EXPLORING INDONESIAN VOCATIONAL STUDENTS' PERSPECTIVES ON DEEP LEARNING IN ENGLISH LANGUAGE EDUCATION

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A B S T R A C T S

The potential of deep learning in the context of English teaching is essential so as to increase student engagement and learning outcomes through some innovative learning models. However, few studies address the effect of deep learning in English classrooms from vocational high school students' perspectives, mainly in Indonesian context. This study aims to disclose the students' perceptions on the implementation of deep learning at vocational high schools, considering quantitative and qualitative data. The participants of this study are 191 students from four vocational high schools in Eastern Jakarta, Indonesia. The study employed a mixed-methods design, combining quantitative and qualitative data. The data were collected through an online questionnaire, comprising closed and open-ended questions. The data were then analyzed with descriptive statistics and thematic analysis. The results show that students have positive responses on their mindfulness, meaningfulness, and the enjoyment in English language teaching. Qualitatively, students found English very important for their career and considered the learning materials provided by English teachers relevant. Additionally, the students felt motivated to learn English for the enhancement of creative and critical thinking. This study recommends refining deep learning practices for effective and meaningful English learning environments.

INTRODUCTION

Since the term of deep learning was introduced by the Minister of Primary and Secondary Education, Republic of Indonesia, at the beginning of 2025, teachers in Indonesia are questioning the concept of deep learning. In the context of Indonesia, deep learning is not a curriculum, it is a learning approach like previous other approaches nationally implemented in schools: active learning, contextual teaching and learning, and scientific approaches (Suyanto et al., 2025). However, the learning approaches might have some obstacles or challenges to be

carried out by teachers in the teaching process. Teachers found that students feel unconfident to learn in the classroom. Additionally, students were found to be demotivated as the learning strategies provided by teachers do not vary, including the use of digital-based learning media and the assessments.

In the English learning context, more EFL teachers have transformed their traditional learning models into innovative ones. Two of them are problem-based learning (PBL) and project-based learning (PjBL), identified as the learning process in deep learning. Some students might have positive perceptions on the PjBL, yet some of them have lower attitudinal scores than learning scores. Moreover, female students reported more positive attitudes on the PjBL than male students (Ospankulova et al., 2025). This indicates that PjBL as an innovative learning model is not entirely implemented in appropriate ways. Aligning to the challenges, it is thus important to introduce the concept of deep learning and how it is implemented in the classroom.

Deep learning is a learning approach that applies mindful, meaningful, and joyful principles (Suyanto et al., 2025). A mindful principle was introduced by Langer (2016), identifying three characteristics such as continuous creation of new categories, openness to new things, and an implicit awareness of more perspectives. He also noted that mindfulness encourages individuals to be aware of the challenges of dividing attention and selecting learning goals as well as to optimize the successful pursuit of the goals (Langer, 2007). Regarding meaningful learning, Ausubel (1963) viewed that meaningful learning would be more effective when new information is connected with prior knowledge or previous experiences owned by students. However, learning situations are said to be active and meaningful when they are not based on the frequency and the drill pattern (Ausubel, 1965). The other one, a joyful principle, focuses on positive emotions, associated with the learning process that includes curiosity, learning spirit, and motivation (Kovač et al., 2023). In line with the aforementioned principles, there are some studies on deep learning approach in English language teaching in some regions.

In a study conducted in Southwestern China, a total of 225 students of a high school were recruited to be the participants to explore deep learning in English teaching. The findings indicate that self-efficacy, learning engagement, and teacher-student interaction could predict and have positive impacts on English deep learning. The findings also highlight the importance of self-efficacy, learning engagement, and teacher-student interaction for EFL high school students to accomplish deep learning in blended learning context (Shi & Lan, 2024).

Regarding the mindful principle, Namaziandost & Rezai (2024) conducted a study by drawing on data from 398 Iranian EFL students, employing a comprehensive array of validated instruments. The results demonstrated that academic mindfulness emerged as a robust predictor of learning outcomes in intelligent computer assisted language learning (ICALL). In deep and meaningful learning (DML), Mystakidis et al. (2021) conducted a systematic literature review on the results from thirty three empirical studies in higher education between 2004 and 2019. The results suggest that the use of Social Virtual Reality Environments (SVREs) could provide authentic, simulated, cognitively challenging experiences in engaging, motivating environments for open-ended social and collaborative interactions and intentional, personalized learning. Moreover, the results show that teachers and SVRE designers need to place more emphasis on the socio-cultural semiotics and emotional aspects of e-learning and ethical issues such as privacy and security.

In the context of education in the US, Miller et al. (2021) did a qualitative study of ten teachers over five years in a design-based research study, triangulated with data collected across 41 districts in multiple states engaged in a PjBL model. The design principles provide guidance for developing materials that accommodate the deep learning that is necessary for promoting changes to teachers' practice that include adaptiveness, responsiveness, and both

enjoyability and satisfaction. Jiang (2022) in his study investigated a four-dimension model of deep learning involving motivation, engagement, the strategy, and the directional competence in online learning EFL. Conducted to 533 college students in China through a survey, he found that the students' deep learning reached the moderate level, with the lowest mean of directional competence and the highest mean of motivation.

Although research on deep learning is expanding globally, there remains a scarcity of studies that explore how vocational EFL students, particularly in Indonesia, perceive the implementation of this approach in their English learning contexts. Given the vocational students' distinctive characteristics, needs, and career-oriented learning goals, understanding their perspectives is critical to inform the pedagogical effectiveness and relevance of deep learning in EFL classrooms. Moreover, while prior studies have predominantly examined deep learning outcomes through teacher-centered or curriculum-focused perspectives, there is a lack of research capturing students' affective responses, including mindfulness, meaningful engagement, and learning enjoyment. Addressing this gap is essential, especially within the context of Indonesia's current educational reforms, which require pedagogical approaches to be both transformative and responsive to students' lived experiences.

To address this gap, the present study aims to investigate vocational high school students' perceptions of the implementation of deep learning approaches in English language classrooms in Eastern Jakarta. This study specifically explores three key aspects of their experiences: (1) their mindfulness during English learning activities, (2) their perceptions of the meaningfulness of English practice within classroom activities, and (3) their enjoyment and motivation in English learning through deep learning strategies. Based on these objectives, the study seeks to answer the following research questions:

(1) How do EFL students in vocational high schools perceive the implementation of deep learning approach on their English learning mindfulness?
(2) What are their views on the deep learning implementation for English language practice within meaningful learning activities?
(3) What is the students' perspective on the impact of deep learning on their learning enjoyment?

RESEARCH METHOD
Research Design

This study employed a mixed-methods approach with a sequential explanatory design, which integrates both quantitative and qualitative data to provide a comprehensive understanding of students' perceptions of deep learning in English language learning. According to Creswell & Plano Clark (2018), a sequential explanatory design involves two distinct phases: the initial collection and analysis of quantitative data, followed by the qualitative phase for elaborating surprising and unclear quantitative trends. In this study, survey data were first gathered from 191 vocational high school students in Eastern Jakarta to quantify their mindfulness, meaningful learning experiences, and enjoyment in English learning. The participants were selected through convenience sampling, considering accessibility, willingness to participate, and the alignment of the selected schools with the characteristics needed for the study, namely vocational high schools in Eastern Jakarta offering English subjects (Etikan, 2016). Subsequently, semi-structured interviews were conducted with selected participants to explore their perspectives in greater depth. This design allows for a more nuanced interpretation of the results, ensuring that the statistical trends identified in the quantitative phase are enriched by the personal insights and contextual factors revealed through qualitative analysis. By employing this approach, the study aims to provide an understanding of the efficacy of deep learning in vocational EFL classrooms.

Participants

The study was conducted in vocational high schools in Eastern Jakarta, where students attended English classes over a four-month period. A total of 191 students from four different schools participated in the study, with the majority (72.25%) being female and 27.75% male. In terms of age distribution, most students were between 16 and 18 years old, with 29.32% aged 16, 27.75% aged 17, and 32.98% aged 18, while a smaller proportion (5.76%) were younger than 16, and 4.19% were older than 18. The sample comprised students from both public and private vocational high schools, with a greater representation from private institutions (69.11%) compared to public schools (30.89%). This demographic composition provides a diverse perspective on students' experiences and attitudes toward English learning, particularly within vocational education settings where language skills are crucial for future career opportunities. Additionally, this includes the students' English proficiency levels that varied from lower-intermediate to intermediate levels based on the teacher resports. These proficiency levels reflect typical characteristics of vocational high school students in Indonesia, where English is commonly used in controlled classroom contexts and is often associated with practical and workplace communication needs rather than academic or advanced purposes. This proficiency level is then important to consider as it may influence students' engagement with deep learning strategies, particularly their capacity to experience mindfulness, meaningfulness, and enjoyment during English learning activities.

Table 1
Demography of Participants

Categories	Sub-categories	N= 191	Percent
Gender	Female	138	72.25%
	Male	53	27.75%
Age	< 16 years old	11	5.76%
	16 years old	56	29.32%
	17 years old	53	27.75%
	18 years old	63	32.98%
	> 18 years old	8	4.19%
Status of school	Public	59	30.89%
	Private	132	69.11%

Instruments

The data for this study were collected using an online questionnaire consisting of closed-ended questions and open-ended questions as the written reflections. According to Dörnyei (2007), questionnaires are an effective tool in applied language research as they enable researchers to collect standardized responses from a large group, ensuring reliability and comparability of data. The questionnaire with closed-ended questions served as the quantitative instrument, allowing for the three sub-scales: (1) students' mindfulness (e.g. "I always pay attention to what I learn in English class."), (2) meaningful learning experiences (e.g. "I can relate English learning materials to my previous knowledge and experience."), and (3) enjoyment in English learning (e.g. "I feel that learning English in class is a fun and challenging experience.") as adapted from Yaguarema et al. (2022). It comprises ten items that are answered on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). The reliability of the questionnaire through Cronbach's alpha is .835, and this indicates a high internal consistency among the items. In addition to the closed-ended questions, written reflections were collected to capture the students' experience and interpret the phenomena (Pitura, 2023), amounting to a total of 22,230 words. These reflections provided qualitative insights into students' perceptions and experiences, offering a deeper understanding of their engagement with deep learning approach in English classrooms. The students were provided with guiding prompts to stimulate their responses and ensure relevance to the study's focus.

The prompts included questions such as: "How do you feel and realize that learning English is important and must be focused?", "Can you describe how the English materials and activities relate to your personal life or interests?", and "What aspects of the English class make you feel motivated or less interested?". As Creswell and Plano Clark (2018) highlight, combining quantitative and qualitative data in a mixed-methods study strengthens the validity of findings by allowing a more holistic interpretation of the research problem. This dual-instrument approach ensured that both broad patterns and individual perspectives were captured, enhancing the depth and richness of the results of the study.

Data Analysis

The data analysis in this study followed a mixed-methods approach, incorporating both quantitative and qualitative techniques to ensure a comprehensive understanding of students' perceptions of deep learning in English learning. For the quantitative data obtained from the questionnaire, descriptive statistical analysis was conducted using Microsoft Excel, focusing on calculating frequencies, percentages, mean scores, and standard deviations. Meanwhile, the qualitative data from the written reflections were examined using thematic analysis, a widely used method in qualitative research that involves identifying, analyzing, and interpreting patterns within textual data (Braun & Clarke, 2006). Thematic analysis enabled the extraction of key themes related to students' mindfulness, meaningful learning experiences, and enjoyment in English classes, providing deeper insights into their attitudes and engagement. To ensure the credibility and reliability of the coding process, the researcher initially performed open coding manually, after which peer debriefing and member checking were conducted. By integrating these analytical approaches, the study ensured a balanced and detailed interpretation of the data, allowing the qualitative findings to enrich and explain the quantitative results.

RESEARCH FINDINGS AND DISCUSSION
Research Findings
EFL Students' Perceptions on the Implementation of Deep Learning Approach on their English Learning Mindfulness

Table 2 presents the students' mindfulness in English language learning, as reflected in their self-reported perceptions. The results indicate a generally high level of mindfulness among students, with most respondents expressing agreement or strong agreement with the statements. A majority (78.01%) reported paying attention to their English lessons (M = 4.04, SD = 0.69), while 73.82% stated that they could control their focus on learning materials (M = 3.93, SD = 0.71). Additionally, 81.15% of students acknowledged awareness of their strengths and weaknesses in learning English (M = 4.04, SD = 0.68), highlighting their metacognitive awareness. However, slightly lower agreement was observed in students' ability to organize their study environment effectively, with 70.68% agreeing or strongly agreeing (M = 3.88, SD = 0.67), suggesting room for improvement in self-regulated learning strategies.

However, a noteworthy percentage of students (21.99%–29.32%) responded neutrally, particularly regarding their time and environment management (M = 3.88, SD = 0.67). This relatively higher neutral response might suggest areas of uncertainty or variability in students' confidence in organizing their learning conditions. Overall, the findings indicate that students demonstrate a strong level of mindfulness in English language learning, particularly in attention control and self-awareness, although some may need further support in managing their learning environment efficiently.

Table 2
The Students' Mindfulness in English Language Learning

No.	Statements	SD	D	N	A	SA	Mean	STDV
1.	I always pay attention to what I learn in English class.	0.00%	0.00%	21.99%	51.31%	26.70%	4.04	0.69
2.	I can control my mind to stay focused on the English learning material in class.	0.52%	0.00%	25.65%	53.40%	20.42%	3.93	0.71
3.	I am aware of my strengths and weaknesses in learning English material in class.	0.00%	1.05%	17.80%	57.59%	23.56%	4.04	0.68
4.	I can organize my time and study environment to maximize my English learning in class.	0.00%	0.00%	29.32%	53.40%	17.28%	3.88	0.67

The qualitative responses further reinforce the quantitative findings in Table 2, which indicate a high level of student mindfulness in English language learning. Students recognize the importance of English for their future, particularly in terms of career opportunities and global communication. For instance, S52, an 11th-grade male student, acknowledges that English is widely used worldwide and essential for job applications, highlighting his awareness of the language's long-term value. Similarly, S99, a 10th-grade female student, emphasizes the role of English in industries and companies, demonstrating a clear understanding of its relevance to career advancement. S136, a 12th-grade female student, expands on this perspective by noting that English is crucial in education, technology, and the workforce, enhancing access to global communication and information. These insights align with the quantitative data, which showed strong student agreement with statements related to their focus, awareness, and self-regulation in learning English. The qualitative responses suggest that students' mindfulness is driven by their recognition of English as a vital skill for future success, reinforcing their motivation to stay engaged in the learning process. Below are the excerpts from the participant

"Yes, because English can be used in various countries, English is also important for our future to apply for jobs and so on." (S52, the 11th grade male student of private vocational high school)

"Yes, because English is an international language used in many industries and companies. By understanding English, I can increase my job and career opportunities." (S99, the 10th grade female student of private vocational high school)

"Yes, I realize that learning English is important because English is an international language used in various fields, such as education, technology, and the world of work. By mastering English, the opportunity to communicate globally and access wider information becomes greater." (S136, the 12th grade female student of public vocational high school)

EFL Students' Views on the Deep Learning Implementation within Meaningful English Learning Activities

Table 3 illustrates students' insights into meaningful English language learning, highlighting their perceptions of relevance, connection to prior knowledge, and goal

achievement. The findings suggest that while most students find their English learning meaningful, there is some variability in their responses. A majority (63.88%) agreed or strongly agreed that the English learning materials provided by their teacher were relevant to their daily lives (M = 3.76, SD = 0.76), though a notable proportion (33.51%) remained neutral. Similarly, 68.06% of students reported that they could relate English learning materials to their prior knowledge and experiences (M = 3.78, SD = 0.67), reinforcing the importance of activating students' background knowledge for meaningful learning. Furthermore, 73.30% of students acknowledged that teacher-facilitated learning helped them achieve their learning goals or targets (M = 3.92, SD = 0.69), demonstrating a positive perception of instructional support.

Despite these favorable results, approximately one-third of the students selected neutral responses (26.18%–33.51%). This neutrality could indicate that some students are still unsure about the relevance or applicability of the learning materials, which may reflect either a disconnect between the curriculum and students' lived experiences to recognize the value of English learning but have not yet fully internalized it. Overall, the results indicate that while students generally perceive English learning as meaningful, there is room for improvement in ensuring greater relevance and personal connection to their daily experiences.

Table 3
The Students' Insights in Meaningful English Language Learning

No.	Statements	SD	D	N	A	SA	Mean	STDV
5.	I feel that the English learning materials provided by the teacher are relevant to my daily life.	0.52%	2.09%	33.51%	48.17%	15.71%	3.76	0.76
6.	I can relate English learning materials to my previous knowledge and experience.	0.00%	1.57%	30.37%	56.02%	12.04%	3.78	0.67
7.	I feel that teacher-facilitated English learning helps me achieve my learning goals or targets.	0.00%	0.52%	26.18%	53.93%	19.37%	3.92	0.69

The qualitative responses support the quantitative findings in Table 3, which indicate that students generally perceive English learning materials as meaningful, particularly when they are relevant to their daily lives and experiences. S99, a 10th-grade female student, highlights that the teacher understands students' needs and interests, making the material more relatable and engaging. Similarly, S124, a 12th-grade female student, emphasizes that real-life examples, such as conversations and news articles, enhance comprehension and application, increasing her motivation to learn. However, S157, a 12th-grade male student, acknowledges that while practical topics such as daily conversations, email writing, and self-introduction are beneficial, some materials, like literary analysis, feel less relevant to real-world situations. This perspective aligns with the quantitative data, where a notable portion of students remained neutral regarding the relevance of English learning materials. These qualitative insights suggest that while many students find the materials meaningful, further efforts could be made to ensure that all topics are closely connected to practical, real-world applications to enhance engagement and learning outcomes. Below are the excerpts from the participants.

"Yes, because the teacher understands the needs and interests of students, so the material delivered is relevant to my life experience." (S99, the 10th grade female student of private vocational high school)

"Yes, the English material delivered by the teacher is relevant to my life experience. The teacher uses examples from everyday life, such as conversations and reading news, so it is easier for me to understand and apply the material in real life. This makes me more interested in learning." (S124, the 12th grade female student of public vocational high school)

"The English material taught by the teacher is quite in accordance with my experience. For example, lessons on everyday conversation, writing emails, and how to introduce yourself are very useful when communicating with others, especially in a professional environment. However, there are some topics such as literary analysis that feel less relevant because they are rarely used in everyday life. Therefore, it would be better if the material is more related to real situations to make it more useful and interesting to learn." (S157, the 12th grade male student of public vocational high school)

EFL Students' Perspective on the Impact of Deep Learning on their Learning Enjoyment

Table 4 presents students' perspectives on their enjoyment and motivation in English language learning, highlighting their emotional engagement in the classroom. The findings suggest that most students have a positive attitude toward learning English, with 73.30% reporting feeling happy and motivated in class (M = 3.97, SD = 0.73). Similarly, 66.49% of students perceived learning English as both enjoyable and challenging (M = 3.88, SD = 0.82), though a considerable portion (30.89%) remained neutral. Additionally, 67.54% of students agreed or strongly agreed that studying English allowed them to develop creativity and imagination (M = 3.89, SD = 0.75), underscoring the potential of English lessons to foster creative thinking. While the results indicate a generally positive emotional engagement in English learning, the presence of neutral responses (around 26%–31%) suggests that further efforts could be made to enhance classroom activities, making them more engaging and stimulating for all learners.

Table 4
The Students' Joyfulness in English Language Learning

No.	Statements	SD	D	N	A	SA	Mean	STDV
8.	I feel happy and motivated when studying English in class.	0.00%	0.2%	26.18%	48.69%	24.61%	3.97	0.73
9.	I feel that learning English in class is a fun and challenging experience.	0.52%	2.09%	30.89%	41.88%	24.61%	3.88	0.82
10.	I feel that I can develop my creativity and imagination while studying English in class.	0.52%	0.00%	31.94%	45.03%	22.51%	3.89	0.75

The qualitative responses complement the quantitative findings in Table 4, which indicate that most students experience enjoyment and motivation in English learning, particularly when engaging and interactive methods are used. S75, an 11th-grade male student, expresses enthusiasm for English learning, attributing his enjoyment to the relevance of the materials and the use of engaging activities such as discussions, roleplays, and word games, which also boost his confidence in global communication. Similarly, S164, a 12th-grade male student, finds

discussions, educational games, and digital media particularly motivating, reinforcing the idea that varied instructional strategies enhance student engagement. However, S157, a 12th-grade male student, presents a contrasting perspective, stating that he sometimes struggles to understand the material, which affects his enjoyment. Despite this challenge, he remains committed to independent learning through digital resources such as social media and search engines, highlighting the role of technology in language acquisition. These insights align with the quantitative data, where most students reported positive emotions toward English learning, though some expressed neutral or negative sentiments. The findings suggest that while interactive and meaningful activities enhance enjoyment, additional instructional support may be needed to ensure all students feel engaged and confident in their learning experience. Below are the excerpts from the participants.

> "I feel happy to learn English in class because the material is useful and often related to everyday life. Activities such as discussions, roleplays, and word games make learning more interesting. In addition, my improved English skills give me the confidence to communicate globally." (S75, the 11th grade male student of private vocational high school)

> "No, because I feel like I don't understand what is being conveyed, maybe because I am not focused enough or the delivery is lacking, but I will continue to learn English independently or via the internet. Because it is a modern era, there is a lot of information spread across various internet media such as TikTok or Instagram, especially Google which stores a lot of information from various sources, but we have to sort it out so that we don't get the wrong information." (S157, the 12th grade male student of public vocational high school)

> "Yes, I feel happy and motivated to learn English in class because of the interesting learning methods, such as discussions, educational games, and the use of digital media. In addition, English is a useful skill for the future, both in education and career, so I am motivated to continue learning and improving my skills." (S164, the 12th grade male student of public vocational high school)

Discussion

The perception of EFL students in vocational high schools regarding the implementation of the deep learning approach in English learning reveals a generally positive outlook, particularly in relation to mindfulness. As shown in Table 2, the majority of students reported being mindful in their English learning, with high mean scores across the statements related to attention, focus, self-awareness, and time management. These results align with a study suggesting that the principle of mindfulness in deep learning encourages students' self-regulation and reports positive in their reactions, highlighting the benefits to their emotions, ESL classroom experiences (Huang, 2022; Smith, 2023) and learning environment (Han & Xu, 2025). The qualitative data further reinforces these findings, as students acknowledged the importance of English for their future careers and global communication. However, some students expressed challenges in maintaining focus, indicating that external distractions or ineffective learning strategies may hinder mindfulness in English learning. This suggests the need for instructional approaches that enhance students' ability to sustain concentration and develop metacognitive strategies.

Building on the role of mindfulness, the perception of meaningful learning in English education also demonstrates positive trends. The results in Table 3 reveal that most students perceive English learning materials as relevant to their lives, with mean scores indicating positive responses toward content connection and real-life applicability. This finding aligns

with a progressive education, which emphasizes the students' development in terms of their everyday educational life students to learn more effectively. To achieve the learning goals, teachers provide a number of alternative teaching methods such as PjBL, flipped classroom, peer instruction, gamified learning, and active didactic learning (Feriyanto & Anjariyah, 2024; Kovač et al., 2023; Vargas-Hernández & Vargas-González, 2022) and offer activities relating new input to students' existing knowledge (Hung, 2019). Qualitative responses further illustrate this point, as students appreciated how their teachers integrated everyday authentic examples, such as conversations and professional communication, making learning more engaging and meaningful (Korucu-Kış, 2021). However, some students pointed out that certain topics, such as literary analysis, felt less relevant to their vocational needs. This highlights a potential limitation of deep learning approaches when the curriculum does not fully align with students' professional aspirations, suggesting the need for a more tailored, context-sensitive curriculum in vocational English instruction.

In addition to relevance, the role of deep learning in fostering enjoyment is also clearly evident. As indicated in Table 4, students generally expressed positive emotions toward learning English, with high mean scores for motivation, enjoyment, and creativity. Prior research supports the idea that deep learning, through interactive and student-centered activities, enhances motivation, creativity, engagement, and positive emotions in language learning (Cheng, 2023; Feriyanto & Anjariyah, 2024; Sun & Shi, 2024; Yin, 2021). Students' qualitative responses confirm this perspective, as many found learning English enjoyable due to engaging instructional methods, such as discussions, roleplays, and digital media integration. These findings are consistent with studies highlighting the importance of mind-mapping app and other applications of educational technologies in sustaining students' enjoyment in English writing classrooms (Ariyanti et al., 2023; Bal & Öztürk, 2025). However, a minority of students reported struggling with comprehension and focus, which diminished their enjoyment. This suggests that while deep learning can promote engagement, differentiated instruction may be necessary to accommodate diverse proficiency levels.

Finally, it is important to consider the external factors and challenges that affect many vocational students in Indonesia. One significant factor is socioeconomic background. Students from lower socioeconomic backgrounds or those facing economic pressures often have limited support for home study and lack access to digital learning resources (Suharno et al., 2020). Consequently, these students may struggle to fully focus on practical skills, engage in meaningful learning practices, and enjoy English activities. Addressing these external challenges is crucial to ensure equitable learning opportunities and maximize the benefits of deep learning approaches in vocational English education.

CONCLUSION

This study provides valuable insights into the efficacy of deep learning approach in English language learning among Indonesian vocational high school students. The findings suggest that deep learning fosters mindfulness, meaningful engagement, and enjoyment in learning, as evidenced by both quantitative and qualitative data. Students demonstrated high levels of attentiveness, awareness of their learning progress, and perceived relevance of English learning materials to real-life contexts. Additionally, they expressed motivation and enjoyment in language learning, particularly when interactive and student-centered teaching methods were employed. However, challenges remain, particularly in sustaining focus and engagement for all learners, ensuring curriculum relevance to vocational needs, and addressing cognitive overload for students with lower proficiency. While deep learning appears to be an effective approach in vocational English education, its implementation requires careful instructional design to maximize its benefits while mitigating potential difficulties.

Despite the study's contributions, several limitations should be acknowledged. First, the research was conducted in vocational high schools in Eastern Jakarta, limiting the generalizability of the findings to other educational contexts or regions. Second, the study relied on self-reported data, which may be subject to social desirability bias. Third, while the mixed-methods approach provided a comprehensive understanding, further experimental studies such as using quasi-experimental designs in other regions could establish stronger causal links between deep learning and student outcomes. Based on these limitations, future research should explore the long-term impact of deep learning on English proficiency and motivation across diverse educational settings. By refining deep learning strategies and ensuring alignment with vocational students' aspirations, English language instruction can become more effective, engaging, and meaningful. Regarding the learning strategy that promotes mindfulness, teachers could integrate short reflective practices at the beginning and end of lessons, such as mindfulness breathing or focus-setting tasks, to help students center their attention. For meaningfulness, employing project-based learning with real-world tasks, such as writing job applications, simulating workplace communication, or analyzing media relevant to students' fields, can strengthen relevance. To enhance joyfulness, teachers may incorporate gamified elements, digital storytelling, and collaborative problem-solving activities, which have been shown to boost students' emotional engagement and creativity.

ACKNOWLEDGEMENTS

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