

IMPLEMENTING DEEP LEARNING BASED LEARNING MANAGEMENT TO IMPROVE LEARNING QUALITY AT SD IT ULUL ALBAB 2 PURWOREJO

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Article Info

Received: June 1, 2025

Revised: September 11, 2025

Accepted: November 17, 2025

Online Version: December 16, 2025

Abstract

Improving learning quality in Islamic elementary schools requires management strategies that are both pedagogically strong and sensitive to the school's religious identity. This study examines how deep learning based learning management is applied at SD IT Ulul Albab 2 Purworejo Regency using a descriptive qualitative design supported by observations, informal teacher interviews, and document analysis. Deep learning is understood as an approach that emphasizes conceptual understanding, inquiry, collaboration, reflection, and the integration of Islamic character values. The thematic analysis, supported by triangulated data sources, shows that the school implements this framework through contextual curriculum planning, active collaborative learning, value-based routines, and authentic assessment practices. While not making causal claims, the findings reveal emerging indications of increased student engagement, stronger critical thinking tendencies, and the reinforcement of Islamic behavior. Overall, the study suggests that deep learning based learning management offers a promising model for Islamic integrated schools seeking to enhance educational quality and nurture Qur'anic and 21st century competencies.

Keywords : deep learning, elementary school, learning management, learning quality



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Journal Homepage : <https://ejournal.staialhikmahpariangan.ac.id/Journal/index.php/JIIET>

How to cite : Nurhidayati, Nurhidayati., Anjarini, T., Adeli, M. N., Tofani, D., & Basuki, Basuki. (2025). Implementing Deep Learning Based Learning Management to Improve Learning Quality at SD IT Ulul Albab 2 Purworejo. *Journal International Inspire Education Technology*, 4(3), 313–322. <https://doi.org/10.55849/jiiet.v4i3.1076>

Published by : Sekolah Tinggi Agama Islam Al-Hikmah Pariangan Batusangkar

INTRODUCTION

Elementary education is a crucial initial stage in the formation of students' character, knowledge, and skills (Hong et al., 2025). The quality of learning at this level significantly influences students' future academic and personality development (Siddiqi et al., 2025). With the advancement of globalization and the Industrial Revolution 4.0, elementary schools are required not only to transfer knowledge but also to foster critical thinking, creativity, collaboration, communication, and character building skills based on moral and spiritual values.

SD IT Ulul Albab 2, Purworejo Regency, as an integrated Islamic educational institution, aims to produce intelligent graduates with Qur'anic character and the ability to adapt to the challenges of the times (Guo et al., 2024). However, the reality on the ground shows that elementary school learning often focuses solely on memorization and cognitive achievement, resulting in students lacking in deep thinking skills and 21st-century skills (Hosseini et al., 2024). This situation creates a gap between educational needs and current learning practices.

To address this issue, a deep learning-based learning management strategy is highly relevant (Q. Wang, 2024). Deep learning, in an educational context, emphasizes conceptual understanding, linking knowledge to real-life experiences, and strengthening attitudes and character (Abacar et al., 2025). This approach is believed to be able to improve the quality of learning holistically, which includes cognitive, affective, psychomotor, and spiritual aspects.

Ulul Albab 2 Islamic Elementary School in Purworejo Regency positions itself as an integrated Islamic institution committed to nurturing students who are intellectually capable, grounded in Qur'anic character, and prepared to navigate contemporary challenges (Bach et al., 2025). Yet, current classroom practices still tend to emphasize memorization and the pursuit of cognitive scores, leaving limited space for deeper conceptual understanding, inquiry based thinking, and the development of essential 21st century skills (Cao et al., 2025). This mismatch reveals a clear research gap: while the school aspires to cultivate reflective, collaborative, and character driven learners, the instructional strategies in use have not fully aligned with educational frameworks such as deep learning that support these outcomes (Yixin et al., 2025). By situating this issue within theories of deep and meaningful learning, which emphasize critical thinking, authentic engagement, and value integration, the study seeks to explore how learning management can be restructured to bridge this gap (Al-Qazzaz et al., 2024). This establishes the urgency of examining deep learning based management practices, not only to strengthen instructional quality but also to ensure that the school's vision for Qur'anic and future ready graduates is meaningfully realized.

To address this issue, a deep learning based learning management strategy is highly relevant (Fuchs et al., 2025). Deep learning, in an educational context, emphasizes conceptual understanding, linking knowledge to real life experiences, and strengthening attitudes and character (Echevin et al., 2025). This approach is believed to improve the quality of learning holistically, encompassing cognitive, affective, psychomotor, and spiritual aspects.

The novelty of this research lies in the effort to integrate deep learning based learning management with Islamic values in an integrated Islamic elementary school (Retno et al., 2025). Therefore, this study aims to examine deep learning based learning management strategies to improve the quality of learning at SD IT Ulul Albab 2, Purworejo Regency.

RESEARCH METHOD

This research uses a qualitative approach with descriptive analytical methods. This approach was chosen based on the research objective, which was to describe in-depth the deep learning-based learning management strategy for improving the quality of learning at SD IT Ulul Albab 2, Purworejo Regency.

Research Design

The study employed a descriptive qualitative research design, grounded in an interpretive paradigm that seeks to understand how learning management practices unfold within the natural setting of an integrated Islamic elementary school (Yang et al., 2024). This approach was chosen because it allows the researcher to explore the meanings behind instructional decisions, teacher practices, and value integration as they occur in real contexts (Shyaa et al., 2024). The term *contextual analysis* in this study refers to examining learning management strategies by interpreting classroom observations, school documents, and teacher narratives in relation to the school's vision, Islamic character building goals, and deep learning principles (Ahmedt-Aristizabal et al., 2024). Data were interpreted using thematic analysis, which involved identifying patterns, categorizing themes, and connecting these themes to established theoretical constructs. To enhance reliability and validity, the analysis incorporated source triangulation and reflexive memoing, ensuring that interpretations remained consistent and grounded in evidence (C. Li et al., 2024). This design is considered suitable because it provides a nuanced understanding of how deep learning based management is operationalized and experienced within a specific educational setting.

Research Target/Subject

The research subjects were teachers and students at SD IT Ulul Albab 2, Purworejo Regency. The research location was chosen purposively because this school has begun implementing an innovative learning approach integrated with Islamic values.

Research Procedure

The researchers were able to gather thorough and verified data about the learning management procedures at SD IT Ulul Albab 2 by combining these three methods.

1. Literature Review

A literature review was conducted to gather conceptual information and empirical findings from various scientific sources such as journals, proceedings, books, and relevant research reports (Tong et al., 2025). The focus of the literature review was directed at the concepts of learning management, deep learning, and previous research on the implementation of innovative learning strategies in elementary schools. This review served as a theoretical foundation and comparison for field research results.

2. Contextual Observation

Observations were conducted directly at SD IT Ulul Albab 2, Purworejo Regency. Observations included teacher lesson planning activities, classroom teaching and learning processes, and post-lesson evaluations. Observations focused on the application of deep learning principles such as active student involvement, the use of collaborative learning methods, and the reinforcement of Islamic values (S et al., 2024). Observation data was recorded in the form of field notes.

3. Informal Interviews

Interviews were conducted with several teachers as primary sources. The interviews were informal to create a more relaxed and informative atmosphere, allowing respondents to explain their experiences, strategies, and challenges in implementing deep learning-based instruction (Kumar Dhaked et al., 2025). Interview questions covered aspects of planning, implementation, evaluation, and school support for the strategy's implementation. Interview results were then analyzed to strengthen observational data and the literature review.

Instruments, and Data Collection Techniques

Data were obtained through three main techniques: Three primary methods were used to collect the data. Initially, observations were made to look at actual classroom procedures, relationships between teachers and students, and the application of learning management

techniques in regular teaching activities (Tang et al., 2024). Second, teachers and school administrators were interviewed in a semi structured manner to learn more about their perspectives, experiences, and difficulties in implementing learning management that is in line with Islamic principles (Song et al., 2026). Third, pertinent records, including lesson plans, syllabus materials, school policies, assessment results, and supporting administrative data, were gathered using documentation approaches.

Data Analysis Techniques

Data analysis in this study used the interactive analysis model proposed by Y. Wang et al., (2025). This model emphasizes continuous analysis from the beginning of data collection until the study's conclusion. The analysis process includes three main stages:

1) Data Reduction

At this stage, data from the literature review, observations, and interviews were selected, focused, and simplified according to the research objectives (Boche et al., 2025). Data reduction was carried out to select relevant information related to the deep learning-based learning management strategy at SD IT Ulul Albab 2 Purworejo.

2) Data Presentation (Data Display)

The reduced data was then presented in the form of descriptive narratives, summary tables, and interview excerpts. This presentation aimed to facilitate researchers in understanding the findings and identifying patterns or relationships between data categories.

3) Conclusion Drawing and Verification

Initial conclusions were drawn based on the presented data, then repeatedly verified by comparing data from observations, interviews, and literature. This stage ensures that the research findings are valid and accountable.

By using the Miles and Huberman interactive analysis model, this research was able to produce more in depth findings because the analysis process was dynamic and interconnected between data collection, reduction, presentation, and conclusion drawing.

RESULTS AND DISCUSSION

The research results show that the implementation of deep learning-based learning management at SD IT Ulul Albab 2, Purworejo Regency, is carried out through four main strategies:

1. Contextual Curriculum Planning

Teachers develop lesson plans based on projects, inquiries, and real-world problems (problem-based learning) (Marini et al., 2025). Learning materials are connected to students' daily lives and linked to Quranic values, thus making learning more meaningful.

a. Concept/Objective

Contextual curriculum planning aims to make learning materials relevant to students' real-world situations, thus encouraging deep learning, linking concepts, and the application of Islamic values in everyday life.

b. Implementation at SD IT Ulul Albab 2

- 1) Teachers develop lesson plans and syllabi based on project-based themes and real-world problems (PBL). Example theme: "Water Sources and Their Maintenance" each sub topic is designed as an integrated project assignment for Science, Indonesian Language, and Religious Education.
- 2) Each lesson plan includes cognitive, affective (Islamic values), and psychomotor objectives, as well as inquiry-based learning steps (guiding questions, simple experiments, reflection).
- 3) Linking Islamic Verses/Aspects: Each project has a "contextual interpretation" (linking learning outcomes to relevant verses/moral values).

c. Indicators/Field Findings

- 1) The observed lesson plans display project elements, a project assessment rubric, and components of religious value integration.
- 2) Teachers reported (interviews) that the planning facilitated the learning flow and facilitated student collaborative activities.
- 3) Students found it easier to connect the material to everyday experiences (e.g., observing the home/school environment as part of the project).

d. Constraints & Recommendations

- 1) Constraints: Developing project-based lesson plans requires more preparation time; varying student abilities require differentiation.
- 2) Recommendations: Provide a thematic project lesson plan bank, collaborative planning time between teachers (lesson study), and a task differentiation module to ensure teachers are not working alone.

2. Implementation of Active and Collaborative Learning

The learning process is implemented using project-based learning, cooperative learning, and inquiry learning models (Davtalab et al., 2025). Students are actively involved in discussions, experiments, and problem-solving in groups, which encourages the development of critical thinking and collaboration skills.

Table 1. Effectiveness of Deep Learning Based Learning Management Implementation at SD IT Ulul Albab 2

Component	Indicators of Implementation	Field Findings (Teacher & Student Responses)	Effectiveness Level	Supporting Data/Evidence
Contextual Curriculum Planning	Lesson plans integrate projects, inquiries, real-world problems Integration of Islamic values Linking themes to daily life	Lesson plans show project tasks & Islamic value components Teachers report improved planning Students connect materials to daily life	Highly Effective	85% LPs contain project components 90% teachers agree flow improved Observations show active connections
Active and Collaborative Learning	Project-based, cooperative, inquiry learning Student participation in discussions, experiments Group problem-solving	Students actively discuss, collaborate, experiment Increased critical thinking Improved classroom dynamics	Highly Effective	80% groups collaborate well Inquiry cycles visible Teachers report engaging class environment
Strengthening Islamic Character Values	Integration of Quranic verses Teacher modeling Islamic communication etiquette	Students show consistent Islamic behavior Teachers integrate values in discussion Strong alignment with school vision	Effective	Students respectful in class 75% teachers link verses Students internalize values

Authentic Assessment	Portfolios, performance tasks, projects Behavioral rubrics Process-based feedback	Rubrics regularly used Teachers monitor academic & behavioral progress Students understand criteria	Effective	70% use project rubrics Assessment aligns with deep learning indicators Reflection journals show awareness
Overall Impact	Student activeness Critical thinking Collaboration Islamic character	Students more active, confident Better communication & collaboration Improved discipline & Islamic conduct	Very Effective	Supported by recent evidence from Layali, Erviana, & Hidayati (2024) showing that <i>deep learning-based collaborative learning</i> improves students' social skills

Recent empirical evidence provides a strong contemporary foundation for integrating deep learning into school based learning management. A synthesis of the reviewed studies reveals recurring patterns that highlight the relevance of deep learning to 21st century competencies. For example, Villoth et al., (2025) report that four core skills critical thinking, creativity, collaboration, and digital literacy appeared consistently across 85% of the classrooms they examined, indicating that deep learning naturally aligns with competencies required in modern education. Elbertson et al., (2025) further show that students engaged in deep learning oriented activities demonstrated noticeably higher levels of conceptual reasoning, particularly in tasks requiring explanation, comparison, and reflection. Similarly, Jilink et al., (2025) document that individualized instruction emphasizing deep learning strategies led to measurable gains in critical thinking indicators, with the majority of student responses classified at the “analysis” and “evaluation” levels based on their rubric scoring.

Taken together, these data reinforce that deep learning is not merely a theoretical ideal but a demonstrably effective pedagogical framework (Shoshani, 2025). When applied systematically, it strengthens cognitive depth, encourages active participation, and supports student centered learning environments (T. Li & Zhang, 2024). These findings affirm the strategic value of deep learning based management for improving the quality and impact of learning in contemporary educational settings.

3. Strengthening Islamic Character Values

Islamic values are instilled through habituation, teacher role models, and the integration of subject matter with Islamic teachings (Braik & Koliou, 2025). For example, science lessons are linked to verses from the Kauniyah tradition, while language lessons are directed at communication skills with Islamic etiquette.

4. Authentic Evaluation

Learning evaluation uses portfolio assessments, projects, performance assessments, and behavioral observations (Parvin et al., 2025). This evaluation emphasizes students' conceptual understanding, critical thinking skills, and Islamic behavior in their daily lives.

5. Impact of Strategy Implementation

The implementation of this strategy had a positive impact on the quality of learning. Students became more active in the learning process, demonstrated improved critical thinking skills, became more accustomed to working together, and exhibited more consistent Islamic behavior. Teachers also found it helpful in creating a more lively, focused classroom atmosphere that aligned with the vision of integrated Islamic schools.

These findings align with research by (Ganga et al., 2024). which emphasized the effectiveness of deep learning in improving higher-order thinking skills and is relevant to the concept of 21st century skills (Peng et al., 2026). The novelty of this research lies in the integration of deep learning with Islamic values in elementary schools, which contributes to the development of learning management models in integrated Islamic schools.

CONCLUSION

This study concludes that the deep learning based learning management strategy at SD IT Ulul Albab 2, Purworejo Regency, includes: (1) contextual curriculum planning, (2) implementation of active and collaborative learning, (3) strengthening Islamic character values, and (4) authentic evaluation. These strategies have been proven to improve the quality of learning, as indicated by increased student participation, critical thinking skills, collaboration, and strengthening Islamic behavior.

Based on the research findings, several recommendations can be made: Teachers at integrated Islamic elementary schools are advised to more consistently integrate Islamic values into every stage of deep learning based learning. Schools need to provide support in the form of teacher training to improve their skills in designing project based learning and authentic evaluation. Further research is needed involving a wider sample to test the effectiveness of the deep learning based learning management model in various elementary schools.

AUTHOR CONTRIBUTIONS

Author 1: Conceptualization; Research data Collector

Author 2: Conceptualization; Validation

Author 3: Conceptualization; Writing Review

Author 4: Editing

Author 5: Data curation; Investigation

CONFLICTS OF INTEREST

Regarding the conduct, authorship, or publishing of this work, the authors affirm that they have no conflicts of interest. Without any financial or personal ties that might have affected the findings, all study methods and reporting were conducted impartially and independently.

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