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Learning Management To Create Interactive Classes In The Implementation Of In-Depth Learning At SD Negeri 009 Balikpapan Tengah

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Abstract

The implementation of deep learning in elementary schools requires learning management that is capable of creating interactive classes, but learning practices still face challenges such as low student participation, suboptimal time management, and limitations in building multidirectional interactions. This study aims to analyze and describe learning management in realizing interactive classes in the implementation of deep learning at SD Negeri 009 Balikpapan Tengah. This study uses a qualitative approach with a case study design. Research data were obtained through learning observations, semi-structured interviews with the principal, teachers, and students, as well as documentation of teaching modules and student portfolios. Data were analyzed using the interactive model of Miles, Huberman, and Saldana through the stages of data reduction, data presentation, and drawing conclusions with validation through triangulation of sources, techniques, and theories. The results of the study indicate that the applied learning management includes planning through the preparation of teaching modules based on trigger questions and higher-order thinking skills (HOTS), class organization through spatial arrangement and the formation of heterogeneous learning groups, implementation of learning based on multidirectional interactions through problem-solving and collaboration strategies, and evaluation through supervision and learning reflection. The main obstacles identified were time constraints and differences in student engagement levels, which were addressed through schedule management, teacher mentoring, and scaffolding strategies. This study concluded that systematic, adaptive, and student-engagement-oriented learning management is a crucial factor

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in creating interactive classes and supporting the successful implementation of immersive learning in elementary schools.

Keywords: Learning Management, Interactive Classroom, Deep Learning, Elementary School, Independent Curriculum

INTRODUCTION

The development of the 21st-century educational paradigm has brought about fundamental changes in the orientation of learning in elementary schools. Education is no longer solely focused on memorizing information, but has transformed toward developing critical thinking, creativity, communication, collaboration, and contextual problem-solving skills. This change has intensified with the emergence of demands for learning that builds deep understanding through active and meaningful learning experiences. The transformation of modern education also emphasizes the importance of in-depth learning, which is oriented not only toward content mastery but also toward developing global competencies such as creativity, communication, collaboration, and critical thinking skills in students (Fullan et al., 2021). Globally, education systems in various countries are shifting from conventional teacher-centered learning approaches to student-centered learning (Zhao et al., 2021). This transformation demonstrates that the success of modern education is determined not only by the availability of curriculum and learning resources, but also by the ability of educational institutions to manage the learning process effectively.

In the elementary school context, the need for interactive learning is increasingly crucial because students are at a stage of cognitive development that requires concrete, collaborative learning experiences and social interaction. Learning that emphasizes only one-way delivery of material has the potential to lead to low student engagement, limited opportunities for critical thinking, and underdeveloped reflective skills. Student engagement in learning is a crucial indicator of the success of pedagogical transformation because it demonstrates students' behavioral, emotional, and cognitive involvement during the learning process (Bond et al., 2021). Research shows that implementing interactive learning models can improve elementary school students' learning activities and outcomes by providing space for students to discuss, ask questions, explore ideas, and construct their own understanding of the concepts being studied (Kasmiati et al., 2023). Therefore, creating an interactive classroom is not only related to the use of specific learning methods but also requires systematic and sustainable learning management.

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Theoretically, the concept of learning management is based on educational management theory, which views learning as a system that must be managed through planning, organizing, implementing, and evaluating. Learning management positions teachers as managers responsible for optimizing all learning resources to achieve educational goals. Gemnafle and Batlolona (2021) explain that learning management is the process of managing learning activities, encompassing the development of learning plans, organizing the learning environment, implementing learning strategies, and systematically evaluating learning outcomes. Therefore, the quality of learning is determined not only by the teacher's pedagogical competence in delivering material but also by their ability to manage interactions, create a conducive learning environment, and conduct reflective evaluations. Learning effectiveness is greatly influenced by the teacher's ability to design a learning environment that supports interaction, feedback, and active student involvement (Hattie, 2021).

The development of modern learning theory has broadened understanding of learning management through the concept of deep learning. Unlike surface learning, which focuses on memorization, deep learning emphasizes the process of comprehensively understanding concepts through connecting new knowledge with students' real-life experiences. In its implementation, deep learning at the elementary school level is developed through three main principles: mindful learning, meaningful learning, and joyful learning. Mindful learning emphasizes student awareness in understanding the learning process, meaningful learning connects material to real-life contexts, while joyful learning creates a pleasant learning atmosphere and encourages active student participation (Assidiqi et al., 2026). Meaningful learning occurs when students are able to connect new knowledge with prior experiences through interaction, reflection, and the active construction of understanding (Garrison & Vaughan, 2022). These three principles demonstrate that deep learning requires classroom management strategies that create space for interaction, exploration, and reflection.

The implementation of immersive learning in primary education still faces various challenges. One major issue is the persistence of predominantly teacher-centered learning practices, limiting students' opportunities for active participation in the learning process. Furthermore, teachers' limited ability to design experiential learning, manage learning time, and integrate technology also hinders the creation of interactive classrooms. Research by Hariyono et al. (2025) shows that implementing immersive learning in Indonesia requires school management preparedness, teacher competence, facility support, and a shift in learning culture for optimal implementation. Hartanto et al. (2025) also found that managing digital-based immersive learning requires an integration of pedagogical strategies, learning technology, and teacher managerial

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skills.

These issues become increasingly complex at the elementary school level due to the characteristics of students who are still in the concrete operational development stage. At this stage, students require learning that involves direct experience, the use of relevant media, and intensive social interaction. Therefore, teachers act not only as conveyors of information but also as facilitators and managers of learning environments that can encourage student engagement. Research on the analysis of learning problems in elementary school-aged children shows that learning environment factors, learning strategies, and teacher-student interaction patterns have a significant influence on student motivation and learning success (Mudli'ah et al., 2023). This situation demonstrates that the successful implementation of in-depth learning is highly dependent on the quality of learning management applied at the classroom level.

In the Indonesian context, the Independent Curriculum policy provides greater space for schools and teachers to develop student-centered learning through a differentiated approach, project-based learning, and character strengthening of the Pancasila Student Profile. However, implementing this policy requires teachers' managerial skills in designing flexible learning that is tailored to students' needs. Sopia et al. (2025) explain that curriculum management in elementary schools requires coordination between the principal, teachers, and all school components for effective learning. Therefore, learning management is a strategic aspect in bridging education policy with classroom learning practices.

Elementary School 009 Balikpapan Tengah is an interesting elementary education context to study because the school has attempted to implement an immersive learning approach as part of its transformation of learning quality. Based on the thesis, the implementation of immersive learning at the school is not positioned as a replacement for the curriculum, but as a pedagogical foundation for improving the quality of learning interactions. The integration of immersive learning is carried out through the management of three main pillars: mindful learning, meaningful learning, and joyful learning, which are aligned with the learning outcomes of the Independent Curriculum. In practice, teachers develop learning plans through the preparation of teaching modules, organizing interactive classroom environments, implementing problem-solving-based learning strategies, and conducting formative evaluations to determine student engagement.

Although various studies have addressed interactive learning, classroom management, and immersive learning separately, there remains a research gap regarding how the overall learning management function is used as a strategy to create interactive classrooms in the implementation of immersive learning at the elementary school level. Previous studies have

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focused more on the effectiveness of specific learning models on student learning outcomes (Kasmiati et al., 2023) or discussed the integration of technology in immersive learning (Hartanto et al., 2025), while studies on the relationship between teacher management processes and classroom ecosystem transformation are relatively limited. Therefore, this study offers novelty through an integrative approach that analyzes how the planning, organizing, implementing, and evaluating of learning are constructed to create an interactive immersive learning classroom. This approach not only views learning from the academic aspect but also examines how the learning management system can foster active student engagement and create meaningful learning experiences.

Based on this background, this study aims to analyze learning management in realizing interactive classes in the implementation of deep learning at SD Negeri 009 Balikpapan Tengah. This study is expected to provide theoretical contributions to the development of educational management studies, particularly regarding deep learning-based learning management strategies, as well as provide practical implications for teachers and schools in developing interactive, adaptive, and student-oriented learning environments.

RESEARCH METHODOLOGY

This study employed a qualitative research design with a case study approach to gain a comprehensive understanding of learning management practices in realizing interactive classrooms within the implementation of immersive learning at SD Negeri 009 Balikpapan Tengah. A qualitative approach was chosen because this study seeks to explore educational phenomena in depth based on the experiences, perceptions, and actual practices of learning actors within the natural context of the school. Case studies allow researchers to conduct an intensive study of a particular phenomenon by considering the characteristics of the environment, processes, and interactions that occur within it (Yin, 2021). The case study approach in educational research allows for in-depth exploration of the processes, experiences, and social contexts that influence a particular educational practice (Hamilton & Corbett-Whittier, 2021). In educational research, the case study approach is widely used to understand the process of learning change because it can reveal the relationship between school policies, teacher practices, student engagement, and contextual factors that influence the success of learning implementation (Ravitch & Carl, 2021). This study specifically examines how the planning, organizing, implementing, and evaluating learning are carried out to create an interactive classroom environment that supports immersive learning. This focus is in accordance with the research design in the thesis which identifies aspects of learning management including planning, organizing, actuating, and controlling in the

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application of in-depth learning.

The research location was SD Negeri 009 Balikpapan Tengah, Balikpapan City, East Kalimantan Province. The location was selected purposively because the school has implemented the Independent Curriculum with an immersive learning approach, thus possessing characteristics relevant to the research objectives. This study not only examines the learning process from the aspect of teaching and learning implementation but also analyzes how the learning management system is built to create classes that involve active interaction between teachers and students. The selection of the elementary school context is also based on the importance of developing meaningful learning experiences from the elementary level, particularly in developing critical thinking skills, collaboration, and active student engagement (Darling-Hammond et al., 2022). In the thesis that serves as the basis for this research, this location was chosen because the implementation of the Independent Curriculum is relatively new, necessitating a study to determine the extent to which the implementation of immersive learning can support the creation of an effective and enjoyable learning environment.

The research subjects were determined using purposive sampling, selecting informants based on their direct involvement and ability to provide information relevant to the research focus. The informants consisted of principals, teachers, and students because all three groups have direct experience with the learning management process and classroom interactions. Principals were selected as informants because they play a role in policy development and institutional support for the implementation of in-depth learning; teachers were chosen because they serve as the primary implementers of learning strategies; and students were chosen as those who directly experience the interactive learning process. Purposive selection of informants aligns with the characteristics of qualitative research, which prioritizes depth of information over the number of participants (Creswell & Creswell, 2023). Through the involvement of these diverse perspectives, the research was able to obtain a comprehensive picture of how learning management strategies are implemented and how students respond to changes in learning patterns.

The data sources in this study consisted of primary and secondary data. Primary data were obtained through direct observation of classroom learning processes and in-depth interviews with the principal, teachers, and students. Observations were conducted to identify ongoing learning practices, teacher-student interaction patterns, learning strategies used, and the level of student engagement during learning activities. Based on research documents, observations were directed at observing teacher-student interactions, learning strategies, and student engagement during learning. In addition to observations, interviews were used to obtain information regarding the

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learning planning process, the use of learning modules, strategies for creating interactive classes, and supporting factors and barriers to implementing immersive learning. The interview instruments in this study involved the principal, teachers, and students, with indicators related to planning, organizing, actuating, and evaluating learning. Secondary data were obtained through documentation in the form of learning tools, learning modules, school documents, and various supporting documents related to the implementation of the Independent Curriculum and immersive learning.

Data analysis was conducted using the interactive analysis model of Miles, Huberman, and Saldaña, which includes data condensation, data display, and conclusion drawing/verification (Miles et al., 2020). Qualitative data analysis requires a systematic interpretation of patterns, categories, and relationships between findings so that researchers can gain a deep understanding of the phenomena being studied (Kiger & Varpio, 2020). The data condensation stage was carried out by selecting, focusing, and organizing data from observations, interviews, and documentation based on the research themes, namely learning management, interactive classes, and the implementation of in-depth learning. Next, the data was presented in the form of a narrative description so that the relationships between findings could be systematically understood. The final stage was carried out through an interpretation and verification process to obtain conclusions regarding the learning management strategies implemented by the school in creating interactive classes. Data validity was maintained through source triangulation techniques and techniques by comparing information from the principal, teachers, students, observation results, and learning documents. The triangulation approach is used to increase the credibility of qualitative research because it allows researchers to gain an understanding of phenomena from multiple perspectives (Creswell & Poth, 2021). The credibility of qualitative research can be strengthened through transparency of analysis, checking data consistency, and the use of validation strategies such as source and technique triangulation (Nowell et al., 2021).

RESULTS AND DISCUSSION

Research result

Research on Learning Management to Create Interactive Classrooms in the Implementation of Deep Learning at SD Negeri 009 Balikpapan Tengah shows that the learning transformation process is not only influenced by the application of certain learning methods, but is highly dependent on how the learning management function is implemented systematically. Based on the results of observations, in-depth interviews, and documentation, it was found that the implementation of deep learning at SD Negeri 009 Balikpapan Tengah was carried out through

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the integration of learning management functions which include planning, organizing, implementing, and monitoring and evaluating. These four functions are the basis for building interactive classes that encourage active student involvement.

The research results show that the immersive learning implemented at SD Negeri 009 Balikpapan Tengah is not interpreted as a curriculum change, but as a pedagogical approach used to improve the quality of learning interactions. The implementation of immersive learning is guided by three main principles: mindful learning, meaningful learning, and joyful learning. These three principles are integrated with the Independent Curriculum through the development of learning tools, classroom management, student activity-based learning strategies, and reflective evaluation.

Learning Planning in Creating Interactive Classes

The research results show that the initial stage of learning management is carried out through learning planning oriented to student needs. Teachers develop teaching modules by considering learning outcomes, learning objectives, student characteristics, and learning activities that can encourage student engagement. Learning planning focuses not only on delivering material but is also designed to enable students to develop critical thinking skills through stimulating questions, discussion activities, and problem-solving.

Based on the interview results, the teacher developed learning materials by considering the students' life contexts so that the material presented didn't stop at conceptual understanding but could be linked to real-life experiences. This approach aligns with the principle of meaningful learning, which connects new knowledge with students' experiences and surroundings. In this study, the school environment was also utilized as a concrete learning resource to increase student engagement.

Learning planning also demonstrates a paradigm shift in the teacher's role. Teachers no longer merely deliver material but also design learning experiences. The developed learning modules accommodate collaboration, reflection, and exploration, giving students the space to construct their own understanding.

Organizing Learning and Classroom Management

In the organizational stage, research found that teachers employ various strategies to create a classroom environment that supports interaction. Organizational planning involves not only arranging the physical classroom space but also managing study groups, dividing activities, and scheduling learning time.

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Observations show that classroom management patterns are shifting from conventional, teacher-centered models to more flexible and collaborative ones. Teachers are arranging student learning positions to facilitate communication between students through group discussions and problem-solving activities.

Classroom organization is also aimed at creating a safe and inclusive learning environment. This is related to the principle of joyful learning, which aims to create enjoyable learning experiences so that students have the courage to express their opinions, ask questions, and interact without fear of making mistakes. Research findings indicate that interactive classroom management is one factor supporting two-way communication between teachers and students.

Implementation of Interactive Learning Based on Deep Learning

The implementation phase of the learning process demonstrated that teachers implemented learning strategies that placed students at the center of learning activities. Based on observations, learning activities were conducted through group discussions, problem-solving, question-and-answer sessions, presentations, and reflection activities. These strategies provided opportunities for students to develop higher-order thinking skills (HOTS).

The implementation of immersive learning is evident in changes in classroom interaction patterns. Teachers no longer dominate the entire learning process, but instead act as facilitators, providing direction, prompting questions, and providing support when students encounter difficulties. Meanwhile, students are given the opportunity to explore ideas, present arguments, and build understanding through experiential learning.

In the learning process, the principle of mindful learning is evident through teachers' efforts to pay attention to students' readiness to learn and their characteristics. Teachers create space for students with varying abilities to remain engaged in learning. This demonstrates that in-depth learning is implemented through a differentiated approach that takes into account student diversity.

Evaluation and Supervision of Learning

The research results show that the evaluation function is carried out through academic supervision, learning reflection, and documentation of student development. The principal plays a role in overseeing the alignment between learning plans and classroom practice.

Based on interviews, principal supervision is not solely a form of administrative control, but rather a process of professional mentoring for teachers. Principals observe learning, provide feedback, and discuss learning improvement strategies with teachers.

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Teachers stated that supervision results helped improve classroom management, particularly in refining questioning techniques and strategies for increasing student engagement. This data was supported by documentation in the form of academic supervision notes and student reflection portfolios, which demonstrated a continuous learning evaluation process.

Supporting and Inhibiting Factors in the Implementation of Learning Management

The research results show that the successful implementation of learning management is supported by several factors, namely principal leadership, teacher readiness to implement learning innovations, support for the Independent Curriculum, and a school environment that fosters collaborative activities. Principals play a crucial role in providing direction, facilitating teacher competency development, and creating a school culture that supports in-depth learning.

However, research has also identified several obstacles in implementing interactive, immersive learning-based classes. The main obstacles identified are limited learning time and students' adaptation to learning patterns that require higher-order thinking skills.

The teacher explained that in-depth learning requires more time because students need to go through a process of discussion, argumentation, and reflection. This situation means that some learning stages sometimes require adjustments in time.

In addition to time constraints, it was also found that some students still had difficulty adapting to a culture of open communication. In the early stages of implementing interactive learning, students with high self-confidence tended to be more dominant, while passive students still needed guidance to express their opinions.

To overcome these obstacles, schools have implemented several strategies, such as adjusting learning time management, integrating learning themes, providing teacher support, and gradually providing opportunities for students to actively participate. These strategies demonstrate that implementing immersive learning requires a continuous process of adaptation.

CONCLUSION

Based on the results of research on Learning Management to Create Interactive Classrooms in the Implementation of Deep Learning at SD Negeri 009 Balikpapan Tengah, it can be concluded that learning management plays a crucial role in creating interactive classes that support deep learning. Learning planning carried out by teachers through the preparation of teaching modules has been directed at the needs of students by integrating activities that encourage engagement, collaboration, and meaningful understanding. Learning organization is carried out through class management, study group arrangements, and management of learning

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activities that support the creation of interactions between teachers and students.

The implementation of interactive learning demonstrates that teachers act as facilitators, encouraging active student participation through discussion, collaboration, exploration, and reflection, enabling in-depth learning. Learning evaluation is conducted through observation, reflection, and follow-up on student engagement. The success of this implementation is supported by school leadership, teacher readiness, and support for the implementation of the Independent Curriculum, although obstacles remain, such as student adaptation and the need for more effective learning time management. Therefore, continuous strengthening of learning management is key to realizing interactive classrooms that enhance the quality of students' learning experiences.

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