

Teachers' perceptions of deep learning at SMK Wikarya Karanganyar: a phenomenological study

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Abstrak

Pembelajaran mendalam menjadi salah satu pendekatan yang semakin mendapat perhatian dalam dunia pendidikan, khususnya pada pendidikan vokasi yang menekankan pengembangan kemampuan berpikir kritis, pemecahan masalah, dan pemahaman konseptual yang bermakna. Implementasinya di sekolah masih dipengaruhi berbagai faktor, termasuk persepsi guru sebagai pelaksana utama pembelajaran. Penelitian ini bertujuan untuk (1) mengetahui persepsi guru SMK Wikarya Karanganyar tentang pembelajaran mendalam, (2) mengidentifikasi faktor-faktor yang memengaruhi persepsi tersebut, dan (3) menggali pengalaman guru dalam menerapkannya di kelas. Penelitian ini menggunakan pendekatan kualitatif dengan metode fenomenologi. Informan penelitian berjumlah lima orang guru. Data dikumpulkan melalui wawancara mendalam, observasi kelas, dan studi dokumen, kemudian dianalisis menggunakan analisis tematik Braun dan Clarke. Hasil penelitian menunjukkan bahwa (1) guru memaknai pembelajaran mendalam sebagai pembelajaran bermakna yang mengaitkan materi dengan konteks nyata; (2) persepsi guru dipengaruhi faktor internal, karakteristik siswa, dan lingkungan sekolah; serta (3) pengalaman guru diwujudkan melalui pembelajaran aktif, tugas berbasis proyek, refleksi, dan penyesuaian strategi pembelajaran.

Kata kunci: pemahaman konseptual; pendidikan vokasi; pengembangan profesional pendidik; refleksi pedagogis

Abstract

Deep learning is an instructional approach receiving increasing scholarly and policy attention, particularly in vocational education, which emphasizes critical thinking, problem-solving, and meaningful conceptual understanding. Its implementation remains shaped by contextual factors, most notably teachers' perceptions as primary classroom agents. This study aimed to (1) examine teachers' perceptions of deep learning at SMK Wikarya Karanganyar, (2) identify the factors shaping those perceptions, and (3) explore teachers' lived experiences of implementing it in the classroom. A qualitative phenomenological approach was employed. Five teachers were selected as primary informants through purposive sampling. Data were gathered via semi-structured in-depth interviews, classroom observations, and document

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analysis, then analyzed using Braun and Clarke's thematic analysis framework. The findings reveal that (1) teachers interpret deep learning as instruction that connects subject matter to real-life and occupational contexts; (2) perceptions are influenced by internal professional factors, student characteristics, and the school environment; and (3) teachers' experiences are manifested through active learning, project-based tasks, reflective practices, and adaptive instructional strategies. These findings carry theoretical and practical implications for vocational teacher professional development programs and school-level instructional policy.

Keywords: conceptual understanding; reflective practice; teacher professional development; vocational education

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Introduction

Deep learning has become one of the key instructional approaches emphasized in national education policy as a means of enhancing learning quality across primary and secondary education. It is understood as a learning process that prioritizes meaningful comprehension, inter-conceptual connectivity, and the capacity of students to relate and apply knowledge to real-world and professional contexts (Kementerian Pendidikan Dasar dan Menengah [Kemendikdasmen], 2025). This approach is not merely oriented toward subject matter mastery; it equally emphasizes reflective processes and the cultivation of critical thinking as integral dimensions of meaningful learning (Mahardika & Jaya, 2025).

In the context of vocational education specifically Vocational Secondary Schools (Sekolah Menengah Kejuruan/SMK) deep learning plays a strategically significant role in preparing students for the challenges of the Industry 4.0 and Society 5.0 era. SMK graduates are not only expected to possess technical competencies, but also adaptive, creative, and problem-solving capacities for the world of work. Deep learning aligns with the development of 21st-century skills encapsulated in the 4C framework critical thinking, creativity, collaboration, and communication which constitute essential competencies for professionally competitive SMK graduates (Hastutiningsih, 2024; Tisa et al., 2024).

The successful implementation of deep learning is substantially shaped by teachers' perceptions, given their central role as the primary agents of the instructional process. Teachers' perceptions encompass their conceptual understanding of deep learning, their evaluative attitudes toward its benefits, and their readiness to integrate this approach into classroom practice. Teachers who hold positive perceptions of deep learning tend to be more receptive to instructional innovation and pedagogical reflection, whereas variability in understanding and professional readiness may constitute an inhibiting factor in the optimal implementation of deep learning (Rahmawati et al., 2023).

Numerous international studies have likewise documented that the implementation of deep learning in vocational education continues to face significant challenges, including limited teacher understanding of higher-order thinking-based instruction, insufficient professional development support, and inadequate integration between classroom learning and occupational contexts. These conditions have resulted in suboptimal practice of conceptual understanding-oriented and problem-solving instruction across various national settings. Such findings underscore the importance of examining how teachers make meaning of and enact deep learning in order to understand the dynamics of instructional practice, particularly within vocational education contexts (OECD, 2021; Voogt et al., 2022; Fullan et al., 2017).

SMK Wikarya Karanganyar represents one vocational school that has undertaken efforts to implement deep learning in its instructional processes. However, preliminary observations and

interviews with several informants revealed divergent teacher perceptions regarding the application of this approach. Some teachers regarded deep learning as an effective strategy for enhancing student engagement and understanding, while others continued to encounter challenges in lesson planning, the selection of instructional methods and media, and the execution of learning assessment. This situation indicates that the implementation of deep learning has not yet fully aligned with expected conceptual standards and continues to require adjustment in classroom instructional practice.

Consistent with these conditions, prior research has demonstrated that teachers' perceptions of deep learning remain diverse. Some teachers regard the approach as effective in improving learning quality, while others require substantial adaptation in planning and implementation (Sari et al., 2021; Rahmi et al., 2023). Furthermore, some teachers have not fully internalized the deep learning framework, resulting in varied levels of readiness for classroom implementation (Khotimah & Abdan, 2025).

The present study offers a novel contribution in that it not only examines teachers' perceptions of deep learning but also explores teachers' actual experiences of implementing this approach in the classroom and identifies the factors shaping those perceptions in a vocational education context. Prior studies have generally emphasized normative or implementation dimensions such as instructional strategies and institutional enabling factors rather than delving into how teachers subjectively make meaning of their day-to-day deep learning practice (Sari et al., 2021; Rahmi et al., 2023). This study foregrounds teachers' subjective interpretations of deep learning through a phenomenological lens, examining not only instructional implementation but also teachers' experiences, reflections, and the factors that constitute their perceptions of deep learning within vocational education.

Research Methods

This study employed a qualitative approach underpinned by a phenomenological method. The qualitative approach was selected because the study aimed to develop a deep understanding of the meanings, experiences, and perceptions of teachers regarding the implementation of deep learning. The phenomenological method was adopted to explore the lived experience of teachers in implementing deep learning in the classroom, and to illuminate how they make meaning of that practice within a vocational learning context. The study was conducted at SMK Wikarya Karanganyar, Karanganyar Regency, Central Java Province. This research site was selected on the grounds that the school had already undertaken deep learning implementation, yet teacher understanding and practice in that implementation remained varied. The study was carried out from July to December 2025, encompassing a preparation phase, field data collection, and data analysis.

Research participants were determined using purposive sampling. The primary informants were teachers at SMK Wikarya Karanganyar who had participated in deep learning professional training and were actively implementing it in their classrooms. Informant selection criteria included: (1) teaching in the office administration vocational program; (2) possessing a minimum of two years of teaching experience; (3) having implemented deep learning for at least one semester; and (4) willingness to actively participate in the research process. Supporting informants comprised the principal, the vice-principal for curriculum affairs, and other teachers knowledgeable about deep learning policy and implementation at the school. The total number of informants in this study was five.

Data collection was conducted through semi-structured in-depth interviews, classroom observation, and document analysis. In-depth interviews were conducted one to two times with each informant, with each session lasting 45-60 minutes, to elicit teachers' perceptions, experiences, and reflections regarding deep learning. Classroom observations were conducted directly during instructional activities to examine how deep learning was enacted, while document analysis was used to corroborate data through lesson plans, instructional materials, evaluation notes, and other supporting documents. The entire data collection process spanned approximately four months.

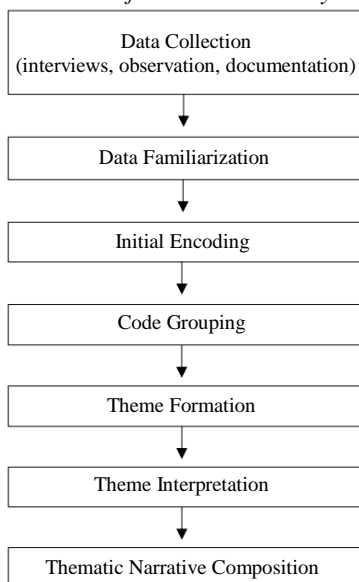
Data trustworthiness was ensured through the application of Lincoln and Guba's trustworthiness criteria, encompassing credibility, transferability, dependability, and confirmability. Credibility was maintained through technique triangulation and member checking. Transferability was addressed by providing a detailed description of the research context; dependability was ensured

through an audit trail; and confirmability was maintained through consultations with the research supervisor and academic peers to minimize researcher bias.

In qualitative research, the researcher's positionality plays an important role in data collection and interpretation. The researcher in this study is a student in the Office Administration Education program with a focused interest in deep learning within vocational education. This position afforded the researcher an initial familiarity with the SMK learning context, but also introduced the potential for interpretive bias. The researcher engaged in reflexive self-examination throughout the research process and maintained objectivity through technique triangulation, supervisory consultation, and peer debriefing. These measures were undertaken to minimize subjectivity and to ensure that data interpretation remained grounded in the informants' own experiences and perspectives.

Figure 1 illustrates the thematic analysis procedure adopted in this study, drawing on Braun and Clarke's (2021) model.

Figure 1
Schematic of the thematic analysis process



Data analysis was conducted using Braun and Clarke's (2021) thematic analysis framework to identify, analyze, and interpret patterns of meaning (themes) emerging from the data. The analysis proceeded through six sequential phases. The first phase involved data familiarization repeated reading and immersion in interview transcripts, observation notes, and field documents. The second phase entailed initial coding, whereby relevant data segments were assigned descriptive codes aligned with the research focus. The third phase involved the grouping of codes into themes by organizing codes sharing conceptual commonality into broader categories. The fourth phase comprised theme review and refinement, in which the coherence between emerging themes and the overall dataset was critically evaluated. The fifth phase entailed theme definition and naming, whereby each identified theme was assigned a conceptual meaning. The final phase involved the construction of a thematic narrative presenting the analytical findings as a descriptive account of teachers' perceptions and experiences of deep learning.

Result and Discussion

Research Result

The findings of this study were derived from in-depth interviews with teachers at SMK Wikarya Karanganyar, classroom observations, and document analysis of lesson plans and other

supporting materials. The data indicate that teachers' perceptions of deep learning were shaped by their teaching experiences, interactions with students, and the distinctive characteristics of vocational education at the SMK level. These perceptions were not monolithic but developed through several interrelated thematic constructs. Three primary themes emerged from the analysis: (1) teachers' conceptual interpretation of deep learning, (2) teachers' classroom experiences of implementing deep learning, and (3) factors shaping teachers' perceptions.

Theme 1: Teachers' Perceptions of Deep Learning

The findings indicate that teachers interpreted deep learning as a learning process that demands active student engagement in comprehending subject matter. Teachers viewed deep learning not merely as content delivery, but as a thinking process that encourages students to understand, process, and connect material to their existing knowledge and prior learning experiences. Teachers also conceptualized deep learning as an inherently non-instantaneous process one that unfolds gradually and demands consistency in its implementation.

Additionally, teachers regarded deep learning as a process that requires students to be ready to apply learned concepts. Student understanding was assessed not only in terms of theoretical mastery, but through the capacity to apply concepts across different contexts. Teachers further interpreted deep learning as a transformation in student learning behaviour from passivity toward active engagement, intellectual curiosity, and participatory involvement in the learning process. One informant articulated this understanding as follows: "Deep learning, in my view, is not simply about delivering content, but about how students genuinely understand that material and are able to connect it to their daily lives and to the world of work." (Informant 1)

Theme 2: Teachers' Experiences of Implementing Deep Learning

Teachers' experiences of implementing deep learning were manifested through diverse instructional practices. Teachers engaged students actively through discussion, question-and-answer exchanges, case studies, and practical and project-based assignments. Teachers also connected instructional content to occupational and real-world contexts to ensure that students grasped the relevance of what they were learning.

In the instructional process, teachers assumed the role of facilitators guiding and supporting students while students were positioned as active and independent learners. Teachers created space for students to express their views, engage in collaborative discussion, and reflect on their own understanding. Teacher-student interactions proceeded in a bidirectional and collaborative manner. Another informant reinforced this observation: "When using the deep learning approach, students become more actively engaged in questioning and discussion. They do not merely listen to the teacher's explanation; they also try to understand and practice the material being studied." (Informant 3)

Nonetheless, teachers encountered various challenges in implementing deep learning. These included instructional time constraints, disparities in student readiness and ability, difficulty maintaining consistency in deep learning implementation, student heterogeneity, and limited availability of instructional support resources. To navigate these challenges, teachers employed diverse strategies: adjusting instructional methods and pacing, modifying learning activities to match student capacity, optimizing discussion and question-and-answer activities, drawing on real-world experiences and contexts as learning resources, and conducting ongoing evaluation and reflective practice. One informant identified time constraints as a significant barrier: "Sometimes classroom time is limited, so not all planned activities can be carried out to their fullest extent." (Informant 2)

Theme 3: Factors Shaping Teachers' Perceptions

The findings reveal that teachers' perceptions of deep learning were shaped by three primary categories of factors: internal teacher factors, student characteristics, and the school environment along with managerial support. Internal teacher factors encompassed pedagogical knowledge, professional motivation, and professional disposition in carrying out instruction. Student characteristics included learning readiness, motivation, cognitive capacity, engagement levels, and adaptability in relation to deep learning. School environment and managerial support factors

encompassed the availability of infrastructure, the school's professional climate, leadership support, institutional policy, and opportunities for teacher innovation. One informant highlighted the role of environmental support: "In my view, teachers' perceptions of deep learning are also influenced by school support. If the school provides space and support for teachers to innovate, teachers will be more confident in implementing deeper learning." (Informant 4)

Table 1 presents a summary of the three themes identified in this study alongside the key findings associated with each.

Table 1
Summary of Research Themes and Key Findings

Theme	Sub-themes / Dimensions	Key Findings
Teachers' Perceptions of Deep Learning	Meaningful learning; active student engagement; conceptual application; transformation in learning behavior	Deep learning interpreted as meaningful, contextual, and student-centered; not merely content transmission
Implementation Experiences	Active learning; project-based tasks; facilitative teaching; challenges; adaptive strategies	Teachers function as facilitators; students as active learners; time and heterogeneity as chief barriers
Factors Shaping Perceptions	Internal factors; student characteristics; school environment and managerial support	Institutional support and professional climate strengthen teachers' confidence in sustaining deep learning practice

Discussion

Deep learning constitutes a relevant instructional approach within vocational education contexts, as it emphasizes conceptual understanding, reflective practice, and the application of knowledge in real-world settings. As shown in Table 1, the findings indicate that teachers at SMK Wikarya Karanganyar interpreted deep learning as a learning process characterized by active student engagement, conceptual meaning-making, and the integration of theory with practice. This interpretation aligns with the conceptualization of deep learning as learning that is meaningful (*bermakna*), mindful, and joyful, as articulated in national education policy (Kemendikdasmen, 2025) and corroborated by Roshifa et al. (2025), who emphasize the importance of active engagement and reflection in the learning process.

Teachers' understanding of deep learning was not construed narrowly as a particular method, but rather as a critical thinking process that encourages students to comprehend and apply concepts. This finding is consistent with Purwoko (2025), who characterizes deep learning as proceeding through phases of understanding, reflecting, and applying, and with Andayanie et al. (2025), who affirm that reflection constitutes an essential element of deep learning. From a phenomenological standpoint, teachers' understanding was formed through accumulated teaching experience and direct classroom interaction with students, such that teachers' perceptions developed contextually and progressively.

Teachers further conceptualized the goals of deep learning as extending beyond academic achievement to encompass the development of critical thinking, autonomous learning, and students' readiness for the world of work. In the SMK context, work-readiness orientation serves as a foundational rationale for interpreting deep learning as relevant and contextually grounded instruction.

The level of teacher understanding of deep learning was not entirely uniform. Some teachers emphasized active student engagement in the learning process, while others prioritized the connection between instructional content and occupational contexts. This variation in emphasis reflects the phenomenological principle that the meaning of deep learning is constructed through teachers' subjective experiences of daily instructional practice.

Teachers' experiences of implementing deep learning demonstrated a paradigm shift from teacher-centered to student-centered instruction. Teachers assumed the role of facilitators, creating learning conditions conducive to students' deep thinking, while students were positioned as active agents involved in discussion, problem-solving, and reflection. This finding aligns with constructivist theory, which posits that knowledge is constructed through active student engagement in the learning process.

Deep learning implementation was not without its challenges, including limited instructional time, diversity in student characteristics, and administrative demands. This is consistent with Purwoko (2025), who observes that deep learning requires sustained time and consistency. From a phenomenological perspective, these challenges are perceived by teachers as inherent features of the instructional dynamic ones that demand adaptive capacity and professional reflexivity.

Teachers' strategies for navigating these challenges demonstrated pedagogical resilience, including adjustments in lesson planning, the adoption of flexible methods, and the use of reflection and student scaffolding to sustain instructional quality. These strategies align with Chen et al. (2022), who emphasize the importance of experience-based learning and adaptive instructional approaches. Beyond pedagogical factors, teachers' perceptions of deep learning were also influenced by internal professional factors, student characteristics, and the school environment and managerial support. Institutional support and a conducive school climate strengthened teachers' conviction that deep learning could be sustained over time. These findings are consistent with Andyanie et al. (2025) and Roshifa et al. (2025), who affirm the centrality of the school ecosystem in supporting understanding- and reflection-oriented instruction.

The findings further indicate that deep learning implementation was associated with the cultivation of students' critical thinking capacities. Teachers not only sought to build conceptual understanding, but also engaged students in problem analysis, articulation of perspectives, and reflection on learning experiences. This demonstrates that deep learning is not confined to conceptual mastery, but extends to the development of higher-order thinking skills (HOTS). In the vocational education context, critical thinking is particularly salient, as graduates are expected to respond to real-world workplace challenges in adaptive and solutive ways.

Internal teacher factors specifically teaching experience, pedagogical knowledge, and professional motivation were found to exert a substantial influence on teachers' perceptions of deep learning. This is understandable given that teachers serve as the primary architects and reflective practitioners of the instructional process. Sustained teaching experience enables teachers to build a more contextual understanding of deep learning practice. Consequently, teachers' perceptions are shaped not only by educational policy or the school environment, but also by the professional reflections that develop from day-to-day instructional engagement.

Conclusion

This study demonstrates that the perceptions of teachers at SMK Wikarya Karanganyar regarding deep learning are formed through a confluence of conceptual understanding, accumulated teaching experience, and the distinctive characteristics of vocational education, which demand a meaningful integration of theory and practice. Teachers interpret deep learning as an instructional process that foregrounds meaningful comprehension, active student participation, and the capacity to connect learning content to real-world and occupational contexts a perception that develops through pedagogical experience in responding to classroom dynamics and the learning needs of SMK students. The findings of this study carry both theoretical and practical implications. Theoretically, the study contributes to the conceptualization of deep learning as a construct of teacher perception shaped by understanding, experience, and vocational context. Practically, the findings have implications for teachers encouraging the development of active, reflective, and contextual instructional strategies; for schools reinforcing managerial support and institutional

policy; and for policymakers providing a foundation for the design of sustained teacher professional development programs. This study is subject to limitations, notably the relatively small number of informants, which constrains the generalizability of the findings, as well as the potential for researcher subjectivity in the data interpretation process. Future research is recommended to involve a larger and more diverse pool of informants, to encompass a broader range of school contexts, and to employ alternative methodological approaches in order to generate a more comprehensive understanding of deep learning implementation in vocational education.

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