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Classroom Evaluation of Deep Learning: Effects on Reading Comprehension among Seventh Graders in Indonesia

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Abstract

In Indonesian instructional design, the principles of mindful, meaningful, and joyful learning have guided efforts to create engaging learning experiences in a deep learning nuance. Building on this foundation, deep learning has been increasingly recognized for its potential to strengthen students' comprehension skills. This study assesses the effectiveness of a deep learning approach in enhancing reading comprehension among seventh-grade students in Indonesia and examines students' perspectives on learning. Employing a quasi-experimental one-group pretest–posttest design, the study was conducted at a state junior high school with 32 students and included quantitative data from pretests and posttests, followed by qualitative data from semi-structured interviews with students and teachers. The quantitative results showed a significant improvement in reading comprehension, indicating that the deep learning approach effectively enhanced students' reading performance. Qualitative findings supported this outcome, revealing increased student confidence and participation. These findings suggest that structured deep learning activities, combined with a supportive environment, foster greater student engagement and reading comprehension.

Keywords: deep learning, reading, comprehension, seventh-grade students

Abstrak

Dalam desain pembelajaran di Indonesia, prinsip pembelajaran yang berkesadaran, bermakna, dan menyenangkan telah menjadi landasan dalam upaya menciptakan pengalaman belajar yang menarik dalam nuansa *deep learning*. Berdasarkan fondasi tersebut, *deep learning* semakin diakui potensinya dalam memperkuat kemampuan pemahaman peserta didik. Penelitian ini menilai efektivitas pendekatan *deep learning* dalam meningkatkan kemampuan membaca pemahaman siswa kelas VII di Indonesia serta mengkaji perspektif siswa terhadap proses pembelajaran. Dengan menggunakan desain kuasi-eksperimen *one-group pretest–posttest*, penelitian ini dilaksanakan di sebuah sekolah menengah pertama negeri dengan melibatkan 32 siswa, mencakup pengumpulan data kuantitatif melalui *pretest* dan *posttest*, yang kemudian dilengkapi dengan data kualitatif dari wawancara semi-terstruktur dengan siswa dan guru. Hasil kuantitatif menunjukkan peningkatan yang signifikan dalam kemampuan membaca pemahaman, menandakan bahwa pendekatan *deep learning* efektif dalam meningkatkan performa membaca siswa. Temuan kualitatif mendukung hasil tersebut, menunjukkan adanya peningkatan kepercayaan diri dan partisipasi siswa. Temuan ini mengindikasikan bahwa aktivitas *deep learning* yang terstruktur, dipadukan dengan lingkungan pembelajaran yang suportif, mampu mendorong keterlibatan siswa yang lebih besar serta meningkatkan kemampuan membaca pemahaman mereka.

Keywords: *deep learning*, membaca, pemahaman, siswa kelas VII

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INTRODUCTION

In today's era of digital disruption, highly advanced, rapidly evolving information and communication technologies have transformed how people access information and data. In the context of education, all stakeholders need to adapt to technological advances, change and improve the ability of current human resources to be able to adapt and follow it sustainably (Alzahrani & Almalki, 2025). Success in both academic and social fields is crucial and largely depends on literacy skills, often referred to as reading comprehension. As reported by the OECD (2023), comprehensive reading or reading comprehension is believed to be important in language learning because it helps students understand cross-disciplinary knowledge and actively engage in information-dependent societies.

In Indonesia, awareness of the importance of reading comprehension as one of the language literacy abilities has recently increased, as it serves as a bridge, providing a source of communication and information in global science and culture. However, this is not in line with the results of various literacy surveys, one of which is that the ability of students at the secondary school level in Indonesia to understand English texts is at the average level of OECD countries (OECD, 2023). According to Alzahrani & Almalki (2025) stated how the practice of pedagogy in teaching reading affects EFL outcomes, and adequate literacy in reading is critical to improve reading comprehension in a context of diversity, such as in Indonesia. This suggests that the level of literacy achievement in local communities is not in line with global literacy standards, and the primary issue is the low reading comprehension of English among secondary school students.

Despite growing recognition of the importance of reading comprehension in Indonesia, the key issue of students' low engagement in reading activities remains insufficiently discussed. In reading comprehension, student engagement is pivotal, as it involves cognitive processes, attentional persistence, intrinsic motivation, and emotional involvement (Liew et al., 2020) . If students' engagement is not enhanced, reading activities become surface-level tasks, such as word-level processing or literal translation, rather than activities that integrate contextual meaning (Ayiz & Nugroho, 2025). In Indonesian English classrooms, this problem is concerning because reading activities are often teacher-led and test-oriented, which reduces students' opportunities to actively participate, reflect, and engage in textual interaction (Nanda & Azmi, 2020). As a result, low student engagement has emerged as a key factor contributing to limited reading comprehension among junior high school students. Unfortunately, current studies on the role of engagement in improving reading comprehension through instructional design, particularly in junior high schools, are underdeveloped.

Reading comprehension has been extensively studied in numerous research studies. Most students in Indonesia read the text literally, copying or translating only a few sentences without understanding its structure and context. A study by Gusti (2021) reported that students' literal reading comprehension falls in the low category, and most receive a standard score. Moreover, the causes of reading comprehension and reading habits are both internal and external factors. In line with this,

Fredricks et al. (2016) stated that the success of reading comprehension does not depend on the quantity of strategies used but on the way in which readers integrate metacognitive awareness, cognitive flexibility, and linguistic sensitivity into the comprehension process. As a result, the reading process usually only recognises words without learning or understanding their deeper meaning.

Most studies reveal that these phenomena have similarities. Conventional learning models do not encourage students to actively construct meaning. Instead, they emphasise repetition and memorisation. It requires follow-up and continuity in the level of students' abilities, who are only able to remember and repeat at higher levels and with more strategies. Khamees (2016) noted that memorisation is a low-level cognitive strategy that can be used among other high-level cognitive strategies in the process of learning English. Meanwhile, emotional and cognitive involvement in reading activities have a positive effect on reading strategies, which in turn influence academic achievement (Ondé et al., 2023; Feriyanto & Anjariyah, 2024). Supporting this, Taye & Teshome (2025) recommended that one of the most tangible and feasible approaches to improve low reading ability is the application of extensive reading. This is due to a significant improvement in reading comprehension, followed by interventions focused on extensive reading.

Theoretical Foundations of Learning Approaches

Learning approaches are closely connected to underlying learning theories that explain how students process information and construct understanding. One influential theoretical perspective is constructivist learning theory, which holds that learning occurs when individuals actively construct knowledge by integrating new information with prior experience. Vygotsky (1978) emphasize the role of social interaction, collaboration, and reflection in shaping cognitive development. Through interaction and guided participation, students can internalize knowledge and develop a deeper conceptual understanding. In addition, information processing theory explains learning as a cognitive process involving attention, encoding, storage, and retrieval of information. From this perspective, meaningful learning requires active mental engagement rather than passive reception of information. Building on these theoretical foundations, Marton & Saljd (1976) introduced the distinction between surface learning and deep learning, which later became central in educational research. This distinction provides a conceptual framework for understanding differences in students' learning intentions, strategies, and outcomes, particularly in reading comprehension.

Surface and Deep Learning Approaches

A surface learning approach is characterized by students' intention to complete tasks with minimal effort, often focusing on memorization and reproduction of information. Biggs and Tang (2011) explain that surface learning arises from an intention to get the task out of the way with minimum trouble, while appearing to meet course requirements. Similarly, Marton & Saljd (1976) stated that a surface learning approach occurs when students focus on memorizing facts and procedures rather than delving into understanding the underlying meaning. Khong and Tanner (2024) further argued that the surface learning approach is rooted in the practice of rote learning with the aim of simply completing an assignment or passing an exam, resulting in a superficial understanding of the material. Another study also states that the surface learning approach is characterized by the intention to simply produce the content of the text through memorization and repetition strategies (Dolmans et al., 2016). Thus, a new pedagogical approach is needed to increase in-depth involvement, critical thinking, and essential understanding in reading learning. Surface learning tends to result in superficial understandings, oriented towards completing formal tasks and evaluations.

In contrast, deep learning emphasizes understanding, meaning-making, and reflection. Deep learning occurs when learners actively relate new information to prior knowledge, analyze ideas, and construct coherent understanding. According to Hattie and Donoghue (2016) and Liu and Qiao (2025), deep learning involves higher-order cognitive processes such as analysis, evaluation, and creation. This approach aligns with constructivist perspectives, as learners are encouraged to engage cognitively, emotionally, and socially with learning materials rather than passively receiving information. The distinction between surface and deep learning is particularly relevant in reading instruction, as comprehension requires more than word recognition or literal translation. Instead, effective reading demands interpretation, inference, and the integration of ideas supported by deep learning approaches.

Reading Comprehension

Reading comprehension refers to students' ability to understand, interpret, and derive meaning from written texts. It plays vital role in language learning, as it enables students to access information, comprehend ideas, and participate actively in knowledge-based societies. The OECD (2023), emphasizes that reading comprehension is a core literacy skill that supports academic achievement and lifelong learning. Research has shown that many students in Indonesia tend to approach texts at a surface level, often focusing on literal translation or copying isolated sentences without fully understanding the text's structure, context, or meaning. Gusti (2021) reported that students literal reading comprehension levels are generally low, with most students achieving only average scores.

Difficulties in reading comprehension are influenced by both internal and external factors, including cognitive strategies, motivation, and learning environment. Fredericks et al. (2016) argue that successful comprehension is not determined by the number of strategies used, but by how effectively readers integrate metacognitive awareness, cognitive flexibility, and linguistic sensitivity during the reading process. When these elements are lacking, students may recognize individual words but fail to understand deeper meanings and relationships within the text. Furthermore, many conventional teaching approaches do not sufficiently encourage students to actively construct meaning. Instead, they tend to emphasize repetition and memorization. Khamees (2016) notes that memorization represents a low-level cognitive strategy which, although useful in certain contexts, is inefficient for developing deeper comprehension skills unless combined with higher-order thinking strategies. Reading comprehension plays a crucial role in EFL learning, as it directly influences students' academic achievement and overall language proficiency. Alzahrani & Almalki (2025) emphasize that pedagogical practices in teaching reading significantly affect EFL outcomes, particularly in diverse educational contexts such as Indonesia. Emotional and cognitive engagement during reading activities has also been shown to positively influence comprehension strategies and academic performance (Ondé et al., 2023; Feriyanto & Anjariyah, 2024). Supporting this, Taye & Teshome (2025).

Deep Learning in Relation to Reading Outcomes

Given the limitations of surface learning in teaching reading, deep learning has emerged as a strategic pedagogical approach for improving reading comprehension. Deep learning prioritizes students' active involvement in cognitive, emotional, and social processes during learning. Through activities such as exploration, reflection, and collaboration, students are encouraged to interpret texts using their own knowledge and experiences (Marton & Saljd, 1976; Weng et al., 2023). In the

Indonesian educational context, deep learning has been formally emphasized in national policy. the Minister of Primary and Secondary Education defines deep learning as learning that is mindful, meaningful, and joyful, grounded in constructivist and information processing (Kemendikbud, 2025; Feriyanto & Anjariyah, 2024). This approach emphasizes understanding meaning rather than accumulating facts, enabling students to understand not only what they learn, but also why and how learning occurs. Empirical studies suggest that deep learning-oriented reading instruction enhances comprehension by activating prior knowledge, stimulating higher-order thinking, and increasing students' engagement. By reducing reliance on memorization and encouraging meaningful interaction with texts, deep learning supports more accurate interpretation, stronger retention, and improves reading outcomes. As a result, deep learning provides a strong pedagogical basis for addressing reading comprehension challenges among EFL students, particularly at the junior high school level.

Despite the recognition of deep learning's potential, there are significant gaps in current literature. The empirical evidence from Indonesian junior high schools remains limited, particularly in its implementation and effectiveness. Moreover, studies on how deep learning approaches specifically enhance reading comprehension are still limited. Although teachers increasingly recognize the students' perspectives, few studies integrate both qualitative and quantitative aspects. This study contributes to deep learning theory with empirical evidence and enriches the global understanding of how deep learning works in Indonesian contexts. This study helps stakeholders and policymakers to emphasize mindful, meaningful, and joyful learning. The research results provide empirical evidence of its effectiveness and inform the curriculum developer and teacher about implementing deep learning. The students' perspectives and results provide an insight into how deep learning fosters student-centered learning and positive affective changes.

Therefore, this study aims to assess the effectiveness of a deep learning approach in enhancing reading comprehension among seventh-grade students in an Indonesian junior high school context. This study also examines students' and teachers' perspectives on the deep learning experience. Hence, the purpose of this study answers two questions: (1) how far the deep learning method can improve students' reading comprehension in grade seven; and (2) how students view the process of learning to read with this method.

Based on this study, in the social constructivist theory, students who actively participate in the learning process and engage in activities such as collaboration, interaction, and reflection can gain a deeper critical understanding of the text (Vygotsky, 1978). Thus, the excellent opportunity for students to master understanding in learning that is consistent and meaningful with texts depends heavily on the number of students who actively participate in the learning process. Theoretically, this study highlights the understanding of learning approaches that are relevant to learning English as a foreign language (EFL) in Indonesia. As this study demonstrates, deep learning methods are not only effective for adult students and learners but also highly relevant for junior high school students to establish a foundation in academic literacy. The results of this study are expected to enable teachers to create reading learning methods that are more student-focused, critical, and cooperative. By applying individual reflection methods, such as text-based discussions and project-based learning, individuals can enhance their independent thinking. This study is also expected to serve as a reference for policymakers in developing a curriculum that emphasizes the specifics of reading and critical understanding as relevant skills for the 21st century.

Deep learning was developed by Biggs and Tang (2011), in the thinking process and reflection are needed for effective learning. It is supported by Vygotsky (1978), who has adopted social constructivism, the presence of an emphasis on contextual experience and social interaction can shape the knowledge that supports this idea. Within this framework, it is considered that reading learning is successful if students actively engage in discussion, analysis, and personal reflection on how they understand the text. Some of the obstacles that often arise in learning to read are a lack of critical thinking strategies, a lack of connections between texts and authentic experiences, and a lack of cognitive engagement in terms of using deep learning strategies and exerting the necessary effort for comprehension of complex ideas (Ferdinandus & Simantuak, 2024; Feriyanto & Anjariyah, 2024). This deep learning approach is expected to alleviate this problem, as students will be actively engaged in activities that require social cooperation, in-depth analysis, and a comprehensive understanding of the text. This study was conducted to answer two main questions:

RQ 1: Does the implementation of a deep learning approach significantly improve seventh graders' reading comprehension?

RQ 2: What are the seventh graders' perspectives on learning reading comprehension through a deep learning approach?

RESEARCH METHODS

This study employed a mixed-methods approach to investigate the impact of deep learning on English reading comprehension among seventh-grade students. The researchers used a quasi-experimental design with a single pre-test and post-test. The research was conducted in a state junior high school in Yogyakarta, Indonesia, with 32 students. A total of 32 students, aged 12-13 years, were selected based on their attendance in the seventh-grade English class, ensuring that participants have an identical academic background and learning environment. The design of this mixed-methods study was sequential explanatory, where the data collection brought together two types of information, quantitative and qualitative data, so that they could provide a greater understanding of the research topic, and such comprehension might not have emerged if the data were analyzed separately (Bowen et al., 2011). The researchers first collected quantitative data from posttests and pretests administered to students. Subsequently, the researchers took the qualitative results from semi-structured interviews with students and teachers.

At the beginning of the research, the researchers collected students' pretest scores. Following this, the teachers employed the deep learning approach to enhance students' reading skills in an offline class. In the next phase, the researchers collected students' posttest scores. Using the statistical software IBM SPSS Statistics 25, the researchers compared the pretest and posttest results. Since the data did not meet the assumptions of parametric tests, the researchers used the Wilcoxon signed-rank test, a nonparametric test.

As a form of reflection, the researchers conducted interviews with some students and the English teacher at the research site. The interview covered questions about students' and teachers' experiences after implementing the deep learning approach in the classroom. The interview transcriptions were collected and, thereafter, analyzed using thematic analysis. In qualitative data analysis, thematic analysis enables researchers to identify patterns in the data related to participants' lived experiences, opinions, perspectives, and behaviors (Clark, 2011). To understand the content of the transcriptions, the researchers reread the students' and teachers' answers, systematically coding

the written responses to identify recurring themes and to synthesize the results, highlighting their testimony after implementing the deep learning approach.

RESULTS AND DISCUSSION

Result

Deep Learning Impact on Reading Comprehension

Quantitative data were collected via pre- and post-tests. These tests were used to determine the effectiveness of the deep learning approach used in students' reading comprehension at SMPN 1 Imogiri. The data analysis of the students' pre-test and post-test scores was conducted using several statistical procedures, including normality tests, homogeneity tests, and the Wilcoxon Signed-Rank test. The purpose of these analyses was to examine the effectiveness of the implemented teaching approach.

Table 1. Normality Test of Pre-Test and Post-Test Scores

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		32
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	11.45986655
Most Extreme Differences	Absolute	.142
	Positive	.142
	Negative	-.062
Test Statistic		.142
Asymp. Sig. (2-tailed)		.101[c]

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Table 1. Homogeneity Test of Pre-Test and Post-Test Scores

Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Treatment Class	Based on Mean	.051	1	62	.822
	Based on Median	.006	1	62	.936
	Based on Median and with adjusted df	.006	1	55.987	.936
	Based on trimmed mean	.044	1	62	.835

Table 1 shows that the p-value is above 0.05 (0.101 > 0.05), indicating that the students' scores followed a normal distribution before and after the treatment. Whereas Table 2 demonstrates the result of the homogeneity test, with a significance value of 0.822 (0.822 > 0.50). This result indicates that both tests were homogeneous. The fulfillment of both normality and homogeneity assumptions ensures the reliability of the statistical comparisons.

Table 2. Result of the Wilcoxon Signed-Rank Test

Test Statistics[a]

	Post Test Treatment Class - Pre Test Treatment Class
Z	-4.242[b]
Asymp. Sig. (2-tailed)	.000

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

To determine the effect of the deep learning approach on students' reading comprehension, a Wilcoxon Signed-Rank Test was conducted. Table 3 shows a p-value of 0.000, which is lower than the significance level of 0.05. This indicates a statistically significant difference between the students' pre-test and post-test scores. Thus, the findings suggest that students performed better after receiving the treatment, indicating that the applied deep learning approach effectively improved their reading comprehension.

The qualitative data collected supported the test results. Based on interviews done with both teachers and students who are learning using deep learning. Deep learning successfully improved students' reading comprehension. The students stated that they were "more knowledgeable" after learning with deep learning. Several students (S1, S2, S3) specifically point out that they need to master the concepts of time, day, and month. Some students mention that,

"Yes, they teach all about time, including day, month… So I understand it better," – S2

This indicates that with deep learning, students can master the material more comprehensively.

This effectiveness is not limited to introducing a new concept, but also to activating students' prior knowledge. Deep learning can strengthen and activate the students' previous knowledge of the material taught (Mulyani et al., 2023). This aligns with the teaching strategy identified in teacher interviews. One of the teachers explained that deep learning activates students' prior knowledge and enhances students' engagement. The teacher noted,

"Students are active if the lesson... can be connected to what they have learned before... So they will feel, naturally, that oh yes, I have studied this before, which means now I will go deeper" -T1

Students' statements supported this,

"Back then, mmm.. when I was in grade five, I recall to learn about time, but I already forgot about it. Now that I learn about it, I remember". – S1

This statement demonstrates that, as a learning method, deep learning not only helps deliver the material but also connects with students' prior knowledge, thereby supporting retention.

Based on Merkebu et al. (2023) cognitive comprehension is also connected to the learning methods used. Students' reporting their learning achievement is improving with deep learning.

Students 5 and 6 report that the material taught by their teachers was “learned easily” because the learning process was “exciting”. As the teacher mentioned,

“… how to make English learning fun, can be joyful for them, and they will not feel bored learning English”-T1

This shows how deep learning allows students to learn more joyfully while remaining mindful and meaningful.

From the teachers' perspective, it is clear that student behavior has changed. Teachers reported an increase in student engagement because of a student-centred approach to deep learning. It provides a safer, inviting environment. One teacher observed,

“students are more active when the teacher... teaches... with readers and... deep learning... [the student] feels... given space to express their abilities”-T1

The shift from passive perception to active participation highlights the positive effect of deep learning. This indicates that students gradually shift their perspective on the English language, from merely a school subject to something they truly need. Teachers perceived this as a successful implementation of meaningful in deep learning.

Moreover, the learning strategies used in deep learning enable students to collaborate. (Andrews et al., 2020). One of the most valuable outcomes of deep learning is collaboration. The teachers actively foster this through specific ’joyful’ activities. The teacher explained,

“...in the class, so the children are more active, we lean more towards things the children do themselves. I mean like group work... it can also be through games... or performance like role-play”-T1

The students value it as very helpful, one student shared that,

"Because we do it together so that I can understand it better.” –S6

In conclusion, students’ improvement in cognitive comprehension is a result of deep learning and its characteristics. Deep learning simultaneously reduces affective barriers (such as boredom and sleepiness) and increases active engagement. Joyful elements in learning lower the affective filter, allowing students to process cognitive input more effectively.

Students' Perspectives on Deep Learning Approaches

One significant finding from the interview is that the students consistently exhibit very positive emotions throughout the learning process. The students consistently expressed the learning process as “exciting”, “very good”, and “not boring”. Statements such as,

“It made the learning process not boring or sleepy at all it makes students more active”. – S4

These statements create a joyful environment that directly addresses common barriers to learning, such as boredom and sleepiness, and encourages active participation.

In the teaching and learning process, several additional aspects contribute to joyful learning. First, gamification proved effective. Students S3 and S5 explicitly mentioned "mini-games" and "Kahoot" as parts that made learning easier and more enjoyable. Second, the use of visual media also played a significant role, as expressed by student S3, who stated that the presence of "pictures" made the learning fun. These elements indicate that students highly value an interactive, multisensory instructional design. Additionally, the teacher's role as a facilitator of a positive environment cannot be overlooked. Student S6's comment about feeling "comfortable with the teacher, she was cool" was a key factor that enabled participation without fear or embarrassment. This psychologically safe environment became the foundation for students to fully engage in the learning process.

Deep learning proved successful in helping students see the relevance and purpose of the material beyond the classroom context. Students did not just memorize vocabulary or grammar rules but also understood how that knowledge could be applied in their lives. With deep learning, it can provide various examples of application contexts relevant to their world.

Deep learning shapes students' perspectives, helping them see the benefits of learning English. The meaningful pillar of deep learning can be seen with Student 4, stating,

> *"It can be useful when I play games and meet people from other countries, I can chat with them."*

while student S5 connected it to the listening activity. This demonstrates that learning is effectively connected to the students' personal hobbies and interests. The students were also able to project the use of English in broader global social contexts. Several students mentioned scenarios like communicating with "foreigners" when meeting them on the street or travelling abroad.

Students' ability to give concrete examples indicates that the learning has been successfully transferred from theoretical to functional knowledge. This reflects a fundamental shift in student perception, from viewing "English as a school subject" to "English as a tool for global communication." Learning is no longer confined to the academic goal of getting a grade, but becomes meaningful learning (Vargas-Hernández & Vargas-González, 2022). This shift fosters a strong intrinsic motivation to continue learning and using the language in daily life.

The learning intervention also had a significant impact on the students' engagement and self-confidence. Students reported feeling more active and involved in the learning process. Student S1's statement that

> *"the lesson was very interactive, so it wasn't easy to get bored and all the material just stuck in my head"*

illustrates how an engaging learning design fosters conscious and deep engagement.

The most significant finding was the growth in self-confidence that resulted directly from mastering the material. There is a clear causal relationship between competence and affect. Student S6 straightforwardly stated,

> *"...since I've mastered the material, I feel confident raising my hand,"*

explicitly linking self-confidence to material understanding. Similarly, student S5 concurred,

"yes, because I'm smart now, so I'm brave enough to raise my hand".

This newfound confidence then manifested in concrete classroom behaviours, namely the courage to take academic risks. Students became braver about asking and answering questions, overcoming a common barrier. When asked whether he was shy about asking questions, student S6 said no, because he felt comfortable with the teacher and wanted to learn. This indicates that the combination of material mastery and a supportive learning environment successfully produced more proactive and courageous students in their learning.

Discussion

Data analysis reveals strong alignment between teachers' pedagogical intentions and students' learning experiences. The students' positive experiences were not coincidental but a direct result of the teachers' implementation of deep learning principles. The Joyful Dimension, as shown in students' experiences of finding the learning "fun" through "mini-games, directly reflects the teachers' strategy to create a joyful learning experience through games and group work. This aligns with research emphasising that a positive and joyful atmosphere can enhance cognitive engagement and long-term retention (Jeet & Pant, 2023; Maming et al., 2023).

The students' ability to connect the material with real-world contexts like "playing games" or interacting with "foreigners" is the realisation of the teachers' explicit goal to "bring them into the real world, their real world". With deep learning, a teacher can make meaningful learning. This practice aligns with the concepts of authentic and contextual learning, which have been shown to help students develop critical thinking skills and transfer knowledge by learning in contexts that resemble the real world (Anagnostopoulou et al., 2023; Yasin et al., 2023).

The Mindful Dimension, achieved through increased student activity, participation, and self-confidence, is the fruit of teachers' efforts to foster learning awareness (mindfulness) and provide space for students to "express their abilities". This finding is supported by the literature, which indicates that mindfulness can increase student engagement and foster a more collaborative learning environment (Azila-Gbettor et al., 2022; Liu et al., 2022). This convergence confirms that when deep learning principles are well-implemented, their impact can be directly felt by students, creating a holistic and practical learning experience.

This research highlights that designing joyful, meaningful activities is not an add-on but a crucial foundation for achieving deep cognitive and affective learning outcomes. The teacher's role shifts from being a mere information provider to an architect of a psychologically safe learning environment, where students feel "comfortable" to take risks and participate actively. Therefore, professional development programs for teachers should focus not only on instructional techniques but also on developing emotional intelligence and the ability to build positive relationships with students, which is essential in supporting cognitive engagement (Iqbal et al., 2022).

Additionally, the quantitative data results support previous studies indicating that a deep learning approach can improve reading comprehension by encouraging higher-order thinking and meaningful engagement (Utami, 2025). Students taught through deep learning oriented reading lessons had significantly higher comprehension scores than those taught conventionally, as the deep learning approach encouraged active participation and conceptual understanding over surface memorization (Utami, 2025).

A deep learning approach also strengthens comprehension by activating and connecting prior knowledge. Students in a deep learning environment are encouraged to "associate, mobilise, and activate their prior experiences" to integrate the incoming information into a coherent knowledge structure (Jin, 2024). This approach enables students to connect new reading passages to their prior knowledge, thereby enhancing their ability to make inferences and retain information (Herda & Kozuka, 2024). Based on the data analysis, the students' improved scores from pre- to post-test indicate that prior understanding activation significantly improved their ability to connect ideas, resulting in more accurate comprehension answers. In line with this, deep learning-based reading designs have been shown to significantly improve students' ability to infer and summarize information from texts (Ying & Su, 2024), suggesting that connecting new information to prior knowledge leads to deeper comprehension outcomes.

Theoretically, this study extends existing research on deep learning and reading comprehension by emphasizing student engagement as the primary framework linking pedagogical design and comprehension outcomes. Whereas earlier studies have discussed deep learning in higher education settings, the current findings extend the relevance to junior high school contexts. The findings show that deep learning key points, mindful, meaningful, and joyful learning, enhance reading comprehension by supporting students' cognition, affection, and behaviour. This aligns with social constructivist theories, which emphasize that meaning is constructed through active participation, interaction, and reflection. Therefore, the study provides empirical validation for treating student engagement not merely as an instructional outcome but also as a theoretical mechanism in deep learning-oriented reading instruction.

Methodologically, this study substantiates the value of using a mixed-methods, one-group pretest-posttest design to represent both changes in outcomes and learning experiences in classroom research. The combination of quantitative and qualitative data from teachers and students enabled the researchers to gain an in-depth understanding of how deep learning principles are applied in practice. This strategy provides methodological insights for upcoming pedagogical research, particularly in contexts with limited experimental control. The results indicate that integrating achievement results with reflection-based qualitative data can enhance the interpretation of pedagogical effectiveness, beyond test scores.

The results of this study provide several pedagogical implications for English language teaching and curriculum development. In classroom settings, English teachers are suggested to use reading instruction beyond word-level memorization to encourage students to actively participate in reading activities through reflective inquiry, peer discussion, and meaningful assignments that connect to students' real-life experiences. For curriculum designers, deep learning principles, including mindful, meaningful, and joyful learning, should be explicitly integrated into their reading materials and activities. Curriculum designers should prioritize in-depth comprehension over content coverage and provide more opportunities for prolonged engagement. For policymakers, English teachers should be equipped with pedagogical strategies to apply deep learning principles in their reading activities and to prioritize assessments that support deep and interpretive understanding and reflective engagement over surface-level recall.

It is important to acknowledge several limitations in this study. First, the small sample size limits the variety of perspectives that could be captured. Second, there is a potential for social desirability bias, in which students might provide answers they think would please the researcher, despite efforts to create an open and honest interview atmosphere. Based on these findings and limitations, several

directions for future research can be recommended. A longitudinal study tracking the development of the same students over a more extended period could provide insights into the long-term impact of the deep learning approach on student motivation, resilience, and academic achievement.

Conclusion

The deep learning approach proved effective in enhancing seventh graders' reading comprehension. The significant improvement between pretest and posttest scores demonstrates that the approach helped students transition from surface-level recall to a more meaningful understanding of the texts. Students showed more precise comprehension, stronger connections between ideas, and better retention of material after participating in the learning activities. The qualitative findings further strengthened these results. Students described the learning process as engaging, enjoyable, and supportive of their confidence. They became more willing to participate, ask questions, and express their ideas. The learning environment, characterized by interactive tasks, collaboration, and supportive teacher guidance, enabled students to relate lesson content to their daily lives and personal interests. As a result, English was no longer perceived merely as an academic requirement but as a helpful tool for real communication. Teachers also observed positive behavioral changes, including increased student participation and initiative. The shift from teacher-centred to student-centred learning allowed learners with different backgrounds and abilities to engage more meaningfully with reading tasks. Overall, the implementation of deep learning created a more mindful, meaningful, and joyful learning experience that supported both cognitive and affective development. Although the findings are promising, the study's scope remains limited due to the relatively small sample size and short intervention period. Further research involving larger groups, longer implementation, and additional learning contexts is needed to deepen understanding of how deep learning can continue to support reading comprehension development in broader educational settings.

Suggestions

Based on the findings, English teachers are encouraged to integrate deep learning strategies more systematically in reading comprehension classes. Learning activities that emphasize exploration, collaboration, reflection, and real-world relevance can help students engage more actively and develop stronger comprehension skills. Teachers are also advised to design lessons that connect new material to students' prior knowledge, incorporate multimodal resources, and create a classroom atmosphere that supports confidence and participation. For schools and education policymakers, professional development programs should prioritize training that equips teachers with practical skills to implement deep learning effectively. This includes designing contextualised learning materials, integrating student-centred methods, and building emotionally supportive classroom environments that foster motivation and resilience. Future studies may explore the application of deep learning in larger and more diverse student populations to obtain broader insights into its effectiveness. Longer-term interventions could also be examined to determine how deep learning shapes students' sustained progress, autonomy, and academic habits. Additionally, expanding research into varied learning settings, including technology-enhanced environments, may reveal further opportunities to strengthen reading comprehension through deep learning approaches.

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