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PERCEPTIONS OF DEEP LEARNING AMONG EFL STUDENTS IN INDONESIAN HIGHER EDUCATION: INSIGHTS FROM A THEMATIC STUDY

Farikah[1*], Mursia Ekawati[2], Sukron Mazid[3], Mimi Mulyani[4],
Dwi Winarsih[5], Jihan Widya Andini[6]
[1,5,6] Pendidikan Bahasa Inggris, Universitas Tidar, Magelang, [2,3,4] Pendidikan Bahasa Indonesia, Universitas Tidar, Magelang
Email : farikahfaradisa@untidar.ac.id, mursiaekawati@untidar.ac.id, sukronmazid@untidar.ac.id, mimimulyani62@untidar.ac.id, dwiwinarsih@untidar.ac.id, jihanwdyandn@gmail.com

ABSTRAK

Penelitian ini dilatarbelakangi oleh relevansi pendekatan *deep learning* yang menekankan pemahaman mendalam, keterlibatan aktif, dan aplikasi pengetahuan, sejalan dengan tuntutan pendidikan abad ke-21 dan kebijakan Merdeka Belajar. Namun, persepsi mahasiswa sebagai subjek utama pembelajaran terhadap pendekatan ini masih terbatas dikaji di Indonesia. Oleh karena itu, penelitian ini berfokus untuk mengeksplorasi persepsi mahasiswa *English as a Foreign Language* (EFL) terhadap implementasi *deep learning* di perguruan tinggi. Menggunakan pendekatan kualitatif, data dikumpulkan melalui wawancara terbuka terhadap 105 mahasiswa semester enam. Data tersebut kemudian dianalisis menggunakan analisis tematik. Hasil analisis mengungkap empat tema utama persepsi mahasiswa: (1) pentingnya Pemahaman yang Bermakna bukan sekadar hafalan, (2) pengembangan Berpikir Kritis dan Reflektif, (3) perlunya Keterlibatan Aktif Pembelajar, dan (4) signifikansi Penerapan Pengetahuan dalam konteks nyata. Temuan ini menunjukkan bahwa mahasiswa memahami esensi *deep learning* dan menganggapnya penting untuk pembelajaran yang relevan dan aplikatif. Disimpulkan bahwa mahasiswa memiliki persepsi positif dan mendukung pendekatan *deep learning*, yang mengindikasikan perlunya desain pembelajaran yang berpusat pada mahasiswa untuk mengoptimalkan potensi pendekatan ini.
Kata Kunci: *Pembelajaran Mendalam, Persepsi mahasiswa, Pembelajaran Bermakna, Analisis Tematik.*

ABSTRACT

This research is motivated by the relevance of the deep learning approach, which emphasizes in-depth understanding, active engagement, and application of knowledge, in line with the demands of 21st-century education and the Freedom to Learn policy. However, students' perceptions of this approach, as the primary subjects of learning, are still limited in Indonesia. Therefore, this study focuses on exploring the perceptions of English as a Foreign Language (EFL) students regarding the implementation of deep learning in higher education. Using a qualitative approach, data were collected through open-ended interviews with 105 sixth-semester students. The data were then analyzed using thematic analysis. The analysis revealed four main themes of student perception: (1) the importance of meaningful understanding beyond mere memorization, (2) the development of critical and reflective thinking, (3) the need for active learner involvement, and (4) the significance of applying knowledge in real-world contexts. These findings indicate that students understand the essence of deep learning and consider it crucial for relevant and applicable learning. It is concluded that students have positive perceptions and support the deep learning approach, indicating the need for student-centered learning design to optimize the potential of this approach.
Keywords: *Deep Learning, Student Perception, Meaningful Learning, Thematic Analysis.*

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INTRODUCTION

In the era of 21st-century learning, the learning approach focused on deep learning is becoming increasingly relevant and urgent to apply across various educational levels. This deep understanding involves the essential capabilities to apply knowledge in new contexts, make connections between concepts, and reflect on the learning process (Armitt et al., 2002; Kovač et al., 2023). This strongly aligns with the emphasis on the importance of critical and communicative thinking skills, which are two of the four key 21st-century skills, or 4Cs (Malik, 2018; Zebua, 2025). Deep learning fosters students' genuine understanding, knowledge integration, and application in real-world situations, thereby instilling a lifelong learning mindset. Its significant impact is evident in increased participation, learning outcomes, and students' ability to apply knowledge (Diputera, 2024). Learning is no longer sufficient if it is merely oriented towards surface learning, which often only emphasizes rote memorization and the reproduction of information. Conversely, deep learning demands higher cognitive engagement, such as the ability to analyze, evaluate, and synthesize information.

Furthermore, the deep learning approach encourages students to transform into active and reflective learners. They are consistently challenged to question, investigate, and critically reformulate their understanding. These capabilities are essential to equip the younger generation to face the challenges of the professional world and global life, which are increasingly complex, dynamic, and unpredictable. The Industry 4.0 Revolution and digital disruption have altered the social and economic landscape, demanding graduates who are not only academically intelligent but also adaptive, creative, and capable of independent problem-solving (Gleason, 2018). Thus, deep learning is not merely a pedagogical approach but also a long-term strategy to prepare students as competent and responsible global citizens. Various previous studies have demonstrated the effectiveness of deep learning in enhancing the quality of conceptual understanding and learning motivation. For instance, a study by De Matos-Ala and Hornsby (2013) showed that a deep learning approach can increase academic engagement and learning autonomy among higher education students. Other studies in the Southeast Asian context by Mantra et al. (2022) and Weng et al. (2023) also state that integrating deep learning with project-based learning is effective in fostering collaboration and problem-solving.

However, in the Indonesian context, studies that specifically explore university students' perceptions of the deep learning approach, particularly within the framework of the "Merdeka Belajar" (Freedom to Learn) policy, are still very limited. Meanwhile, the urgency of meaningful learning is strongly reflected in this latest national policy initiated by the Ministry of Education, Culture, Research, and Technology. This policy is a response to contemporary educational challenges that demand systemic transformation, in terms of curriculum, pedagogy, and the overall educational ecosystem. "Merdeka Belajar" embodies the spirit of liberating learners in their learning process, positioning them not just as passive recipients of material, but as active, creative, and reflective individuals in constructing their knowledge (Palangda et al., 2023). In parallel, this policy also encourages the empowerment of teachers to have the flexibility and professional autonomy to design contextualized instruction relevant to students' needs.

One of the main principles of "Merdeka Belajar" is student-centered learning, which places students as the primary actors in the learning process. This principle is highly aligned with the deep learning approach, as both emphasize the importance of critical, collaborative, communicative, and creative thinking. These competencies are now known as the 4Cs and serve as key indicators of success in 21st-century learning. Through this approach, learning is expected not only to be oriented towards mere academic achievement but also towards the development of character, empathy, and students' independence in facing the real world.

However, the implementation of "Merdeka Belajar" values in practice is not straightforward. Challenges arise from various aspects, such as teacher readiness in designing and executing meaningful learning, limited resources and training, and entrenched habits within a learning system that remains teacher-centered. Among these challenges, student responses to new learning approaches are also a crucial aspect that is often overlooked. The success of the deep learning approach is highly dependent on the extent to which students understand, accept, and actively engage in the learning process offered. Therefore, it becomes crucial to examine the perceptions of university students, as the main subjects in the teaching and learning process, towards the deep learning approach, especially in the context of implementing the "Merdeka Belajar" policy at the higher education level. Their voices and views can provide valuable input to bridge the gap between ideal policy and actual classroom practice. By understanding students' interpretations and learning experiences, educators and policymakers can develop learning strategies that are more responsive, adaptive, and aligned with the needs of the current generation of learners.

This research offers an innovative contribution by exploring university students' perceptions of the deep learning approach through an open-ended, opinion-based qualitative methodology. Unlike many previous studies that focused on the pedagogical outcomes of deep learning, this study provides a space for "student voices" to emerge authentically. The goal is to capture how they interpret and respond to the deep learning values that are beginning to be mainstreamed through the "Merdeka Belajar" policy. The results are expected to enrich Indonesian educational literature, particularly regarding the paradigm shift in learning at the higher education level, based on the students' own experiences and meaning-making.

RESEARCH METHOD

This research was specifically designed using a qualitative approach focused on the thematic analysis method. This methodological choice was based on the main objective of exploring and gaining an in-depth understanding of university students' perceptions regarding the implementation of the deep learning approach in the learning process. The focus is on identifying the meanings constructed by the students based on their reflections and personal experiences. This qualitative design allows the researcher to systematically and interpretatively uncover patterns of thought emerging from participant narratives. Participants in this study were selected using a purposive sampling technique, involving a total of 105 sixth-semester students from the English Language Education study program at a state university in Central Java. The criterion for selecting sixth-semester students was based on the consideration that students at this level have had adequate learning experience in higher education, enabling them to provide mature and in-depth reflections on the learning approaches they experienced during their studies.

The data collection procedure was carried out using open-ended interview techniques conducted both online and offline, adapted to the availability and convenience of each participant. The primary research instrument was the researcher him/herself, assisted by a semi-structured question guide. This guide was designed to trigger deep reflections on learning experiences, perceptions of the deep learning approach, and their expectations for meaningful learning practices, while still providing flexibility to explore the personal experiences of each individual. All participants provided a consent form explaining the study's purpose and assuring confidentiality before the interviews began. Each individual interview session lasted approximately 5 to 15 minutes and was recorded using an audio recorder with the participant's permission. The audio data collected from the 105 participants were then transcribed verbatim to prepare the raw data for the analysis process.

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The qualitative data, in the form of verbatim interview transcripts, were analyzed using the thematic analysis method. This analysis process followed six systematic stages: (1) the researcher familiarized themselves with the data by repeatedly reading the transcripts; (2) the researcher began to systematically generate initial codes from all relevant data; (3) similar codes were grouped to search for potential themes; (4) the established themes were then reviewed (reviewing themes) to ensure internal coherence and their distinctiveness from other themes; (5) the main themes were clearly defined and given representative names; and (6) writing the final analysis report. Throughout the analysis process, the researcher sought to maintain the credibility of the data and findings. This effort was conducted through two techniques: member checking, by re-confirming the data interpretation with several participants, and peer debriefing, by discussing the initial findings with colleagues.

FINDING AND DISCUSSION
Result
The findings in this study were obtained through a thematic analysis process of open opinion data from students regarding the application of deep learning in learning. The analysis was carried out through six stages: data familiarization, initial coding, initial theme identification, theme review, theme naming, and thematic narrative compilation. From the results of the analysis of 105 student opinions, four main themes were found that represented their perceptions of deep learning.

Theme 1: Meaningful Understanding
Students view deep learning as a learning process that does not only emphasize mastering information superficially, but rather achieving deep and meaningful understanding. They realize that simply memorizing material is not enough to form the competencies needed in the real world. In their view, deep learning allows for the creation of a complete conceptual understanding, which is not only stored in short-term memory but is also able to form a long-term framework of thinking.

Statements such as "Deep learning is not just memorizing, but understanding the concept deeply" represent students' awareness of the importance of critical and contextual information processing. They see that deep learning provides space to link the material being studied with life experiences, social contexts, and previously acquired knowledge. These connections are what make learning more meaningful and relevant.

Furthermore, this approach provides an opportunity for students to form personal meaning—a subjective meaning that arises from active interaction with learning materials. This personal meaning is important because it will affect learning motivation, memory, and the ability to apply knowledge in various situations.

This finding is in line with David Ausubel's theory of meaningful learning, which emphasizes the importance of the connection between new information and existing cognitive structures. When students can logically link new concepts to previous knowledge, learning becomes more effective and long-lasting (Blown, 2024).

In addition, the constructivist learning approach also supports this finding, where the learning process is seen as an active process of building knowledge, not just receiving information. In this context, students are not just "receivers of knowledge," but become "creators of meaning," who actively build understanding through exploration and reflection.
Thus, the theme of meaningful understanding shows that deep learning encourages students to learn more authentically, form contextual understanding, and interpret each learning as an integral part of their life experiences.

Theme 2: Critical and Reflective Thinking

Students associated deep learning with the development of critical and reflective thinking skills. They stated that this approach requires them to not only passively receive information, but also evaluate, analyze, and form personal opinions about the learning material. Statements such as "It forces me to think critically about what I learn, not just accept it" indicate students' awareness of the need for deeper intellectual engagement during the learning process.

Deep learning opens up space for deep thinking, questioning assumptions, and exploring multiple perspectives. Students are not only invited to understand the "what" and "how," but also the "why," and "what are the implications." This process creates learners who are not only cognitively intelligent but also metacognitively reflective.

In theory, this is in line with Bloom's revised taxonomy, where higher levels of thinking such as analyzing, evaluating, and creating are considered the ultimate goal of deep learning. Moreover, reflective skills also play an important role in lifelong learning, as they allow students to review their understanding, recognize shortcomings, and seek to improve.

In other words, deep learning encourages students to become independent thinkers who are able to assess the quality of the knowledge they receive, as well as understand how they learn. This is very relevant in the context of *Merdeka Belajar* which encourages independence and high learning awareness in students.

Theme 3: Active Learner Involvement

This theme emphasizes the importance of active student involvement in the learning process. In their opinion, deep learning cannot occur if students only act as passive listeners in class. They believe that the deep learning process requires active participation such as discussing, exploring the material independently, and completing problem-solving-based assignments.

Quotes such as "Students should be active in class and try to explore the material by themselves" show students' awareness that effective learning requires their full involvement. They do not only wait for instructions from lecturers but also take the initiative to understand the material further.

This is in line with the student-centred learning approach which is a pillar in the Merdeka Belajar policy. In this approach, the role of students as learning subjects is emphasized, and lecturers function more as facilitators who encourage exploration and collaboration.

Within the framework of active learning theory, students who are actively involved in activities such as group discussions, presentations, or context-based projects tend to have a deeper understanding and better retention of the material. Thus, active involvement is an essential element in creating an authentic and transformative deep learning process.

Tema 4: *Knowledge Application*

Students highlighted that one of the main values of deep learning is its ability to bridge theory with practice. They felt that this approach helped them not only understand concepts but also apply them in real-life situations. Quotes such as "We can apply what we learn in real-life situations" indicate that deep learning encourages contextual and applicable learning.

Students feel that learning is no longer trapped in the boundaries of the classroom, but becomes relevant in everyday life. They can see how the material learned is useful in decision-making, problem-solving, and even in social and professional interactions.

This reinforces the idea that deep learning is in line with the principle of transfer of learning, namely the ability to use knowledge in a different context from when the knowledge was first acquired. In the context of higher education, this ability is very important to produce graduates who are ready to face the challenges of a complex world of work.

Thus, this theme shows that students do not only judge learning success from academic achievements alone but also from how far they can use the knowledge in real life. This also supports the spirit of the Independent Curriculum and the Independent Learning policy, which emphasizes the development of essential competencies and the meaningfulness of learning. Findings from the thematic analysis of interview data resulted in several main themes that represent students' perceptions of the deep learning approach. These themes reflect the various views, experiences, and meanings that emerged from the learning process they experienced. A summary of the findings is presented in Table 1 below.

Table 1. Thematic Findings of Student Perceptions of Deep Learning

Theme	Short Description	Main Code	Examples of Student Quote
Meaningful Understanding	Students see deep learning as a process of deep understanding, not memorization. They emphasize the importance of meaningful connections to the real world.	"Understanding the concept", "Not memorizing", "Meaningful learning", "Real-life relevance"	*"Deep learning is not just memorizing, but understanding the concept deeply."*
Critical & Reflective Thinking	Students stated that deep learning encouraged them to think critically and reflectively about the material being studied.	"Critical thinking", "Reflective thinking", "Evaluating", "Forming opinion"	*"It forces me to think critically about what I learn, not just accept it."*
Active Learner Involvement	Deep learning encourages active participation of students, where they must be explorative and participate fully in the learning process.	"Active student role", "Engaged learning", "Exploring by themselves", "Student-centered"	*"Students should be active in class and try to explore the material by themselves."*
Knowledge Application	Students consider deep learning useful because it emphasizes the application of knowledge in real life, not just in exams or memorization..	"Applying knowledge", "Real-life relevance", "Connecting ideas", "Use in real situations"	*"We can apply what we learn in real-life situations."*

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The findings of this study reinforce the importance of the deep learning approach in the context of 21st-century learning and the implementation of the Merdeka Belajar policy. Students considered that learning that is oriented towards meaningful understanding is more helpful for them in building personal meaning for the material being studied. This is in line with constructivist theory which emphasizes the importance of the relationship between new knowledge and previous learning experiences (Biggs & Tang, 2011). Furthermore, the theme of critical and reflective thinking shows that deep learning is understood as an intellectual process that challenges students to think more deeply, evaluate information, and form opinions based on logical understanding. This supports the results of previous studies (Entwistle, 2023) which stated that learning approaches that encourage reflection and analysis are more effective in improving the quality of understanding and learning outcomes.

The theme of active learner involvement indicates students' awareness of the importance of active participation in learning. This is relevant to the student-centered learning approach which is the foundation of the Merdeka Belajar policy. Active participation is believed to increase motivation and ownership of the learning process. Finally, knowledge application confirms that deep learning is considered capable of bridging theory and practice. Students feel more prepared to face real-world challenges because the learning they experience has a clear context and benefits. This is very important in preparing graduates who are adaptive and problem solvers, as required in the Industrial Revolution 4.0 era. Thus, these four themes not only show students' understanding of deep learning, but also show how they interpret the approach as part of a transformative learning experience. This study provides evidence that student voices are important in assessing the effectiveness of implementing educational policies such as Merdeka Belajar.

Discussion

The findings of this research, obtained through a thematic analysis of 105 student opinions, identify four main pillars of perception regarding deep learning. These dimensions are (1) achieving meaningful understanding, (2) developing critical and reflective thinking, (3) active learner engagement, and (4) applying knowledge in real-world contexts. These results provide strong empirical validation for the importance of the deep learning approach in the current higher education landscape. These student perceptions clearly reflect a shift from the rote-focused paradigm of surface learning toward deep, holistic understanding. This is highly relevant to the implementation of the *Merdeka Belajar* (Freedom to Learn) policy, which places student autonomy, critical thinking, and real-world relevance at the center of the learning process (Suparman & Muhammad, 2024; Susilawati, 2021). An in-depth analysis of each theme will outline how these perceptions correlate with established learning theories and their practical implications for educators.

The first theme, meaningful understanding, highlights students' rejection of superficial, rote-oriented learning. They articulate deep learning as a process of building whole conceptual understanding, not merely accumulating short-term information. This perception aligns closely with Ausubel's theory of meaningful learning, where the essence of learning lies in the ability to connect new information with pre-existing cognitive structures (Blown, 2024). This finding also reinforces the principles of constructivism, which views students as active "meaning-makers" rather than passive "knowledge-receivers." Students explicitly stated that this process allows them to form personal meaning arising from active interaction with the material. It is this subjective meaning that ultimately drives motivation, strengthens memory, and facilitates the ability to apply knowledge in various situations (Safitri et al., 2025; Sinaga & Simbolon, 2025; Sutarto, 2017). Therefore, teaching strategies must shift from information delivery to facilitating meaning-making.

The second theme, critical and reflective thinking, indicates that students associate deep learning with the development of higher-order intellectual skills. They reported that this approach demands they not only passively receive information but also actively evaluate, analyze, and form personal opinions about the learning material. This aligns with the upper cognitive levels in the revised Bloom's taxonomy, which include analysis, evaluation, and creation as the pinnacle of the learning process. Students are encouraged to question assumptions, explore diverse perspectives, and understand the implications of the knowledge they acquire. Furthermore, this finding highlights the importance of reflective skills, a key component of metacognition. The ability to reflect on one's own learning process allows students to become autonomous lifelong learners, capable of identifying gaps in their understanding and proactively seeking improvement (Rivas et al., 2022; Sinaga & Simbolon, 2025; Wang, 2023). This is highly relevant in shaping the independent learners mandated by the *Merdeka Belajar* policy.

Active learner engagement, as the third theme, underscores students' awareness that deep learning is a participatory, not passive, process. They understand that the responsibility for learning does not lie solely with the instructor but demands their own initiative to explore materials, discuss, and engage in problem-solving. This perception directly supports the student-centered learning (SCL) approach, which is one of the main pillars of the *Merdeka Belajar* policy. In the SCL framework, students are the subjects of learning, and lecturers shift to the role of facilitators who guide exploration and collaboration. Active learning theory also supports this finding, showing that engagement in cognitively relevant activities such as group discussions or context-based projects significantly enhances understanding and material retention (Kasim et al., 2022; Sari et al., 2025). This awareness among students of the importance of their active role is crucial capital for educational institutions to redesign more participatory and empowering learning experiences.

The fourth theme, application of knowledge, highlights the pragmatic value of deep learning in the students' eyes. They explicitly stated that learning becomes valuable when it can bridge theory with practice. The ability to apply learned concepts in real-life situations, as expressed by the students, is the core of what is known as transfer of learning. This transferability is crucial in the context of higher education, which aims to prepare graduates who are ready to face the dynamic and complex challenges of the working world. Students no longer judge learning success solely by academic achievement, but by the extent to which that knowledge is functional and usable for problem-solving (Chueh & Kao, 2024; Sung et al., 2024; Thornhill-Miller et al., 2023). This aligns perfectly with the demands of the Industry 4.0 era and the spirit of the *Kurikulum Merdeka* (Independent Curriculum) policy, which emphasizes the development of essential competencies and the relevance of learning to the real world.

The four identified themes do not stand alone; rather, they are closely intertwined, forming a complete learning cycle. Meaningful understanding (Theme 1) serves as the foundation, but this foundation can only be built through active engagement (Theme 3). This process of active engagement is what then triggers and hones critical and reflective thinking skills (Theme 2). The culmination of this entire process is validated when students are able to apply the knowledge they have constructed (Theme 4). Collectively, these findings confirm that deep learning is a holistic process (Chen & Singh, 2024; Sudarmono et al., 2025). The practical implications for educators are significant. Educators are required to design learning environments that not only present information but also facilitate all four of these dimensions. This necessitates a shift toward methods like problem-based learning, project-based learning, and collaborative learning that provide space for students to explore, reflect, and collaborate. These findings are consistent with previous research (Biggs & Tang, 2011; Entwistle, 2023)

that emphasizes the effectiveness of approaches encouraging reflection and analysis in improving the quality of understanding.

It must be acknowledged that this study has several limitations. The findings are based on a qualitative analysis of 105 student opinions within a specific institutional context. Therefore, generalizing these perceptions to a broader or more diverse student population must be done cautiously. The collected data is self-reported, meaning these findings reflect the students' subjective perceptions and interpretations of their learning experiences, not an objective measurement of the application of deep learning itself. There is potential for self-reporting bias that may have influenced the results. For future research, it is recommended to use a mixed-methods approach to correlate these qualitative perceptions with quantitative data, such as learning outcomes or critical skill measurements. Additionally, comparative research exploring how these deep learning perceptions vary across different academic disciplines or between different educational institutions would provide a more comprehensive understanding.

CONCLUSION

This research conclusively identifies four pillars of student perception regarding deep learning: achieving meaningful understanding that rejects rote memorization, developing critical and reflective thinking, active engagement as the subject of learning (student-centered learning), and the application of knowledge in real-world contexts (transfer of learning). These findings are highly relevant to the *Merdeka Belajar* (Freedom to Learn) policy, indicating a paradigm shift from surface learning toward holistic understanding. These four themes are proven to be closely intertwined, forming a complete cycle wherein meaningful understanding is built through active engagement, which subsequently hones critical thinking, and is validated through practical application. The practical implications are significant, requiring educators to transition from being information providers to facilitators who design learning environments—such as problem-based or project-based learning—that intentionally and integratively facilitate these four dimensions and empower students.

While these findings offer rich qualitative insights, the study has limitations as it is based on self-reported data from 105 students within a single institutional context. Consequently, generalizations must be made cautiously, and there is potential for self-reporting bias. The data collected reflects subjective perceptions rather than objective measurements of deep learning implementation. Therefore, future research is strongly advised to utilize a mixed-methods approach to bridge this gap. Such an approach would enable the correlation of these qualitative perceptual findings with objective quantitative data, such as learning outcomes or measurements of critical thinking skills. Furthermore, comparative studies exploring how these deep learning perceptions vary across different academic disciplines or between different educational institutions would provide a more comprehensive and complete understanding.

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