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Teachers' Understanding of the Deep Learning Approach in Teaching Practices at Vocational High Schools: A Case Study at SMK Al-Fathiyah, Jakarta

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Abstract: This study explores teachers' understanding of the deep learning approach within the context of vocational education in Jakarta. Using a descriptive qualitative design supported by survey data and interviews, the research examines how teachers conceptualize, plan, and implement deep learning principles in their everyday instructional practices. The findings indicate that teachers generally possess a foundational awareness of deep learning and demonstrate efforts to apply learner-centered strategies, authentic assessment, and reflective facilitation. However, the depth and consistency of implementation vary across individuals, pointing to the need for more structured professional development. The study highlights the importance of strengthening pedagogical knowledge, enhancing instructional design, and enriching assessment literacy to support meaningful learning. The results contribute to ongoing discussions on improving teaching quality in vocational schools through deeper, more transformative learning experiences.
Keywords: Deep Learning Approach, Teacher Understanding, Vocational Education, Instructional Practice, Pedagogical Development

INTRODUCTION

Online mass media recently reported a concerning phenomenon: hundreds of junior high school students are still unable to read. More specifically, approximately four hundred junior high school students in Buleleng Regency, Bali, spread across sixty schools, have been identified as unable to read. This incident has drawn public attention, particularly from those questioning the overall quality of education in the country. At the junior high school level, students should no longer be struggling with basic reading skills; instead, they should be developing higher-order thinking abilities. According to the stages of cognitive development formulated by Jean Piaget (Marinda, 2020), students of junior-high-school age fall within the stage of formal operations, which typically occurs from early to mid-adolescence and is characterized by abstract, logical, and idealistic thinking. The capacity for abstract reasoning at this stage becomes evident in solving verbal problems. While children in the preceding concrete operational stage require tangible objects to draw logical conclusions, adolescents in the formal operational stage rely primarily on verbal information to make logical inferences.

Another persistent issue in classroom practice is the tendency for students to function merely as passive objects rather than active subjects in learning. Students are often treated as recipients of information, with little opportunity to think, ask questions, or express opinions. Ideally, learners should be positioned as active individuals who are encouraged to construct meaning, engage critically, and participate in classroom dialogue. This condition calls for serious evaluation. Teachers, as the frontline agents of education, are expected to master four essential competencies: pedagogical, professional, social, and

personal. These competencies serve as indicators of a teacher's performance and the overall quality of instruction (Akbar, 2021).

Students' inability to engage meaningfully in learning reflects the teacher's responsibility as both facilitator and initiator of the learning process. Conceptual understanding can be achieved through various methods, yet classroom practices often rely heavily on repetitive memorization and direct knowledge transfer. While such approaches are not entirely incorrect, addressing contemporary global demands requires deeper levels of understanding, along with critical and innovative thinking supported by technological literacy. These objectives align with the deep learning approach, which emphasizes meaningful comprehension of subject matter (Aria Nur Akmal, 2025). Unlike traditional instruction, deep learning encourages the development of critical, analytical, and reflective thinking skills that enable learners to process, integrate, and apply knowledge in new contexts. This approach specifically enhances learning quality through social interaction, higher-order thinking, and broader knowledge application.

Efforts to improve learning quality correspond with Sustainable Development Goal Four (SDGs 4), which promotes inclusive and equitable access to quality education and lifelong learning for all (Ade Lia Tasliah, 2024). Quality education is recognized as a foundation for sustainable social, economic, and environmental development. Through strong educational practices, individuals can develop their potential and contribute to national progress. SDGs 4 underscores that all individuals, regardless of background, must have fair access to appropriate education (Fahrur Rozi, 2024).

SMK Al Fathiyah, as a vocational education institution, aims to equip students with specific skills required for future technological changes and workforce demands. Vocational education not only focuses on technical skills but also on essential soft skills such as communication, collaboration, and problem-solving. Therefore, teachers, who directly interact with students, must understand and apply the deep learning approach in their instructional practice.

RESEARCH METHOD

The present study employed a descriptive qualitative design to explore teachers' understanding of the deep learning approach within the context of vocational education. This design was selected because it allows researchers to capture participants' perspectives in a natural setting, portraying their experiences, attitudes, and conceptual grasp in a rich and nuanced manner. Rather than seeking to test causal relationships, the study aimed to describe and interpret the actual conditions of instructional practices as experienced by teachers in their everyday teaching activities.

Data were collected using a combination of survey instruments and semi-structured interviews. The survey provided a broad overview of teachers' self-reported understanding of deep learning, while the interviews allowed for deeper probing into how they interpreted and applied its principles during instruction. Combining these two strategies strengthened the credibility of the findings by ensuring that the data reflected both general patterns and more detailed perspectives.

The primary participants in this study were teachers at SMK Al Fathiyah, a vocational institution that prepares students with technical and professional competencies. Teachers were selected purposively based on their direct involvement in classroom instruction. This sampling approach ensured that those who contributed to the study possessed firsthand experience in planning, implementing, and assessing learning activities, making their insights relevant to the research focus.

The survey instrument consisted of structured items distributed through an online questionnaire, designed to capture teachers' conceptual understanding, instructional planning, teaching strategies, and assessment practices. The questions were constructed to reflect key dimensions of deep learningcritical thinking, analytical reasoning, reflective learning, integration of knowledge, and application in real-world contexts. The use of an online platform facilitated efficient data gathering while providing participants with the flexibility to respond confidentially.

Semi-structured interviews were conducted to enrich the survey findings. Interviews allowed teachers to describe their beliefs and teaching practices in more detail, offering space to discuss challenges, misconceptions, and contextual constraints. This method supported a more humanized understanding of the learning environment, as teachers were able to articulate not only what they do but also why and how they do it. The conversational nature of the interviews helped to uncover implicit assumptions and deeper reflections that might not emerge from survey responses alone.

Data analysis followed the interactive model proposed by Miles and Huberman, which includes data reduction, data display, and conclusion drawing. Data reduction involved organizing survey responses and interview transcripts, identifying key themes, and removing irrelevant information. Data display was achieved through thematic matrices that allowed the researcher to compare patterns across participants. The analytic process was iterative, with the researcher continually returning to the data to refine interpretations and ensure alignment with the study objectives.

To ensure trustworthiness, the study applied several validation strategies. Triangulation was carried out by comparing survey results with interview insights, enabling cross-verification of emerging themes. Member checking was used by sharing preliminary interpretations with selected participants to confirm the accuracy of the findings. In addition, reflexive notes were maintained throughout the research process to minimize bias and enhance interpretive clarity.

Ethical considerations were central to the research. Participants were informed about the purpose of the study and their rights, including confidentiality and voluntary participation. Identifying information was removed from the dataset to protect participants' privacy. Permission to conduct the study was obtained from the school's leadership, ensuring that data collection procedures aligned with institutional policies. By upholding ethical standards, the study aimed to respect the dignity and autonomy of every teacher involved.

RESULT AND DISCUSSION

A. Respondent Characteristics

The respondent characteristics provide an initial overview of teachers' understanding of the deep learning approach at SMK Al-Fathiyah Condet, East Jakarta. Data were collected through a Google Form questionnaire and complemented with interviews for deeper insights. A total of seventeen teachers participated, comprising a small proportion of male teachers and a predominant proportion of female teachers.

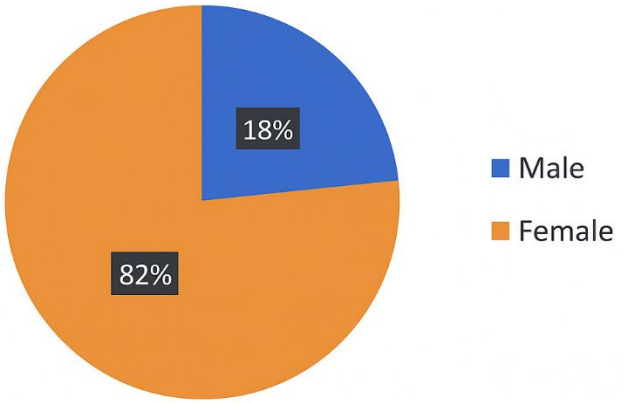

Figure 1. Respondent Distribution by Gender

Furthermore, when viewed from the age range, most respondents were between twenty-one and twenty-five years old, representing a little over one-third of the group. The remaining respondents were distributed across the age ranges of thirty-six to forty, forty-one to forty-six, and fifty-one to fifty-five, each contributing a small proportion to the overall sample.

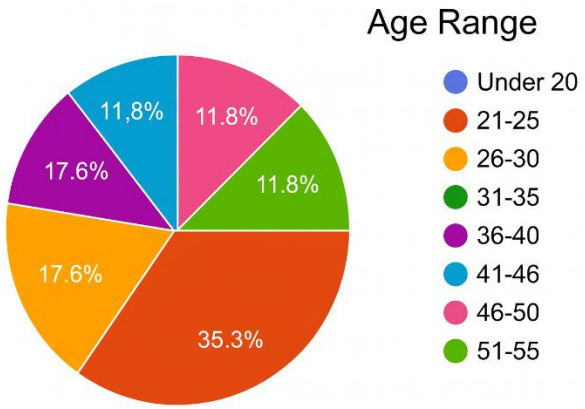

Figure 2. Respondent Distribution by Age Range

Based on the age-range data, it is evident that the majority of teachers at SMK Al-Fathiyah fall into the category of relatively young educators.

The next characteristic analyzed relates to the respondents' educational background. Of the seventeen participants, most teachers hold a bachelor's degree, while a small portion have a diploma-level qualification.

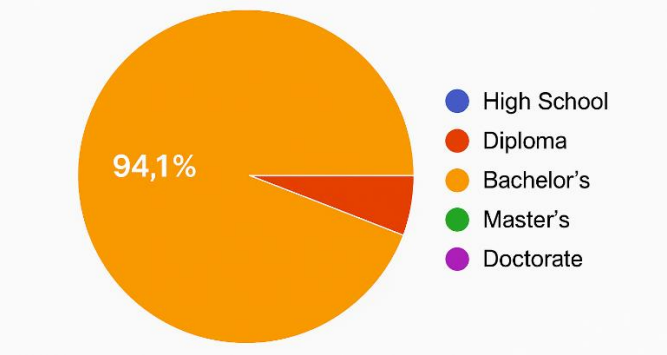

Figure 3. Respondent Distribution by Highest Educational Attainment

The data indicate that the majority of teachers at SMK Al-Fathiyah already meet the standard qualification for educators, as most hold at least a bachelor's degree.

B. Teachers' Understanding of Deep Learning in Instruction

Understanding refers to an individual's ability to grasp the meaning of learning material after first knowing and recalling it. In education, conceptual understanding includes the ability to restate ideas, classify objects, provide examples, represent concepts, identify essential conditions, apply procedures, and use concepts in problem-solving. The findings of this study assess teachers' understanding of the deep learning approach at SMK Al-Fathiyah through six indicators: teacher knowledge, lesson planning, teaching strategies, use of learning resources, assessment practices, and interaction and facilitative roles. The results indicate that most teachers are already familiar with the deep learning approach, although the depth of their understanding varies.

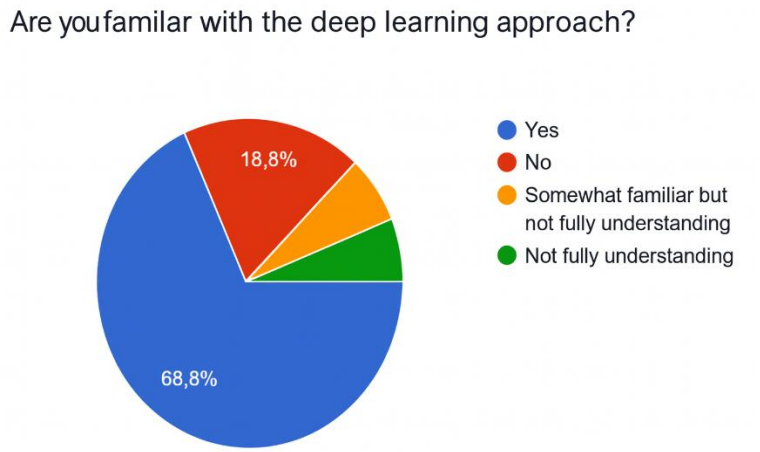

Figure 4. Diagram of the Deep Learning Knowledge Indicator

The second indicator of teachers' understanding of the deep learning approach relates to lesson planning. The findings show that many teachers already design plans with clear objectives and elements of higher-order thinking, reflecting an indirect application of deep learning principles. However, some teachers still rely on lecture-based activities, indicating that traditional approaches remain present in their planning.

Figure 5. Diagram of the Lesson Planning Indicator

For the third indicator, which concerns the strategies and methods commonly used in teaching, the field data show that most teachers frequently employ discussions, problem-solving activities, or simple projects. These findings indirectly indicate that the learning activities conducted in the classroom already reflect elements of the deep learning approach. Although the implementation is not yet fully consistent, teachers have begun to use strategies and methods that align with the principles of deep learning.

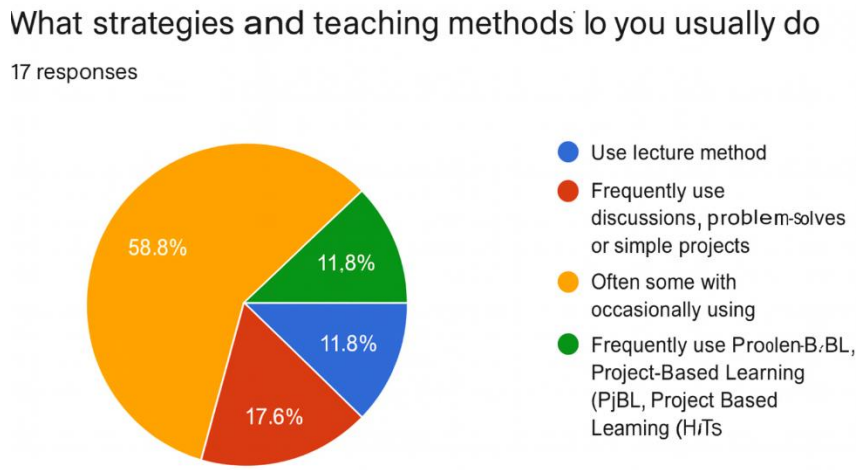

Figure 6. Diagram of the Learning Strategies and Methods Indicator

The fourth indicator concerns the use of learning resources. Based on the data collected, the majority of teachers at SMK Al-Fathiyah, over half of the respondents, reported using a variety of learning resources to support students' understanding. Meanwhile, only a small proportion of teachers made minimal use of diverse learning resources.

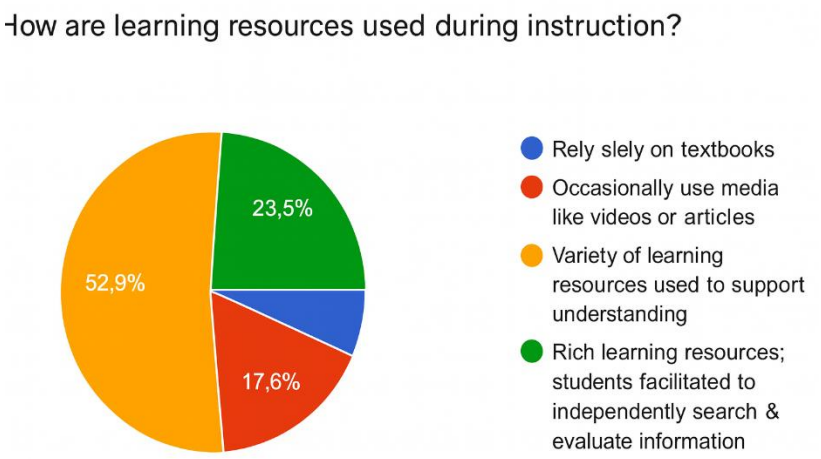

Figure 7. Diagram of the Learning Resources Indicator

The fifth indicator used to analyze teachers' understanding of the deep learning approach is assessment. Based on the data collected from the field, most teachers reported using a variety of authentic assessments accompanied by constructive feedback, accounting for more than half of the responses. Additionally, a portion of teachers used simple assignments, while another group relied on basic project or portfolio assessments, each representing a smaller share of the overall responses.

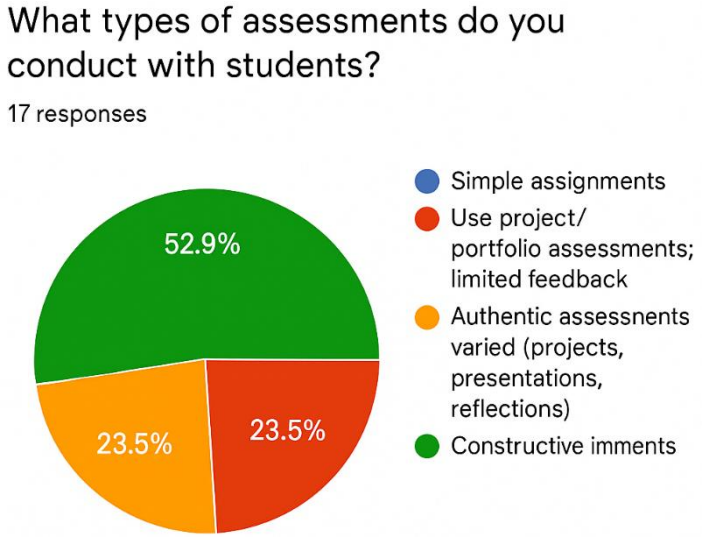

Figure 8. Diagram of the Assessment Indicator

Another indicator that reflects teachers' understanding of the deep learning approach is interaction and the teacher's role in the classroom. Based on the field data, the majority of teachers, more than half of the respondents, reported that they have fully adopted the role of facilitators, with students actively asking questions and expressing their ideas. This indicates a positive trend, suggesting that elements of the deep learning approach are already being implemented in classroom learning activities.

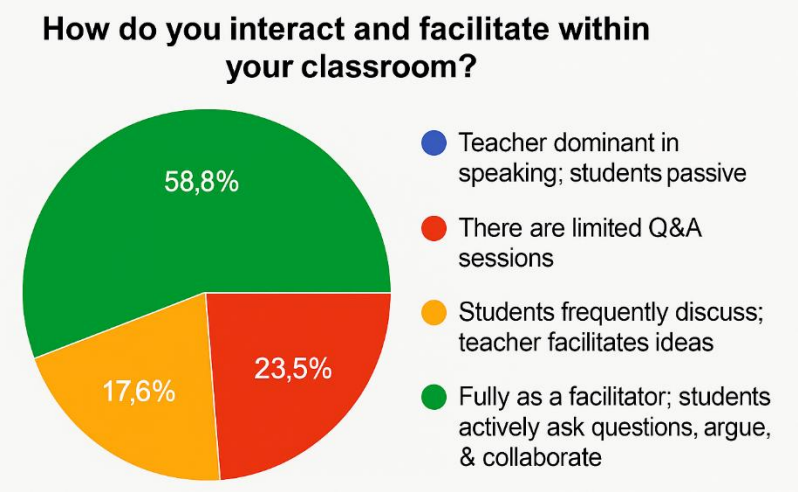

Figure 9. Diagram of the Interaction and Facilitation Indicator

Although not all teachers at SMK Al-Fathiyah have fully adopted the role of facilitators, since a portion still conducts limited Q&A sessions, nearly half of the teachers have already demonstrated active facilitation and meaningful interaction in the classroom. This indicates a positive shift toward more student-centered learning aligned with the principles of the deep learning approach.

CONCLUSION

This study highlights a generally positive trend in teachers' understanding and application of the deep learning approach within vocational education. The findings reveal that teachers possess a foundational awareness of deep learning principles and demonstrate noticeable efforts to integrate them into instructional practice. Many teachers have begun to design lessons with clear objectives that encourage higher-order thinking, while also incorporating varied strategies such as discussions, problem-solving activities, and simple project-based tasks. These approaches indicate an emerging shift from teacher-centered instruction toward more student-centered learning environments.

The use of diverse learning resources further illustrates teachers' commitment to supporting deeper comprehension among students. Authentic assessments with constructive feedback are increasingly adopted, reflecting an understanding of the need to evaluate not only the final product but also the learning process. Classroom interactions also show encouraging signs, with a substantial portion of teachers embracing the role of facilitators and creating opportunities for students to ask questions, share opinions, and collaborate.

Despite these strengths, the implementation of deep learning is not yet fully consistent. Some teachers continue to rely heavily on traditional methods such as lecturing or limited Q&A sessions. These findings suggest the importance of ongoing professional development to deepen teachers' pedagogical knowledge and strengthen their ability to design and deliver meaningful learning experiences. Overall, the study contributes valuable insight into how deep learning practices are gradually being embedded in vocational education settings.

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