Application of Deep Learning Methods in Improving English Language Comprehension and Writing Skills

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Abstrak

Penelitian ini bertujuan untuk menganalisis implementasi metode *Deep Learning* dalam meningkatkan pemahaman dan keterampilan menulis Bahasa Inggris di SMK Negeri Tengaran. Metode penelitian yang digunakan adalah kualitatif-deskriptif dengan teknik pengumpulan data melalui observasi, wawancara, dan dokumentasi selama kegiatan *Merdeka Belajar Kampus Merdeka* (MBKM). Hasil penelitian menunjukkan bahwa penerapan metode *Deep Learning* mampu menciptakan suasana belajar yang lebih aktif, interaktif, dan kontekstual. Siswa tidak hanya menghafal struktur bahasa, tetapi juga memahami makna dan konteks penulisan melalui keterlibatan langsung dalam kegiatan menulis yang relevan dengan kehidupan sehari-hari. Pendekatan ini membantu meningkatkan kepercayaan diri, motivasi, serta kemampuan berpikir kritis dan reflektif siswa. Meskipun demikian, masih terdapat tantangan seperti keterbatasan kosakata, kesulitan dalam grammar, dan penyusunan kalimat kompleks. Untuk mengatasi hal tersebut, guru menggunakan strategi kreatif seperti *puzzle writing* dan *free writing*, serta memberikan umpan balik yang konstruktif. Hasil penelitian ini menegaskan bahwa metode *Deep Learning* berpotensi besar untuk diterapkan dalam pembelajaran menulis Bahasa Inggris guna meningkatkan literasi dan kompetensi abad ke-21.

Kata Kunci: Deep learning, keterampilan menulis, pembelajaran Bahasa Inggris

Abstract

This study aims to analyze the implementation of the Deep Learning method in improving students' understanding and writing skills in English at SMK Negeri Tengaran. A qualitative-descriptive approach was employed, using data collection techniques such as observation, interviews, and documentation conducted during the Merdeka Belajar Kampus Merdeka (MBKM) program. The findings reveal that the application of the Deep Learning method creates a more active, interactive, and contextual learning environment. Students do not merely memorize language structures but also comprehend the meaning and context of writing through engagement in activities related to real-life experiences. This approach enhances students' confidence, motivation, and critical as well as reflective thinking skills. However, challenges remain in areas such as limited vocabulary, grammatical difficulties, and sentence structuring. To address these issues, teachers implemented creative strategies such as puzzle writing and free writing, accompanied by constructive feedback. The results confirm that the Deep Learning method holds great potential for enhancing English writing instruction by fostering literacy, critical thinking, and 21st-century competencies.

Keywords: Deep learning, writing skills, English learning

INTRODUCTION

Writing is considered one of the productive skills in language learning because it requires not only creativity but also the integration of multiple language abilities, including vocabulary mastery, grammatical understanding, and reading comprehension, in order to express ideas clearly and communicate meaning effectively (Andriani et al., 2023). In recent EFL contexts, writing also functions as a cognitive activity that demands critical thinking and reflective processing, enabling students to synthesize information and express meaning effectively. Through the process of writing, students are expected to not only apply correct grammar and appropriate vocabulary but also to organize their thoughts logically, coherently, and in a contextually relevant manner. Writing thus serves as a means for learners to synthesize knowledge and practice critical thinking while communicating their ideas. However, in practice, many students continue to face difficulties in structuring their ideas, applying suitable sentence patterns, and expressing their thoughts effectively in written form. These challenges indicate that traditional writing instruction may be insufficient and highlight the need for more meaningful, engaging, and learner-centered approaches that foster both language proficiency and cognitive development.

The writing process involves complex cognitive skills, including planning and preparing content, organizing and sequencing ideas, drafting, revising, and evaluating the final text. Effective writing requires not only grammatical accuracy and vocabulary mastery but also the ability to convey meaning clearly and coherently to a specific audience. However, in many EFL (English as a Foreign Language) classrooms, learners continue to encounter significant challenges. They often struggle to generate ideas, connect thoughts logically, apply appropriate sentence structures, and shape their writing to suit its intended purpose. These difficulties highlight the need for more meaningful and supportive instructional approaches that develop both language and cognitive skills (Nurcholis, 2025).

One of the increasingly applied approaches in contemporary education is Deep Learning, which emphasizes a deeper, more meaningful learning process. Unlike traditional methods that often focus on memorization, Deep Learning encourages students to understand, analyze, and connect new knowledge with their prior experiences. Through this approach, learners are not only guided in mastering grammar, vocabulary, and spelling but also in developing their ideas, organizing content logically, and refining their writing style according to their individual abilities (Dewi, 2025). In addition, recent studies demonstrate that deep learning–based instruction and artificial intelligence–assisted learning can enhance students' English communication competencies in school settings, showing growing relevance of this approach in real classroom practice (Suryani et al., 2025).

However, despite its potential, the implementation of Deep Learning in English writing instruction still faces several challenges. These include teachers' limited understanding of Deep Learning principles, students' varying readiness to engage in critical and reflective thinking, and the lack of sufficient digital learning resources and technological support (Pratama & Hastuti, 2024). Such obstacles can hinder the effectiveness of writing instruction and limit students' opportunities to develop higher-order thinking skills.

In the context of this research, novelty also emerges from the setting: this study is conducted within the MBKM (Merdeka Belajar Kampus Merdeka) program at SMK Negeri Tengaran, focusing on the development of students' writing and reflective abilities using the Deep Learning method. This is significant because several students still struggle to think critically and reflectively when completing writing tasks. Moreover, research on Deep Learning in writing instruction has predominantly been conducted at the university or secondary school level, while studies in vocational high schools (SMK) with their unique learning culture and practical orientation remain limited. This creates a clear research gap between existing theories of Deep Learning based writing instruction and real practices in SMK environments.

This study aims to gain a deeper understanding of the Deep Learning method when applied to English writing instruction. It also seeks to explore how this approach influences students' critical and reflective thinking skills, as well as the extent to which it enables them to produce more coherent and meaningful written works. The outcomes of this research are expected to contribute not only to the theoretical development of language learning but also to serve as a practical reference for teachers in designing writing activities that are meaningful, reflective, and grounded in deep understanding aligned with the demands of 21st-century education (Dai & Sihes, 2023).

METHOD

This study employs a qualitative-descriptive approach to systematically explore the social and pedagogical dynamics involved in the writing learning process using the Deep Learning method. This method was selected due to its ability to capture the complexity of classroom interactions, teaching strategies, and student engagement within an authentic learning environment (Tisdell et al., 2025).

The research was carried out at SMK Negeri Tengaran as part of the MBKM program, focusing on classes that implemented Deep Learning. The research subjects consisted of an English teacher selected purposively because he was the direct implementer of the Deep Learning method, as well as 32 students who were observed naturalistically in the classroom context. Data were collected through observation, semi-structured interviews, and documentation (lesson plans, learning activity notes, and student writing). Technique triangulation and source triangulation were used to improve data validity, in line with other qualitative studies on Deep Learning in vocational and teacher professional development contexts.

Data analysis involved a process of reduction, presentation, and conclusion drawing. During the analysis, empirical data were not only described but also critically examined in relation to existing theories and research, such as Deep Learning theory, Higher-Order Thinking Skills (HOTS), contextual learning, Second Language Acquisition, Cognitive Load Theory, and Constructivism. Comparisons between the research findings and previous literature especially challenges identified in vocational deep learning settings (Iktarastiwi et al., 2025) were made to reinforce the academic argument.

RESULTS AND DISCUSSION

Implementation of Deep Learning Methods in Writing Instruction

The implementation of the Deep Learning method in English writing instruction emphasizes active student engagement, meaningful learning, and the strengthening of connections between concepts and real-life experiences. Based on observations, the teacher began the learning session by presenting simple and relatable examples from everyday life that were relevant to the writing topic. This approach helped students grasp the context of the text before being asked to write independently. Linking new material to students' prior experiences proved effective in enhancing their focus, motivation, and interest during writing activities. Students felt more involved because they could connect the material to their personal experiences, making the learning process more relevant and engaging. This aligns with recent findings that deep learning based approaches increase student engagement and contextual understanding in L2 writing classrooms (Feng et al., 2025).

During the learning process, the classroom atmosphere was active and interactive. Students were not merely listening to the teacher's explanations but were also engaged in group discussions and writing exercises that required critical thinking. The teacher provided guidance and examples gradually, allowing students to develop their understanding step by step before writing independently. One activity involved writing on papers arranged in a puzzle pattern. This exercise was designed to stimulate creativity, encourage collaboration among students, and foster greater interest in learning. Such activities reflect the principles of student-centered learning, where learners play an active role in constructing their own knowledge rather than relying solely on the teacher's

input (Bachtiar et al., 2025). These principles are also supported by studies highlighting the role of reflective and collaborative writing in strengthening students' metacognitive awareness (Sudirman et al., 2021).

However, several students still encountered difficulties with technical aspects of writing, particularly in constructing grammatically correct and well-structured sentences. This indicates that while the Deep Learning approach effectively increases students' engagement and motivation, language proficiency remains a challenge that requires additional guidance. Similar challenges are noted in (Arifin, 2021), who found that even advanced EFL learners struggle with grammar accuracy, idea organization, and overall coherence when composing reflective or academic texts. These challenges can be addressed through more focused practice on grammar, vocabulary, and idea organization. The findings confirm that the implementation of the Deep Learning method positively impacts students' participation, motivation, and creativity in writing. Nevertheless, to achieve optimal writing skills, teachers need to provide further support on the technical aspects of writing. Consequently, writing instruction becomes more enjoyable, relevant, and effective in developing students' English language competence.

Impact on Students' Writing Comprehension and Skills

Based on the interviews conducted with students, the majority reported that learning to write through the Deep Learning approach was significantly more engaging and motivating compared to traditional methods. Students expressed that this approach provided them with a greater sense of freedom in expressing their ideas, as the learning activities encouraged them to draw upon personal experiences and real-life contexts that were familiar and meaningful. By connecting writing tasks to their daily lives, students found it easier to generate ideas, which in turn enhanced their confidence in writing. While some students continued to face challenges, particularly in terms of grammar accuracy and vocabulary selection, most became noticeably more confident in constructing simple sentences and coherent paragraphs. This experience contributed to the development of a more natural and contextual understanding of text organization and language use, enabling students to communicate ideas more effectively.

Furthermore, the teacher observed that the application of the Deep Learning method stimulated students to engage in reflective and analytical thinking. During writing exercises, students were not merely asked to imitate provided examples but were also guided to explain the reasoning behind their word choices, sentence structures, and overall composition. This practice encouraged learners to consider why certain expressions were more appropriate than others and to critically evaluate their own writing. This finding is consistent with (Kafur et al., 2025), who demonstrated that reflective learning logs significantly strengthen EFL students' critical thinking and writing awareness.

The teacher also noted that the level of progress varied among students, yet many who had previously been passive participants gradually became more active and self-assured. The Deep Learning approach created opportunities for learners to take ownership of their learning process, make decisions independently, and reflect on their thinking. Over time, this method fostered critical thinking, analytical reasoning, and greater language awareness, all of which contributed to improved writing skills and comprehension. Similar improvements in motivation and self-evaluation in writing were also observed in (He, 2024), who found that guided reflective processes and AI-assisted feedback increase learners' willingness to write and their awareness of language quality.

In essence, the implementation of the Deep Learning method not only enhanced students' engagement and motivation but also nurtured more independent, reflective, and analytical learners. By combining real-life relevance with guided exploration and self-reflection, this approach supported the development of both cognitive and linguistic competencies. The findings suggest that Deep Learning in writing instruction can lead to meaningful improvements in students' academic performance while simultaneously promoting lifelong learning skills such as critical thinking, creativity, and self-directed learning (Sari & Niswa, 2025).

Challenges

Deep Learning models encounter several significant challenges. A multidisciplinary strategy including data collecting and preparation methods, algorithmic improvements, interpretability techniques, fairness-aware model training, safe learning, resilient models against adversarial attacks, and cooperation with affected communities and domain experts to push the limits of deep learning and achieve its full potential (Talaei Khoei et al., 2023)

In the implementation process, the Deep Learning method presented several challenges for both students and teachers. Many students admitted that they still struggled to construct grammatically correct sentences and to choose the appropriate verb forms or tenses. These difficulties were often rooted in limited vocabulary mastery and a lack of confidence, as students frequently feared making grammatical errors. This anxiety sometimes hindered them from expressing their ideas freely in writing, which affected their overall performance. Additionally, variations in students' initial English proficiency levels required teachers to make adaptive adjustments in their instruction to accommodate both stronger and weaker learners. Previous studies also highlight similar issues (Tay & Xie, 2025) found that deep learning based AI models can analyze writing style but cannot fully resolve learners' grammar and coherence problems (Duan et al., 2025) discuss that while intelligent assistance through deep learning supports learners, there remain gaps in personalized error correction; and (Anggraeni, 2025) reports that students perceive AI tools as helpful but still worry about over reliance and mis usage in writing tasks.

Motivating students to be enthusiastic and engaged in writing is the biggest obstacle for teachers in implementing immersive learning techniques. While immersive learning can significantly improve conceptual understanding, a barrier that still needs to be addressed is the lack of interest in writing as a means of communicating that understanding (Nurhijrah & Suryana, 2025).

Teachers also faced challenges in managing classroom time effectively. Balancing the explanation of linguistic theories with practical writing exercises proved difficult within the limited duration of each lesson. Ensuring that all students could actively participate while maintaining lesson objectives required careful planning and flexibility. These challenges highlighted the need for strategic teaching methods that could simultaneously address students' individual learning needs and maximize classroom engagement

Improvement Strategies and Recomendation

To overcome these challenges, teachers implemented several creative strategies aimed at improving students' engagement, confidence, and language skills. The strategy employed in this lesson comprises several crucial steps to ensure that students grasp the material in a comprehensive manner. First, students are expected to understand how to use basic language tata, such as the simple present tense and the simple past tense. Second, the understanding of the concept is strengthened by the explanation in Indonesian, which is very important to prevent confusion. Thirdly, the process of translating into Indonesian is also used as a means of improving students' comprehension of the presented material. It is hoped that this method of practice will increase students' ability to comprehend and apply the material more effectively.

These included puzzle writing exercises, free writing activities, and collaborative group discussions. Such activities allowed students to express their ideas without excessive fear of making mistakes, while also promoting peer interaction, collaboration, and cooperative learning. Teachers emphasized the importance of continuous positive feedback, which motivated students to participate actively and encouraged self-correction. Additionally, the habit of revising written work fostered reflective learning, enabling students to monitor and evaluate their own linguistic development. Through these approaches, students were able to internalize grammar rules and vocabulary more naturally within meaningful and contextually relevant experiences. Such reflective and collaborative practices are supported by evidence that peer and self-editing improve student writing and confidence (Uswah, 2025), and that structured peer feedback enhances critical thinking, engagement, and writing performance (Nurkhamidah et al., 2024).

Looking ahead, it is essential for teachers to receive ongoing professional development and training in Deep Learning pedagogy. Strengthening teachers' understanding of its principles will enhance their ability to design adaptive lesson plans, incorporate reflective learning practices, and provide differentiated support for students with varying proficiency levels. By doing so, English writing instruction can become more interactive, student centered, and aligned with the demands of 21st century education.

Ultimately, the effective application of the Deep Learning approach in writing not only improves students' linguistic competence but also fosters critical thinking, creativity, and lifelong learning habits. This method equips learners with the skills needed to communicate effectively, think independently, and approach challenges with analytical and reflective thinking, contributing to their overall academic and personal development (Fitrah et al., 2025).

CONCLUSION

This study concludes that the Deep Learning approach has a meaningful positive impact on students' motivation, engagement, and English writing proficiency, as it encourages learners to construct ideas based on relevant contexts, reflect on their choices, and participate more actively in writing activities. Theoretically, these findings strengthen the view that writing development is most effective when students are guided to process information deeply rather than rely on surface-level memorization, highlighting the importance of cognitive engagement and meaningful learning experiences in second-language writing. Practically, the results demonstrate that implementing Deep Learning in the classroom requires teachers to design authentic and student-centered tasks, create supportive learning environments, and provide feedback that stimulates reflection and gradual improvement, especially for learners with varying levels of grammatical and lexical competence. To optimize this approach, schools and educational institutions need to offer continuous professional development that equips teachers with strategies for integrating Deep Learning principles into writing instruction in ways that are adaptive, contextually relevant, and aligned with the needs of vocational learners. Based on these insights, it is recommended that teachers strengthen their ability to facilitate reflective writing, institutions enhance support systems for pedagogical innovation, and future researchers explore the long-term effects of Deep Learning on students' writing autonomy, creativity, and critical thinking across different educational settings.

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It is hoped that this report will provide meaningful insights and benefits to all readers, serve as a constructive contribution to the development of educational knowledge, and inspire continuous improvement in the quality of education. The writer sincerely wishes that the experiences and findings documented in this report will contribute positively to the teaching profession and encourage ongoing efforts to enhance educational practices for the betterment of future learners.

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