Jurnal Manajemen Pendidikan *Volume 14, No. 02, 2026, Halaman 1078 – 1081*
https://jmp-pasca.unpak.ac.id/index.php/jmp *e-SSN: 2614-3313 ; p-ISSN: 2302-0296*
Penerbit: Sekolah Pascasarjana, Universitas Pakuan

THE PRINCIPAL'S ROLE IN IMPROVING LEARNING QUALITY THROUGH A DEEP LEARNING APPROACH AT SD NEGERI GERJEN, KULON PROGO REGENCY

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Article history: received 06 Mei 2026; revised 20 Mei 2026; accepted 06 June 2026 *DOI : https://doi.org/10.33751/jmp.v14i02.249*

Abstrak. This study aims to analyze the role of the principal in improving the quality of learning through a deep learning approach in elementary schools. Deep learning, as a learning method based on deep understanding, collaboration, and the application of concepts in real-world contexts, requires effective leadership support. The research method employed a qualitative approach with data collection techniques through interviews, observations, and document studies. The findings indicate that the principal acts as an instructional leader through the following strategies: (1) facilitating teacher training on deep learning, (2) creating a collaborative learning environment, (3) optimizing school resources, and (4) monitoring competency-based learning evaluation. As a result, teachers become more skilled in designing meaningful learning experiences, while students demonstrate improvements in critical thinking skills and creativity. This study concludes that the principal's leadership is the key to the successful implementation of deep learning for high-quality learning..

Kata Kunci: Principal, learning quality, deep learning, elementary school, students

I. INTRODUCTION

Background of the Study

Primary education is an important foundation in shaping students' competencies and character. In this context, the quality of learning becomes a determining factor in educational success. However, challenges such as still-conventional learning methods, limited student engagement, and teachers' limitations in developing innovative pedagogy often hinder the achievement of learning objectives. The deep learning approach, which is a learning model emphasizing conceptual understanding, higher-order thinking skills, and the application of knowledge in authentic contexts, has become increasingly relevant (Martinez & McGrath, 2021) and is considered a potential solution to address these issues. However, its implementation requires strong leadership support, particularly from the principal as an instructional leader.

In elementary schools, efforts to improve learning quality through deep learning have begun to be initiated, yet they have not been optimal. The role of the principal in leading pedagogical change, motivating teachers, and creating a conducive learning ecosystem becomes crucial. Preliminary studies indicate that some teachers still face difficulties in designing deep learning-based instruction, while student participation in active learning processes still needs improvement. Therefore, this study aims to examine in depth how the principal at SD Negeri Gerjen, Kulon Progo Regency, can encourage the successful implementation of the deep learning approach to improve the quality of learning at the school. Based on this background, the research problems are formulated as follows: 1) How does the principal of SD Negeri Gerjen implement the deep learning approach in elementary school? 2) What are the supporting and inhibiting factors in the implementation of deep learning at SD Negeri Gerjen? 3) How does the leadership of the principal of SD Negeri Gerjen affect the quality of learning after the implementation of deep learning?

This study aims to: 1) analyze the leadership strategies of the principal at SD Negeri Gerjen in implementing deep learning, 2) identify the factors influencing the implementation of deep learning, and 3) evaluate the impact of the approach on improving learning quality at SD Negeri Gerjen. The theoretical benefit of this research is to

contribute to studies on educational leadership and pedagogical innovation, particularly deep learning at the elementary level. Meanwhile, the practical benefit is to serve as a reference for principals and stakeholders in designing effective learning policies. This paper consists of five sections: (1) Introduction, (2) Literature Review, (3) Research Method, (4) Results and Discussion, and (5) Conclusion and Recommendations.

II. METHOD

Type of Research

This study employed a qualitative approach with a case study method to explore in depth the role of the principal in improving learning quality through a deep learning approach at SD Negeri Gerjen. This approach was chosen because it is capable of providing a holistic and contextual understanding related to leadership strategies, supporting and inhibiting factors, as well as the impacts arising from the implementation of deep learning.

Time, Place, and Research Subjects

The study was conducted in March 2026 at SD Negeri Gerjen, Lendah Subdistrict, Kulon Progo Regency, which has implemented the deep learning approach in its instructional practices. The location was selected through purposive sampling with the following criteria: 1) schools that had initiated deep learning-based instructional programs, 2) principals actively serving as instructional leaders, and 3) teachers involved in implementing deep learning. The subjects of this study included the principal as the key informant, teachers implementing deep learning, and students to observe the impact of the learning process.

Data Collection Techniques

Data collection was conducted using three techniques, namely: in-depth interviews, observations, and document studies. The first technique was in-depth interviews, used to collect data regarding the principal's strategies, challenges, and the impacts of implementing deep learning. The questions were structured based on the research problems, for example: a) how does the principal encourage teachers to implement deep learning? b) what obstacles are encountered in its implementation? c) how has the quality of learning changed after the implementation of deep learning? The second technique was observation, conducted in classrooms to examine deep learning-based instructional practices, focusing on teacher-student interaction, the use of methods, and students' active participation. The third data collection technique was document study, conducted by analyzing documents such as learning modules, school policies, and records of the principal's supervision results at SD Negeri Gerjen.

Data Analysis Techniques

The data were analyzed interactively through three stages: 1) data reduction, by selecting relevant data from interviews, observations, and documents; 2) data presentation, by organizing the data into narrative or thematic table forms; and 3) verification and conclusion drawing, conducted through triangulation (comparing interview, observation, and document results) to ensure data validity.

Data Validity

To ensure data reliability, two methods were used, namely source triangulation by combining the perspectives of principals, teachers, and students. The second method was member checking by verifying interpretation results with informants.

Research Ethics

This study was conducted with participants' consent to voluntarily participate (informed consent). Respondents' identities were also kept confidential using codes, for example: KS-1 for the principal and G-2 for teachers (anonymity).

Research Limitations

In conducting this study, several limitations were identified, namely that the findings are contextual and cannot be generalized broadly. Researcher subjectivity may also influence the interpretation of qualitative data.
Through this method, the study is expected to answer the research problems and provide practical recommendations for improving learning quality through the leadership role of the principal.

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III. RESULTS AND DISCUSSION

Based on data obtained through interviews, observations, and document studies, this study identified several major findings related to the role of the principal in improving learning quality through a deep learning approach at SD Negeri Gerjen, Kulon Progo Regency. The role of the principal in implementing deep learning is as an instructional leader through the following strategies: 1) the principal (KS-1) organized workshops and mentoring programs for teachers to understand the concept of deep learning, 2) conducted regular classroom observations to ensure the implementation of student-centered methods, and 3) facilitated the development of project-based modules and digital technology integration.

Table1. Principal Strategies in Implementing Deep Learning

No.	Strategy	Implementation
1.	Teacher training	Learning communities, workshops
2.	Classroom supervision	Classroom observations, feedback provision
3.	Development of teaching materials	Preparation of project-based modules, technology integration

The supporting factors identified in this study were teachers' commitment (G-1, G-2) in developing innovative teaching modules and parental support through the provision of digital facilities and infrastructure. Meanwhile, the inhibiting factors included teachers' limited time in designing in-depth learning and students' lack of initial understanding of active methods (classroom observation).

The impact of this study on learning quality was reflected in increased student engagement (observed during discussion-based learning activities), as well as improvements in critical thinking skills (through interviews, students were able to analyze contextual problems). The impact on teachers included changes in teaching patterns (through learning module analysis, there was a shift from lecture methods to inquiry-based learning).

Discussion

One advantage of the implementation of deep learning is the realization of transformational leadership, meaning that the principal successfully created a collaborative culture, in accordance with Leithwood's theory (2012) on leadership influencing pedagogical change. Another advantage is contextual learning, in which the problem-based project approach (PjBL) encourages deep understanding, in line with the findings of Martinez & McGrath (2021). Challenges faced in the implementation included teachers' time constraints; however, these could be addressed through the division of material development teams (school policy document study). The theoretical implication of deep learning implementation is the enrichment of studies on instructional leadership in the context of deep learning (Hattie, 2017). Meanwhile, the practical implication is that other schools may adopt participatory supervision models and continuous training.

Verification of findings through data triangulation confirmed the consistency of the results as follows: 1) teacher interviews (G-3) stated increased teaching motivation after training, and 2) observations showed increased student-teacher interaction in project-based classrooms.

IV. CONCLUSION

Based on the research findings and discussion, it can be concluded that the principal plays a key role as an instructional leader in improving learning quality through the deep learning approach at SD Negeri Gerjen, Kulon Progo Regency. Effective strategies include: Teacher training through workshops and mentoring to strengthen understanding of deep learning concepts. Regular classroom supervision through observation and feedback to ensure the implementation of student-centered learning. Development of project-based teaching materials and integration of digital technology to encourage contextual learning. Supporting factors include teachers' commitment to developing innovative modules and parental support in providing digital facilities. Meanwhile, the main challenges are teachers' limited time and students' lack of initial understanding of active methods, which can be addressed through the division of material development teams and gradual approaches. The positive impact of deep learning implementation can be seen in increased student engagement and critical thinking skills, as well as shifts in teachers' instructional patterns from lecture-based methods to inquiry-based learning. Theoretically, this study enriches studies on instructional leadership (Hattie, 2017) and transformational leadership (Leithwood, 2012). Practically, this model can be adopted

by other schools through participatory supervision and continuous training. Therefore, the deep learning approach led by the principal has proven effective in creating deep and meaningful learning at the elementary school level.

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