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THE PRACTICE OF DEEP LEARNING IN ENGLISH CLASSES: A CASE STUDY OF JUNIOR HIGH SCHOOLS IN SEMARANG CITY

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Abstrak

Penelitian ini mengkaji implementasi Deep Learning dalam pembelajaran Bahasa Inggris di Sekolah Menengah Pertama di Kota Semarang. Data dikumpulkan melalui kuesioner, wawancara, dan observasi kelas. Kuesioner ditujukan kepada 66 guru Bahasa Inggris, sementara wawancara dan observasi dilakukan di dua sekolah dengan melibatkan guru dan siswa sebagai responden. Hasil penelitian menunjukkan adanya sikap yang secara umum positif terhadap Deep Learning, namun juga menekankan perlunya pelatihan dan dukungan institusional. Tercatat bahwa 37,9% responden melaporkan belum pernah mengikuti pelatihan apa pun yang berkaitan dengan Deep Learning. Para guru mengidentifikasi empat tantangan utama dalam mengimplementasikan Deep Learning di kelas mereka, yaitu kurangnya pelatihan atau pengetahuan tentang Deep Learning (69,7%), keterbatasan waktu dalam kurikulum (36,4%), jumlah siswa yang besar dalam satu kelas (48,5%), serta kurangnya sumber daya pembelajaran (28,8%).

Kata Kunci: *deep learning*; pengajaran Bahasa Inggris; tantangan

Abstract

This study examined the implementation of Deep Learning in English classes at Junior High Schools in Semarang City. Data were gathered through a questionnaire, interviews, and classroom observations. The questionnaire targeted 66 English teachers, while interviews and observations were conducted in two schools, involving both teachers and students as respondents. The findings indicated a generally favourable attitude towards Deep Learning, but they also underscored the need for training and institutional support. Notably, 37.9% of respondents reported having never attended any training related to Deep Learning. The teachers identified four primary challenges in implementing Deep Learning in their classrooms: a deficiency of training or knowledge about Deep Learning (69.7%), limited time within the curriculum (36.4%), large class sizes (48.5%), and a lack of teaching resources (28.8%). This paper provides valuable insights into current classroom practices and suggests potential actions for enhancing Deep Learning.

Keywords: *deep learning; English teaching; challenges*

INTRODUCTION

In recent years, the concept of deep learning has become a central concern in both educational practice and research. While scholars in computer science often associate the term with artificial intelligence and neural networks,

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in the field of pedagogy, it is more closely related to approaches that encourage students to engage with knowledge beyond rote memorization. Thind et al. (2022) highlighted that deep learning in education emphasizes higher-order thinking, while Gao, Zhou, and He (2025) confirmed that it requires learners to construct connections across contexts rather than merely recalling facts. Similarly, Smith and Colby (2007) stated that deep learning involves mindful and meaningful participation. In contrast, Kovač et al. (2023) argued that it also nurtures reflective engagement and positive attitudes, making knowledge both relevant and transformative in everyday life.

In terms of pedagogical strategies, Indraganti (2017) demonstrated that inquiry-based projects enable learners to deepen their engagement, while Weng, Chen, and Ai (2023) showed that design-based learning enhances collaboration and problem-solving. Kartal (2020) further confirmed that simulation tasks strengthen the integration of theoretical knowledge with professional practice. West and Halvorson (2019) argued that collaborative classroom simulations, such as UN Security Council debates, can foster critical thinking, and Zhu, Xu, and Liu (2023) observed that flipped classroom models increase active learning participation. Hu (2023) reported that smart classrooms supported by IoT applications reshape teaching practices, and Zheng and Wang (2023) proposed a classroom activity architecture that supports deeper learning engagement. Bhardwaj et al. (2021) also confirmed that digital platforms using deep learning models sustain learner motivation and personalize learning trajectories. Collectively, these studies indicate that deep learning pedagogy is evolving into a multidimensional framework that combines innovative teaching strategies with technological affordances (Jaykumar et al., 2025; Zhong, 2025).

Nevertheless, as Price (2004) noted, the effectiveness of deep learning is influenced not only by instructional methods but also by systemic factors such as institutional support and parental involvement. Wang et al. (2014) found that effective classroom organization enhances the impact of deep learning, while Zhang et al. (2025) confirmed that students adopting deep learning approaches achieve significantly better outcomes compared to those using surface strategies. Yet, Trabelsi et al. (2023) highlighted that teachers often struggle with time constraints, large class sizes, and insufficient training, which hinder the translation of deep learning principles into classroom practice. These challenges suggest that without deliberate systemic support, teachers risk implementing deep learning only superficially rather than as a sustained pedagogical shift.

In the Indonesian context, especially in junior high school English classrooms, there remains a pressing need to move beyond grammar drills and vocabulary memorization toward fostering communicative competence and critical literacy. Ling et al. (2022) suggested that meaningful classroom interaction is crucial, but Qing, (2024) indicated that many teachers still lack the strategies, training, and materials necessary for systematic implementation. Despite growing awareness of its importance, empirical research on deep learning in Indonesian schools remains limited.

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Against this backdrop, the present study investigates the practice of deep learning in English classes at junior high schools in Semarang City. It explores teachers' experiences, perceptions, and challenges in implementing deep learning, as well as the kinds of institutional and professional support they consider essential. Through surveys, interviews, and classroom observations, this study aims to provide a nuanced account of current practices while offering practical recommendations for strengthening deep learning in the Indonesian EFL context.

RESEARCH METHOD

Research Design

This study employed a descriptive survey design complemented by qualitative exploration. The purpose was to investigate how junior high school English teachers in Semarang City understand and implement deep learning, and to identify the challenges they encounter in classroom practice.

Participants

Participants were English teachers from 66 junior high schools in Semarang City, including both public and private institutions. All teachers in these schools were invited to take part in the study. The final sample consisted of 66 teachers, one from each school, who completed the questionnaire. A subset of respondents was also interviewed, and classroom observations were carried out to validate and enrich the survey data.

Instruments

The study employed three instruments to collect data. The first was a questionnaire, which was designed to capture both demographic and professional background information as well as teachers' practices in applying deep learning. It consisted of eight main questions that covered areas such as years of teaching experience, participation in training or workshops on deep learning (mindful, meaningful, joyful learning), strategies for incorporating mindful learning (focus, reflection, deep engagement), strategies for implementing meaningful learning (connecting lessons to students' real-life experiences), and strategies for applying joyful learning (making lessons enjoyable and engaging). Other aspects included the frequency of applying deep learning approaches in English classes, challenges encountered during implementation, and the types of support or training needed to enhance classroom application. Closed-ended questions from the questionnaire were analyzed quantitatively, while open-ended responses provided qualitative insights.

The second instrument was an interview guide. Semi-structured interviews were conducted with selected teachers to gain a deeper understanding of their personal experiences, teaching strategies, and perspectives on the application of deep learning.

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The third instrument was a classroom observation sheet. An observation checklist was employed to document classroom activities that reflected deep learning principles, such as student engagement, real-life connections, and joyful learning activities.

Data Analysis

Quantitative data from the questionnaire were tabulated and analysed using simple descriptive statistics (frequencies and percentages). Results were presented in diagrams to illustrate distributions, such as teaching experience, training attendance, and frequency of deep learning practices. Qualitative data from open-ended questionnaire responses, interviews, and classroom observations were analyzed thematically. Emerging themes were compared and integrated with quantitative findings to provide a comprehensive discussion.

RESULTS AND DISCUSSION

This research aimed to determine how Deep Learning in English classes at Junior High Schools in Semarang City is implemented. The researchers used three instruments to obtain the data: a questionnaire, an interview, and a classroom observation sheet. The questionnaire was distributed to English teachers in both public and private schools in Semarang. Teachers from sixty-six schools in Semarang participated in filling out the questionnaire.

The questionnaire consisted of the following questions: 1) years of teaching experience, 2) whether or not the teachers attended training or workshops on deep learning (mindful, meaningful, and joyful learning), and 3) how the teachers incorporate mindful learning in their teaching activities by helping students focus, reflect, and engage deeply in learning, 4) how the teachers apply meaningful learning in the teaching activities by connecting lesson to students' real lives and experiences, 5) how teachers implement joyful learning by making learning enjoyable and engaging, 6) how often they apply deep learning approaches in English classroom, 7) what challenges the teachers faced in implementing deep learning in their English classes, 8) what kind of support or training the teachers want to help them implement deep learning more effectively.

Questionnaire Results

The following are the results of the questionnaire:

1. Question on years of teaching experience

Figure 1 illustrates that the teachers' teaching experience was divided into three categories: less than 5 years, 5-10 years, and more than 10 years. The majority of the teachers, as much as 74.2%, are highly experienced, with over a decade in the classroom. The next group makes up 13.6% which comprises teachers with less than 5 years of experience. The smallest group (12.1%) has 5 to 10 years of experience.

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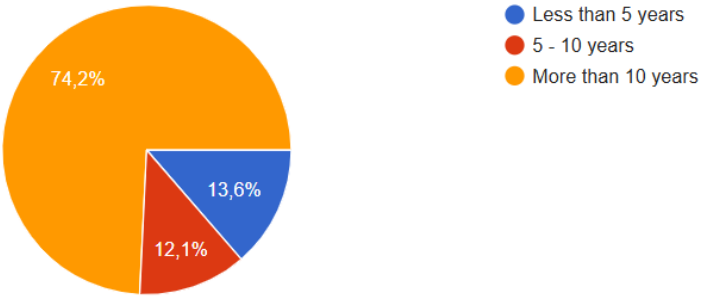

Figure 1. Years of Teaching Experience

The data clearly shows a strong prevalence of highly experienced teachers, representing nearly three-quarters of the surveyed group. There is a much smaller proportion of relatively new teachers, and an even smaller group in the mid-range of 5 to 10 years of experience.

2. Whether or not teachers attended training or workshops on deep learning (mindful, meaningful, joyful learning)

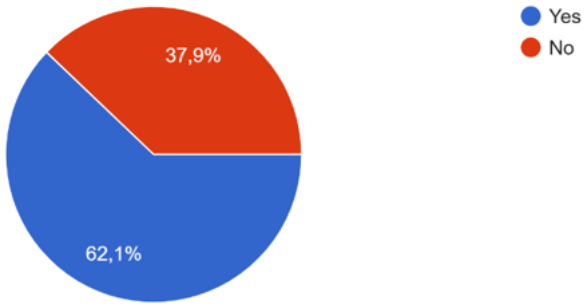

Figure 2. Experience of Training or Workshops

From Figure 2, it can be seen that 62.1% of the teachers have never attended training or workshops on deep learning, while 37.9% have experience of attending training or workshops on deep learning. It can be concluded that giving training or workshops is badly needed, since teachers will have more insight into implementing deep learning in their classes.

3. Understanding deep learning: In your teaching, how do you incorporate mindful learning (helping students focus, reflect, and engage deeply in learning)?

Figure 3 presents data on strategies implemented by teachers to promote mindfulness and reflection among students. The most frequently applied strategy is encouraging self-awareness (48 respondents or 72.7%). It showed that most teachers value activities that help students recognize and understand their thoughts and emotions.

Giving students time for reflection (36 respondents or 54.5%) and practicing mindfulness activities (36 respondents or 54.5%) were equally

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important approaches. Both emphasized structured opportunities for students to pause, think, and engage in mindful practices. Meanwhile, reducing distractions and creating a calm environment was selected by 30 respondents (45.5%). It reflected a substantial proportion of teachers who believe that the learning atmosphere plays a significant role in fostering mindfulness.

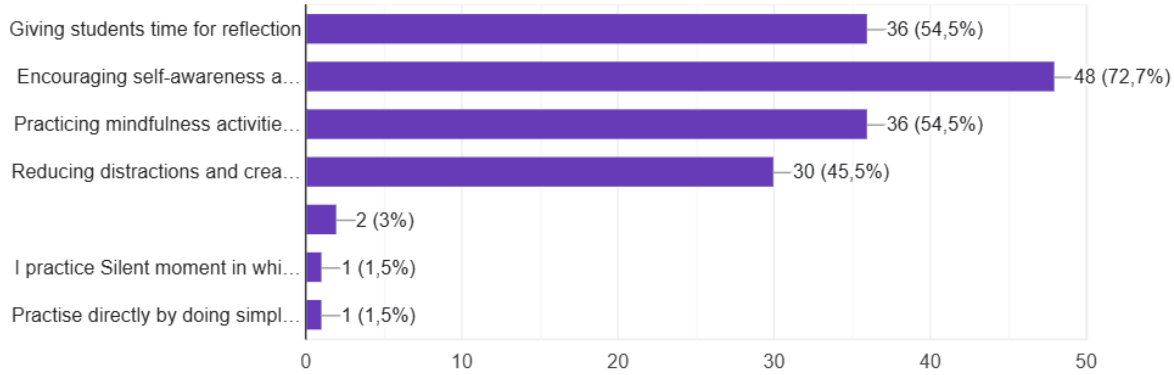

Figure 3. How to Incorporate Mindful Learning in Classes

Less common strategies were also noted, such as providing silent moments during class (2 respondents or 3%), personal practice of silent moments (1 respondent or 1.5%), and direct practice through simple activities (1 respondent or 1.5%). These indicate that such practices are not widely adopted.

From this chart, it can be concluded that teachers predominantly focus on strategies that actively engage students, such as encouraging self-awareness, structured reflection, and mindfulness activities. Environmental adjustments, like reducing distractions, are also seen as valuable, though to a slightly lesser degree. Less formal or individualized practices are rarely implemented. Overall, the results suggest that most teachers perceive direct and structured approaches as the most effective methods for integrating mindfulness into the learning process.

4. Understanding deep learning: In your teaching, how do you apply meaningful learning (connecting lessons to students' real lives and experiences)?

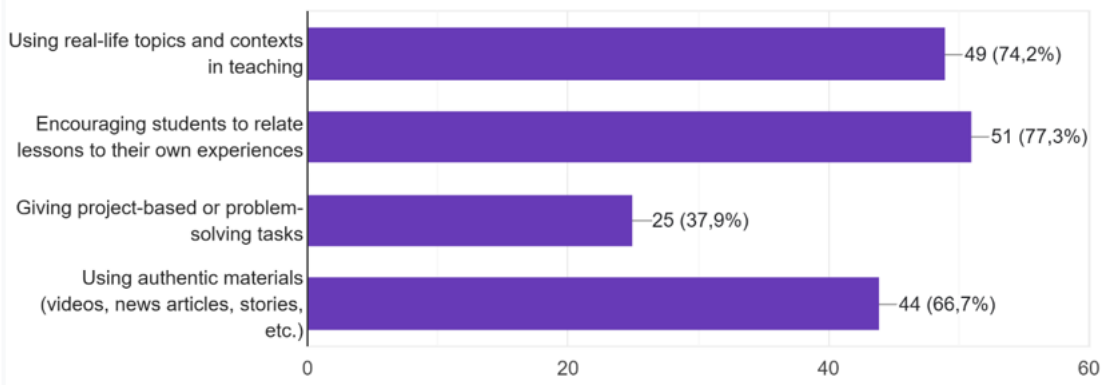

Figure 4. How to Apply Meaningful Learning in Classes

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Figure 4 shows that the majority of teachers emphasize strategies that connect learning with students' personal experiences and real-world contexts. The most frequently adopted approach is *encouraging students to relate lessons to their own experiences*, with 51 respondents (77.3%) reporting its use. Similarly, *using real-life topics and contexts in teaching* is employed by 49 respondents (74.2%), highlighting teachers' recognition of the importance of contextualizing knowledge.

In addition, *the use of authentic materials*—such as videos, news articles, and stories—is reported by 44 respondents (66.7%). This suggests that teachers value the integration of real-world resources to enhance the relevance and practicality of lessons. However, *project-based or problem-solving tasks* are less commonly applied, with only 25 respondents (37.9%) indicating their use. This lower percentage may reflect challenges related to time, resources, or assessment practices associated with project-based learning.

It can be concluded that a clear preference among teachers for strategies that foster relevance and direct connections to learners' lived experiences. Such approaches are consistent with constructivist principles, which emphasize that learning becomes more meaningful when linked to prior knowledge and authentic contexts. The comparatively lower implementation of project-based tasks suggests potential barriers to adopting more complex, student-centered activities, despite their recognized value in promoting critical thinking and problem-solving skills.

5. Understanding deep learning: How do you implement joyful learning (making learning enjoyable and engaging)?

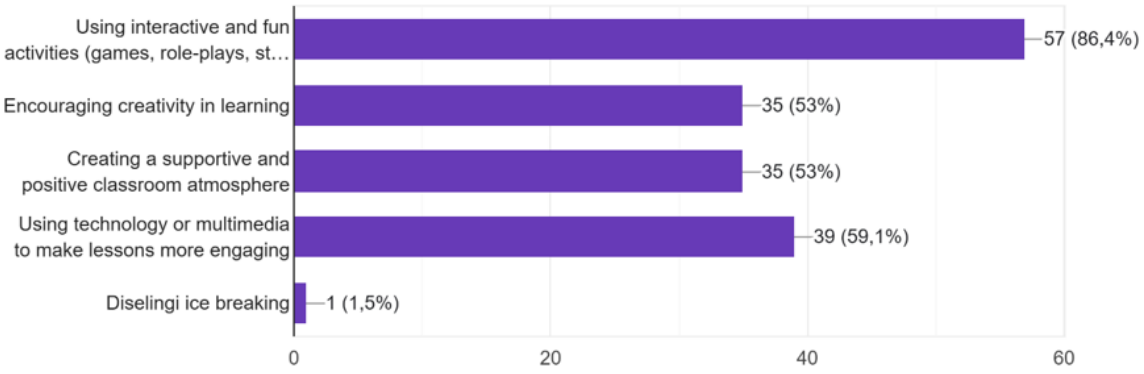

Figure 5. How to Implement Joyful Learning in Classes

Figure 5 illustrates strategies used to make learning more engaging and effective. The most frequently chosen method is using interactive and fun activities such as games, role-plays, and storytelling, with 57 respondents (86.4%) indicating this preference. The second most common strategies are encouraging creativity in learning and creating a supportive and positive classroom atmosphere, both selected by 35 respondents (53%). Another

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significant approach is using technology or multimedia to make lessons more engaging, chosen by 39 respondents (59.1%). Meanwhile, only 1 respondent (1.5%) suggested including ice-breaking activities as a strategy. The data highlights that interactive and enjoyable activities are viewed as the most effective strategy, while ice-breaking activities are considered the least significant.

6. How often do you apply deep learning approaches in the English Classroom?

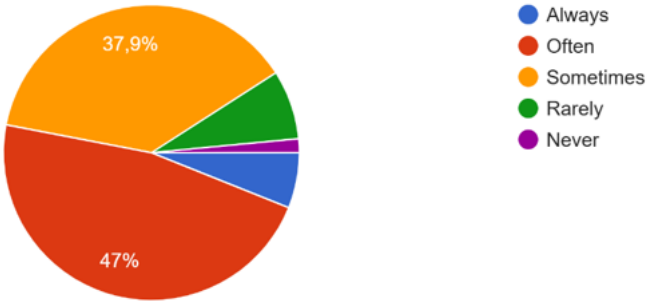

Figure 6. How Often Teachers Apply Deep Learning in English Classroom

Figure 6 indicate that the majority of participants, as much as 47%, reported that they *often* implement deep learning strategies in their teaching practices. This is followed by 37.9% of respondents who stated that they apply such approaches *sometimes*. A smaller proportion, approximately 6%, revealed that they *always* integrate deep learning in their classrooms, while around 6% of teachers noted that they *rarely* do so. The least represented category, at 3%, consisted of respondents who reported that they *never* employ deep learning approaches.

These findings suggest that deep learning is not yet consistently embedded in English classroom practices. However, the dominance of the *often* and *sometimes* categories highlight a growing recognition of its importance. The relatively low percentage of respondents who indicated *never* or *rarely* suggests that resistance or lack of application is minimal. Therefore, while not universally practiced, the results demonstrate a positive trend toward the integration of deep learning in English language teaching.

7. What challenges do you face in implementing deep learning in your English Classroom

Based on the data presented in Figure 7, several challenges are identified in the implementation of deep learning approaches in the classroom. The most dominant issue is the lack of training or knowledge among educators, reported by 69.7% of respondents, suggesting that professional development and capacity building remain critical barriers to effective application. Large class sizes (48.5%) and limited time allocated in the curriculum (36.4%) also emerge as

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significant constraints, reflecting structural limitations within the educational setting that reduce opportunities for personalized and in-depth learning. Furthermore, the lack of adequate teaching resources, identified by 28.8% of respondents, demonstrates how insufficient materials hinder the adoption of innovative teaching methods. Although less frequently mentioned, other challenges such as students' basic competence, additional workload beyond teaching duties, varied student conditions, and the limited time to conduct comprehensive teaching activities (each 1.5%) also contribute to the difficulties faced by educators. Collectively, these findings emphasize that the successful integration of deep learning requires not only teacher training but also systemic support in terms of class management, time allocation, and resource provision.

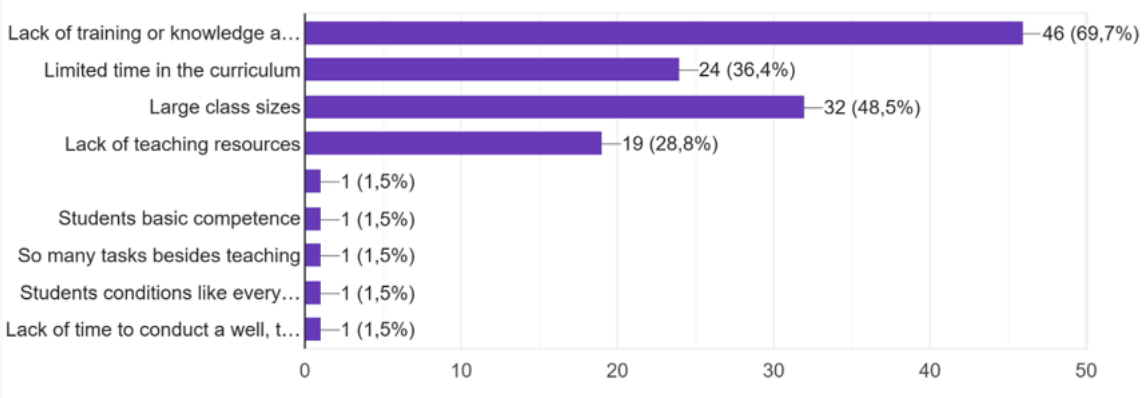

Figure 7. Challenges in Implementing Deep Learning in The English Classroom

8. What kind of support or training would help you implement deep learning more effectively?

Table 1. Types of Support and Training Needed by Teachers for the Implementation of Deep Learning

Category of Support/ Training Needed	Sample Teacher Responses
Workshops & Practical Training	"Workshops with direct practice/examples," "Offline training with real practices," "Deep learning workshop"
Module & Teaching Material Development	"How to develop lesson modules using deep learning," "Useful module," "High-quality, standards-aligned curricular materials"
Institutional Support & Collaboration	"Support from school principals and supervisors," "Collaboration among teachers," "Comparison study with other schools"
Technology Integration	"How to integrate technology in deep learning," "Learn through YouTube," "Use online tools (Quizizz, Kahoot, etc.)"
Classroom & Time Management	"How to manage large classes," "Time support, fewer materials to cover," "Effective classroom management"
Discussion Forums & Sharing Best Practices	"Teaching discussion forum," "Inviting experienced teachers/lecturers," "Q&A sessions"

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Table 1 indicates that teachers strongly emphasize the need for workshops and practical training as the primary support for implementing deep learning effectively. They also highlight the importance of module and material development, institutional backing, and collaboration to sustain innovation. Additionally, teachers request technology integration training, classroom management strategies, and opportunities for discussion forums and sharing best practices. Overall, the findings suggest that comprehensive, practice-oriented, and collaborative support is essential for success.

9. Do you have any additional comments or suggestions regarding deep learning in English classrooms?

Table 2. Additional Comments and Suggestions Regarding Deep Learning in English Classrooms

Category	Sample Teacher Responses
No Additional Comments	"No", "No thanks", "Sorry, I don't have"
Need for More Training & Resources	"Still need more training and resources", "More lesson plan examples", "We need more best practice training", "Need more YouTube videos about deep learning"
Practical Implementation & Best Practices	"We need more examples/best practice", "Hold workshop in real meeting not by Zoom", "Give some videos or models in teaching process", "Teachers should inspire each other by sharing best practice"
Curriculum & Time Constraints	"Please make fewer chapters/materials in the curriculum", "We need more time, 4 hours a week is not enough", "Simplify the module"
Student Motivation & Engagement	"Sometimes the problem is student motivation", "I usually use ice breaking and games to attract attention", "Need stronger voice to keep students focused"
Facilities & Technology	"Schools lack internet and projectors", "More varied game-based learning materials", "Learn through online tools (Kahoot, Quizizz)"
Teacher Role & Professionalism	"We need to be a good model first", "Teachers should be creative, innovative, and inspiring", "Character reflection"
Positive Perceptions of Deep Learning	"Deep learning is very useful", "It helps students apply knowledge more easily", "I love deep learning"

Table 2 shows that while some teachers had no additional comments, many emphasized the need for more training, resources, and practical best practices to support deep learning. Concerns about curriculum load, limited time, student motivation, and inadequate facilities were also highlighted. Teachers stressed the importance of professionalism, creativity, and collaboration, while several expressed positive perceptions of deep learning's benefits. Overall, the responses reflect both enthusiasm and challenges in applying deep learning effectively.

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Interview Results

The next instrument was an interview, which was used to explore more about teachers' understanding and their experience in applying deep learning in their classes. Two teachers were interviewed. The interview covered questions related to teachers' background, their understanding of deep learning, classroom practices, challenges, support needed, the impact of deep learning, and teachers' suggestions. Table 3 is the summary of the interview with the teachers.

Table 3. Interview with Teachers on Deep Learning in Classes

No	Questions	1st Teacher Response	2nd Teacher Response
1	Background	She has 30 years of experience as an English teacher at SMP Negeri 12 Semarang. She has seen curriculum changes and approaches	She has been teaching English at SMP Negeri 27 Semarang for 30 years. She also joined workshops and webinars on deep learning
2	Understanding of deep learning	She understands that deep learning is a way to make students think more critically and to relate lessons to their daily lives. She has positive thoughts about deep learning as an approach, but she is not sure whether or not her classroom practices really consider deep learning practices.	She said that deep learning in English language teaching emphasizes students' ability to go beyond memorization by connecting ideas, thinking critically, and creating. Unlike traditional methods that focus on teacher-centered instruction and rote learning, this approach is student-centered, involving projects, discussions, and problem-based tasks that encourage deeper application of knowledge.
3	Classroom Practices	In her class, she uses group discussion and projects such as making posters or presentations. The students enjoyed the class, but she is not sure whether they have already met the deep learning criteria	She applied deep learning by giving students challenging tasks that push them to think critically. The teacher assigns projects and group discussions in English, such as creating a documentary video about historical sites in Semarang. The activities involve research, interviews, script writing, and video editing, allowing students to practice listening, speaking, reading, and writing skills in an integrated way.
4	Challenges	The main problem is that she has big classes that consist of 30 to 32 students in each class. It is hard to monitor all of them. The students' competencies are also very heterogeneous—some are very advanced, while others still struggle with basic vocabulary."	A large number of students with more than 30 in class, and varying proficiency levels, make it difficult to ensure that all students are deeply engaged. There is a significant gap between students who are already proficient and those who are still struggling, making it difficult to design activities that suit everyone.

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No	Questions	1st Teacher Response	2nd Teacher Response
			Assigning differentiated tasks based on students' proficiency levels is the best choice, although this requires extra time and preparation.
5	Support Needed	She stated that more training and models on how to implement deep learning effectively in English lessons will be helpful for teachers. Smaller class sizes would help them, too. The availability of resources and guidance would make a difference.	She needs support, such as concrete examples, so that she will have a better understanding of the meaning of deep learning. Specific and continuous training, as well as more adequate resources for project-based activities, are also needed
6	Impact	She believes that when deep learning is applied well, students will become motivated and their English will improve, especially in speaking and teamwork.	She believes that deep learning enhances students' speaking, listening, reading, and writing skills. It is seen as highly suitable for junior high school students in Semarang, as it improves English proficiency while preparing them to use the language contextually for future needs.
7	Suggestions	She hopes that there will be collaborative lesson design or school-based workshops where teachers could share best practices	She hopes that there will be more concrete support, especially in terms of adding the number of teachers, since she teaches more than 30 teaching periods per week. In addition, there should be more practical training to help teachers address the challenges of heterogeneous classrooms.

Observation Results

Observing Ms. Rina Wijayanti (Grade 8, SMP Negeri 12 Semarang) and Mr. Andi Prasetyo (Grade 9, SMP Negeri 5 Semarang) shows how both teachers were making real efforts to bring deep learning into their English classrooms. Ms. Rina created a calm and welcoming atmosphere where students felt comfortable to learn. Her use of interactive games and real-life examples made the lesson relatable and fun, and she maintained a supportive tone throughout. However, there were moments where students could have benefited from more reflection on their learning, as well as opportunities to be more creative and use technology. By the end of the lesson, a few students seemed to lose focus, suggesting the need for more varied and sustained engagement strategies.

Mr. Andi's classroom, on the other hand, was full of energy. He encouraged students to reflect on what they learned and connected the topic to their daily lives, which sparked genuine interest. His use of real news articles and multimedia resources made the lesson relevant and engaging. Students eagerly participated in debates, asking questions and sharing opinions. Yet, this

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enthusiasm sometimes tipped into tension, with a few students dominating the discussions while others remained quiet. The classroom environment could have been more balanced, with a greater variety of activities to keep all students involved and the energy focused.

Both teachers demonstrate strong potential in applying mindful, meaningful, and joyful learning. They are on the right track, but a few adjustments—such as adding metacognitive prompts, balancing participation, and diversifying activities—could make their lessons even more powerful and inclusive. These small shifts could turn good learning experiences into truly deep and transformative ones for their students.

CONCLUSION

This study highlights that while junior high school English teachers in Semarang recognize the value of deep learning for fostering communicative competence and critical literacy, its classroom implementation remains limited. Most teachers have substantial teaching experience, yet many lack formal training and sufficient institutional support. Teachers reported practical challenges such as heavy curriculum loads, large class sizes, and limited facilities, which often prevent them from moving beyond surface-level practices.

The findings suggest that sustainable deep learning requires not only teachers' creativity and commitment but also systemic support through professional development, resource provision, and flexible curriculum design. Strengthening teacher training and providing practical models are essential steps to ensure that deep learning becomes a meaningful pedagogical shift rather than a superficial trend. By addressing these gaps, schools can create more engaging, reflective, and transformative English learning environments for students.

Deep learning can be sustained if teachers receive targeted training, schools provide workshops and collaborative support, and curricula allow flexible, student-centered tasks. At the policy level, reducing teacher burdens and ensuring adequate resources are crucial to empower innovation and make deep learning a transformative practice in English education.

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