learning is greatly influenced by teacher readiness, curriculum flexibility, and a supportive learning environment. Thus, the implementation of Deep Learning at this school demonstrates that this approach can be implemented effectively when supported by careful planning, visionary Leadership, and a collaborative learning culture.

D. Conclusion

Based on the research results, it can be concluded that Deep Learning-based learning management at Nursyamsiani Islamic Private Elementary School has been implemented through a systematic planning, implementation, and evaluation process oriented towards developing students' deep thinking skills. Teachers design learning by integrating HOTS objectives, selecting models such as PjBL, PBL, Inquiry, and Collaborative Learning, and creating authentic assessments. The implementation of learning shows that students not only receive information but are also actively involved in analyzing, exploring, discussing, and solving real-life problems. Learning evaluation is carried out holistically through portfolios, observation, and reflection.

Deep Learning has a positive impact on students' cognitive, affective, and behavioral aspects. Students become more confident, creative, and able to work collaboratively. Supporting factors include teacher creativity, principal support, and the flexibility of the Independent Curriculum. Challenges

related to time, facilities, and diverse student abilities can be overcome through strategy adaptation and teacher collaboration. Theoretically, this study enriches the study of Islamic learning management by demonstrating the relationship between constructivist theory, meaningful learning, and Deep Learning in the context of Islamic elementary education. In practice, the results of this study provide a model for Islamic schools to develop in-depth, contextual, and character-oriented learning.

E. Bibliography

- Abd. Rahman Saleh, & Salmiah. (2025). Mengembangkan Potensi Multiple Intelligences Siswa SD melalui Kurikulum Deep Learning. *Journal of Humanities, Social Sciences, and Education*, 1(3), 53–64. <https://doi.org/10.64690/jhuse.v1i3.48>
- Abdul Gofur, M., . A., & Hanifah, U. (2025). Implementation of Science Learning Based on Higher Order Thinking Skills (HOTS) in Elementary Schools. *El Banar : Jurnal Pendidikan Dan Pengajaran*, 8(2), 142–153. <https://doi.org/10.54125/elbanar.v8i2.1052>
- Alfianingtias, D., & Sofian Hadi, M. (2025). The Influence of Learning Communities, Teacher Pedagogical Competence, and School Readiness on the Implementation of the Deep Learning Approach in Elementary Schools in Cipondoh Subdistrict, Tangerang City. *International Journal of Research and Innovation in Social Science*, IX(VII), 3493–3498. <https://doi.org/10.47772/IJRISS.2025.907000281>
- Budhiarti, Y., Mytra, P., & Slow, L. (2025). The Role of Deep Learning in Elementary Education: Pedagogical Insights from a Literature Study. *Jurnal Pedagogi Dan Inovasi Pendidikan*, 1(2).
- Butt, D. S. A., Dr. Farah Fida, Dr. Ali Abbas, & Saman Batool. (2025). Artificial Intelligence and the Future of Education: Opportunities and Challenges. *ACADEMIA International Journal for Social Sciences*, 4(3), 3109–3126. <https://doi.org/10.63056/ACAD.004.03.0598>
- Carnegie Learning. (2024). *The State of AI in Education Artificial Intelligence in Education 2024 Report*.
- Erawati, N. K., & Adnyana, P. B. (2024). Implementation Of Jean Peaget’s Theory Of Constructivism In Learning: A Literature Review. *Indonesian Journal of Educational Development (IJED)*, 5(3), 394–401. <https://doi.org/10.59672/ijed.v5i3.4>

- 148
- Hepsi, H. (2020). Pengembangan Bahan Reflective Thinking Ajar dan Instrumen untuk Meningkatkan Berpikir Reflektif Matematis dan Kemandirian Belajar Berbasis Pendekatan Metakognitif. *Pasundan Journal of Mathematics Education: Jurnal Pendidikan Matematika*, 2(1), 1–19. <https://doi.org/10.23969/pjme.v2i1.2464>
- Martanti, T. (2024). Case Study of Application of Higher Order Thinking Skill (Hots) Students in Faith Grade 5 and 6 Daniel Creative School Elementary Semarang School Year 2022-2023. *Jurnal Indonesia Sosial Teknologi*, 5(4), 1737–1752. <https://doi.org/10.59141/jist.v5i4.1020>
- Mislikhah, S. (2021). Implementation of Higher Order Thinking Skills Within Indonesian Language Learning at Madrasah Ibtidaiyah. *Review of International Geographical Education Online*, 11(5), 2207–2214.
- Mulyana, A., Vidiati, C., Danarahmanto, P. A., Agussalim, A., Apriani, W., Fiansi, F., Fitra, F., Aryawati, N. P. A., Ridha, N. A. N., & Milasari, L. A. (2024). *Metode Penelitian Kualitatif*. Penerbit Widina.
- Nurhasnah, N., Sepriyanti, N., & Kustati, M. (2024). Learning Theories According to Constructivism Theory. *Journal International Inspire Education Technology*, 3(1), 19–30. <https://doi.org/10.55849/jiiiet.v3i1.577>
- Nurhidayati, N., Tusino Tusino, & Rida Desty Ariyanti. (2025). Strategi Inovatif Pembelajaran Mendalam: Upaya Meningkatkan Kompetensi Guru Sekolah Dasar. *Pemberdayaan Masyarakat: Jurnal Aksi Sosial*, 2(2), 178–190. <https://doi.org/10.62383/aksisosial.v2i2.1965>
- OECD. (2018). Country Note–Result from PISA 2018 Indonesia. *Oecd*, 1–10.
- Pahleviannur, M. R., De Grave, A., Saputra, D. N., Mardianto, D., Hafrida, L., Bano, V. O., Susanto, E. E., Mahardhani, A. J., Alam, M. D. S., & Lisya, M. (2022). *Metode Penelitian Kualitatif*. Pradina Pustaka.
- Putra Yasa, I. W., Alfi Syahrin, A., Sedana Arta, K., & Pageh, I. M. (2025). Revitalizing Local Culture-Based History Learning: Opportunities and Challenges Toward Transformative Deep Learning Practices. *SHS Web of Conferences*, 221, 01007. <https://doi.org/10.1051/shsconf/202522101007>
- Shalikhah, N. D., & Nugroho, I. (2023). Implementation of Higher-Order Thinking Skills in Elementary School Using Learning Model,

- Media, and Assessment. *AL-ISHLAH: Jurnal Pendidikan*, 15(3).
<https://doi.org/10.35445/alishlah.v15i3.3091>
- Sumilih, D. A., Jaya, A., Fitriyaningsih, A. D. R., Nugrohowardhani, R. L. K. R., Irawan, E. P., Dirna, F. C., Rachmaningtyas, N. A., Ras, A., Pujiriyani, D. W., & Setyorini, N. (2025). *Metode Penelitian Kualitatif*. PT. Star Digital Publishing, Yogyakarta-Indonesia.
- Sumitha, P., & Mandal, R. R. (2022). Metacognitive Teaching Strategies. *Scholarly Research Journal For Humanity Science And English Language*, 10(50), 12346–12353.
<https://doi.org/10.21922/srjhsel.v10i50.10158>
- Tohari, B., & Rahman, A. (2024). Konstruktivisme Lev Semonovich Vygotsky dan Jerome Bruner: Model Pembelajaran Aktif dalam Pengembangan Kemampuan Kognitif Anak. *Nusantara: Jurnal Pendidikan Indonesia*, 4(1), 209–228.
<https://doi.org/10.14421/njpi.2024.v4i1-13>
- Zhou, Y., Jantharajit, N., & Srikhao, S. (2025). A quasi-experimental study on projected-based and inquiry-based approaches in fourth-grade mathematics: Effects on teamwork skills and critical thinking. *Asian Journal of Contemporary Education*, 9(1), 42–54.
<https://doi.org/10.55493/5052.v9i1.5304>