

Transformational Leadership by the School Principal in The Implementation of Deep Learning at SDN 10 Air Kumbang, Banyuasin

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Abstract: This study aims to analyze the transformational management of school principals in implementing deep learning at SDN 10 Air Kumbang Banyuasin. A descriptive qualitative approach was employed involving the principal, teachers, and school stakeholders selected through purposive sampling. Data were collected through in-depth interviews, observations, and documentation and analyzed using the interactive model of Miles, Huberman, and Saldaña. The findings indicate that transformational management is implemented through participatory planning, teacher empowerment, coaching-based academic supervision, collaborative decision-making, and the development of an innovative school culture. These practices have strengthened teachers' readiness to implement deep learning and improved instructional quality. Nevertheless, several challenges remain, including limited teacher understanding of deep learning concepts, uneven readiness for educational change, and inadequate learning facilities. This study contributes to educational management by integrating transformational leadership with POAC management functions as a strategic framework for implementing deep learning in primary schools.

Keywords: *transformational management, school principal, deep learning, deep learning, elementary school*

A. Introduction

The evolution of 21st-century education requires schools to produce students who not only master knowledge but also possess critical thinking, creative, collaborative, and communicative skills. This shift necessitates a transformation in learning—one oriented toward developing higher-order thinking skills and fostering meaningful learning experiences. One approach relevant to these needs is "deep learning," a process that emphasizes conceptual understanding, reflection, problem-solving, and the ability to connect knowledge to real-life contexts (Purwanto et al., 2023).

Although previous studies have examined transformational leadership and instructional innovation, most focus on teacher performance, organizational culture, or educational change independently. Limited studies specifically investigate how transformational management integrates planning, organizing, implementation, and supervision (POAC) to

support the implementation of deep learning in primary schools. Moreover, empirical evidence from Indonesian elementary schools, particularly in rural contexts, remains limited. Therefore, this study addresses this research gap by examining transformational management practices within the implementation of deep learning. The novelty of this study lies in integrating transformational leadership theory with POAC management functions to explain how school principals strategically manage the implementation of deep learning in primary education.

The implementation of deep learning cannot proceed optimally without effective school leadership. Principals play a strategic role as instructional leaders responsible for establishing a vision, a school culture, and a work environment that support instructional innovation. Transformational leadership is considered an approach capable of driving sustainable organizational change through inspiration, motivation, empowerment, and teacher capacity building (Stanikzai, 2023).

Transformational leadership by principals focuses on the ability to build a shared vision, provide intellectual stimulation, attend to individual needs, and create a collaborative culture that supports the improvement of learning quality. Research indicates that transformational leadership practices positively influence teacher performance, organizational commitment, instructional innovation, and student learning outcomes (Novia et al., 2024).

Nevertheless, the implementation of deep learning in elementary schools still faces various challenges. Many teachers do not yet fully grasp the concept of deep learning and continue to employ instructional methods focused solely on rote memorization and meeting curriculum targets. Furthermore, limited facilities and infrastructure, low digital literacy, and an organizational culture that does not yet support innovation act as barriers to the transformation of learning (Budyanto et al., 2024).

This situation demonstrates that the successful implementation of deep learning depends not only on teacher competence but also on the principal's ability to manage change through management functions. The POAC framework (planning, organizing, actuating, and controlling) serves as a crucial lens for understanding how principals systematically plan, organize, implement, and evaluate learning programs (González-Pérez & Ramírez-Montoya, 2022).

Several previous studies have examined the relationship between transformational leadership and the improvement of educational quality. Research has found that transformational leadership contributes to increased intrinsic motivation and organizational effectiveness. Studies indicate that transformational leadership fosters innovation through a commitment to change and organizational support. Furthermore, it has been shown that consistent transformational leadership practices enhance teachers' work engagement and initiative (Pardede, 2020).

Other research indicates that school principals play a pivotal role in fostering a collaborative school culture that supports instructional innovation. Principals act as a bridge between educational policies and their implementation at the school level, utilizing an evidence-based approach. Integrating transformational leadership with structured

change management is essential for the effective execution of educational reforms (Avdiu et al., 2025).

Transformational leadership in schools contributes to establishing a shared vision, enhancing teacher capacity, and promoting equity in learning outcomes. Sustained school transformation requires a collaborative culture, the strengthening of collective capacity, and alignment between policy and instructional practice (Soderlund, 2020).

While numerous studies have addressed transformational leadership and school change, most have focused on the impact of leadership on teacher performance, organizational culture, or general learning outcomes. Research specifically examining principals' transformational management regarding the implementation of deep learning—using the POAC framework, particularly at the elementary school level—remains limited. Furthermore, prior studies have not extensively explored the challenges principals face or the strategies employed to overcome obstacles in implementing deep learning (Budiyanto et al., 2024).

Addressing these research gaps, this study aims to describe the planning and execution of transformational management by the principal, identify the challenges encountered, and analyze the solutions implemented for deep learning at SDN 10 Air Kumbang Banyuasin. This research is expected to contribute theoretically to the study of transformational leadership in educational management and serve as a practical reference for principals and policymakers seeking to implement deep learning effectively and sustainably (Agung & Rosmaladewi, 2025).

B. Methods

This study employs a qualitative approach with a descriptive case study design. It aims to provide an in-depth description of the planning and execution of the principal's transformational management, identify the challenges encountered, and analyze the solutions implemented regarding the adoption of deep learning at SDN 10 Air Kumbang, Banyuasin. Data credibility was ensured through source triangulation, technique triangulation, prolonged engagement, peer debriefing, and member checking. Data were analyzed using the interactive model of Miles, Huberman, and Saldaña, consisting of data condensation, data display, and conclusion drawing.

A qualitative approach was selected because the study focuses on understanding social phenomena and managerial processes within the school's natural setting (Azizah et al., 2026). The case study design was utilized to gain a comprehensive overview of transformational leadership practices at the specific research site (Agung & Rosmaladewi, 2025).

Research Site and Participants

The research was conducted at SDN 10 Air Kumbang Banyuasin, Banyuasin Regency, South Sumatra, Indonesia. Research informants were selected using a purposive sampling technique, taking into account their direct involvement in the implementation of deep learning. The research informants consisted of:

1. One school principal;
2. Six homeroom teachers;
3. Three subject teachers.

The total number of research participants is 10.

Data Collection Techniques

Research data were collected using three primary techniques:

1. In-depth interviews, to obtain information regarding the planning, implementation, challenges, and solutions associated with the principal's transformational management.
2. Non-participant observation, to directly observe the implementation of in-depth learning, academic supervision, and interactions among members of the school community.
3. Document analysis, to examine supporting documents such as the School Work Plan (RKS), School Activity and Budget Plan (RKAS), academic supervision programs, meeting minutes, and teacher professional development records.

Trustworthiness of Data

Data validity was tested using four qualitative research criteria:

1. Credibility;
2. Transferability;
3. Dependability;
4. Confirmability.

Data Analysis Technique

The data analysis technique employed in the study on the Principal's Transformational Management in the Implementation of Deep Learning at SDN 10 Air Kumbang is the Miles and Huberman interactive analysis model. Data analysis was conducted through three main stages: data reduction, data display, and conclusion drawing/verification.

1. Data Reduction
Selecting, focusing, and simplifying data obtained from observations, interviews, and documentation regarding the principal's transformational management, teacher performance, and the implementation of deep learning.
2. Data Presentation
Presenting the reduced data in the form of descriptive narratives, tables, or matrices to facilitate the researcher's understanding of patterns, relationships, and research findings.
3. Conclusion Drawing and Verification
Drawing conclusions based on emerging patterns and themes, and conducting continuous verification to ensure the validity and credibility of the research results.

C. Results and Discussion

1. Transformational Management Planning by School Principals for the Implementation of Deep Learning

The research findings indicate that the principal of SDN 10 Air Kumbang has systematically implemented transformational management planning to support the

application of deep learning. This planning was carried out by formulating a school vision, mission, and set of goals oriented toward developing 21st-century competencies and fostering student-centered learning (Rahayuti et al., 2026). The concept of deep learning was integrated into key school planning documents—such as the School Work Plan (RKS), the School Activity and Budget Plan (RKAS), teacher professional development programs, and academic supervision programs. The principal also actively involved teachers in the program development process through coordination meetings and learning communities (Yakob et al., 2025).

Involving teachers in the planning process demonstrates transformational leadership practices that emphasize participation, empowerment, and the creation of a shared vision. These findings align with Terry's (2010) management theory, which asserts that planning is a primary management function for determining organizational goals and strategies (Adeoye & Ainnubi, 2023). The results also support the views of Leithwood and Jantzi (2000), who state that transformational leaders can build organizational commitment through a shared vision and individual empowerment. Furthermore, Fullan et al. (2018) explain that successful deep learning requires collaborative planning that integrates school policies with classroom instructional practices (Beyene, 2016).

2. Implementation of Transformational Management by School Principals in the Application of Deep Learning

Transformational management is implemented through the provision of motivation, academic supervision, teacher competency development, and the strengthening of a collaborative culture. Principals conduct academic supervision using coaching and reflection approaches, enabling teachers to receive constructive feedback to enhance the quality of instruction. Teachers are encouraged to adopt instructional strategies that foster critical thinking, collaboration, creativity, and reflection, in alignment with the principles of deep learning (Yakob et al., 2025).

A collaborative culture is cultivated through regular meetings, group discussions, and teacher learning communities. These activities provide a platform for teachers to share experiences, resolve instructional challenges, and collaboratively develop innovations. Research findings indicate that principals have implemented the four dimensions of transformational leadership proposed by Bass and Avolio (1994): idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Sustained educational change requires strong instructional leadership, a collaborative culture, and the development of collective capacity (Yakob et al., 2025).

3. Challenges in the Planning and Implementation of Transformational Management

Although the implementation of transformational management has proceeded reasonably well, this study identified several obstacles affecting the effectiveness of implementing deep learning. First, teachers' understanding of the deep learning concept remains uneven; some still employ conventional teaching methods focused on content delivery and meeting curriculum targets (Lagarensen et al., 2025). Second, teacher readiness to embrace change is suboptimal, as variations in competence, experience, and adaptability

have led to inconsistent implementation of deep learning. Third, the execution of academic supervision is suboptimal due to time constraints and the heavy administrative workload borne by school principals (Ermita & Baysa, 2025). Fourth, limited technological facilities and infrastructure hinder the support of innovative and interactive learning. Fifth, a collaborative school culture has not yet fully developed, resulting in inconsistent teacher participation in professional development activities (Agung & Rosmaladewi, 2025).

4. Solutions for Overcoming Challenges in Implementing Deep Learning

To address these various challenges, the school principal implemented strategies focused on strengthening both individual and organizational capacity. First, the principal enhanced leadership competence through training, workshops, and professional development activities to effectively understand and guide the implementation of deep learning (Barokah et al., 2025). Second, teacher competence was developed through continuous training, mentoring, workshops, and the strengthening of professional learning communities. This program aimed to improve teachers' ability to design instruction that fosters active student engagement and the development of higher-order thinking skills (Shava & Heystek, 2021).

Third, academic supervision was optimized through reflective and coaching approaches, ensuring teachers received more meaningful and ongoing feedback. The principal also strengthened communication and coordination among teachers to foster more effective collaboration in resolving various instructional challenges (Ghamrawi et al., 2024). Fourth, the school strives to optimize the use of available facilities and infrastructure while fostering partnerships with various stakeholders to support learning needs. The principal also employs a persuasive and participatory approach to address resistance to change by involving teachers in decision-making processes (Sliwka et al., 2024).

Fifth, the principal strengthens a collaborative culture through open communication, teamwork, and teacher involvement in decision-making (Mustaqim et al., 2025). These findings support the view that transformational leaders act as agents of change by empowering organizational members and creating an innovative environment. The results also align with the assertion that successful educational transformation requires the integration of leadership, teacher development, and organizational support (Ermita & Baysa, 2025).

Overall, the research findings indicate that the principal's transformational management plays a crucial role in supporting the implementation of deep learning at SDN 10 Air Kumbang. The principal's ability to establish a shared vision, empower teachers, conduct reflective supervision, and foster a collaborative culture has proven to contribute to improved learning quality (Saputra & Koswara, 2026). Nevertheless, the successful implementation of deep learning still requires ongoing support in the form of enhanced teacher competence, strengthened facilities and infrastructure, and policies that foster instructional innovation (Istiqomah & Mardiana, 2026).

This study expands the body of research on transformational leadership by integrating transformational leadership theory with POAC management functions within the context

of deep learning at the primary school level. Unlike previous studies that focused primarily on the impact of leadership on teacher performance or organizational culture, this research provides a more comprehensive overview of the planning, implementation, challenges, and solutions associated with deep learning (Sliwka et al., 2024). Thus, transformational management is understood not merely as a leadership style, but also as a strategic approach to managing educational change in order to create innovative, active, and learner-centered instruction (Lestari et al., 2021).

Table 1 Summary of Transformational Management Strategies, Their Implementation, and Impact on Deep Learning

Transformational Management Strategy	Implementation	Impact on Deep Learning
Shared Vision Development	Collaborative school planning	Common understanding of deep learning
Teacher Empowerment	Professional development and mentoring	Improved teacher competence
Reflective Supervision	Academic Coaching and continuous feedback	Better instructional quality
Change Management	Encouraging innovation and adaptation	Increased readiness for educational change
Collaborative School Culture	Teamwork and participatory decision-making	Stronger teacher collaboration

The findings indicate that transformational management functions not only as a leadership approach but also as a comprehensive management strategy integrating planning, implementation, supervision, and continuous evaluation. The principal's ability to empower teachers, facilitate collaborative learning communities, and strengthen reflective supervision contributes significantly to the successful implementation of deep learning. These findings support transformational leadership theory, which emphasizes organizational learning, shared vision, and continuous professional development as key drivers of educational innovation.

D. Conclusions

This study concludes that transformational management plays a strategic role in supporting the implementation of deep learning through participatory planning, teacher empowerment, reflective academic supervision, collaborative culture, and effective change management. These management practices improve teacher readiness, instructional innovation, and the quality of student-centered learning. However, sustainable implementation requires continuous professional development, adequate educational facilities, and supportive educational policies. This study contributes to educational management by proposing the integration of transformational leadership and POAC management functions as a practical framework for managing educational transformation in primary schools. Future research is recommended to examine this model in different educational contexts using comparative or mixed-method approaches.

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