Chapter 10:
Advancing EFL Students' Academic Writing Development through Deep Learning

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A. INTRODUCTION

Recently, growing scholarly attention has been directed toward the practice of deep learning and AI-assisted technologies in the educational context (Danker, 2015; Everett, 2024). Yet, while much research highlights their potential merits, the process of practising deep learning in academic writing—particularly its implementation through teaching design and concrete pedagogical approaches—remains underexplored. In this sense, deep learning can be described as the process by which individuals acquire the capacity to transfer knowledge and skills from one context to another through the development of cognitive, interpersonal, and intrapersonal competencies (Sølvik & Glenna, 2022).

In the context of the implementation of deep learning in academic writing, it extends beyond the mastery of grammar and rhetorical conventions to encompass higher-order thinking, reflection, and identity formation (Wahyuningsih, 2018, 2021). From a sociocultural perspective, deep learning is regarded not merely as the collection of knowledge, but as a socially mediated process of meaning-making, reflection, and identity establishment. Rooted in Vygotsky's (1978) concept of mediated learning, deep learning occurs when individuals engage in critical interaction with texts, peers, mentors, and tools, allowing them to internalize practices that extend beyond surface memorization. In academic

writing, this means that learners construct knowledge through dialogue, collaboration, and scaffolding, gradually transforming both their cognitive abilities and professional identities.

Technologies such as AI-driven feedback systems further function as mediational tools, fostering learners' participation in academic communities and enhancing the reflective practices that support self-improvement and academic development. These systems provide immediate, personalized feedback on coherence, structure, and accuracy, scaffolding learners' writing development and fostering autonomy (Chen et al., 2024; Wahyuningsih, 2024). Yet, despite their potential benefits, the process of practicing deep learning in academic writing—through structured teaching design including reflective integration of AI tools and concrete classroom applications—remains underexplored. Therefore, there is a need for situating deep learning not only as a technological affordance but also as a pedagogical practice that mediates critical reflection, collaboration, and sustained identity development in academic writing. This book chapter elaborates the practice of deep learning in advancing EFL students' academic writing development, foregrounding how carefully designed pedagogical models and illustrative examples can demonstrate their effective application in EFL classroom contexts.

B. TEACHING DESIGN

This section discusses the teaching design for advancing EFL students' academic writing development through deep learning, which is elaborated in the following stages.

Activation of Higher-Order Thinking

The first stage emphasizes on engaging students in higher-order thinking, which goes beyond surface-level writing mechanics to include analysis, evaluation, and synthesis of academic content. In this context, lecturers can motivate students by involving activities such as critically reading two contrasting journal articles on the same topic. Then, students are guided to identify the main

arguments, evaluate the validity of evidence, and integrate understanding across the texts. For instance, students might be asked to write a comparative commentary that highlights each article's strengths, weaknesses, and contributions to the field. Through this process, students learn to construct informed arguments rather than simply write information. The teaching sequence involves introducing relevant texts, modeling critical reading strategies, facilitating classroom discussions to compare perspectives, and assigning written tasks that require synthesis and evaluation. Thus, this stage shapes the foundation for cultivating critical engagement with academic discourse, enabling students to develop the analytical and evaluative skills essential for advanced academic writing (Gunawan et al., 2025; Hasbi, 2024; Ismail et al., 2016).

Scaffolded Writing and Collaboration

Collaboration and scaffolding offer students with structured enhancement to internalize academic writing conventions. Activities such as peer review, group discussions, and lecturers' feedback are meaningful in this stage. For instance, students may exchange drafts of a literature review, using rubrics to give structured peer feedback on clarity, coherence, and argumentation. The lecturer also provides targeted comments to guide improvement. Then, students can revise their drafts based on the feedback received. Moreover, the lecturer needs to practice classroom observations indicating that interactive dialogue between the lecturer and students, as well as among peers, is critical for constructing deeper understanding and learning (Sølvik & Glenna, 2022). The stages include modeling the feedback process, facilitating collaborative review sessions, guiding revisions based on feedback, and prompting reflective discussion on lessons learned during the collaboration.

Reflective Practice and Identity Formation

Reflection motivates students to monitor their progress, acknowledge strengths and weaknesses, and improve their identity as academic writers. In practice, students sustain academic writing journals or e-portfolios where they document challenges, strategies, and development for each assignment. For instance, after finishing a draft of a research paper, students might write a reflection discussing how their argumentation has evolved, what revisions were most challenging, and how they see themselves growing as academic writers. The implementation stages cover setting individual learning goals, prompting structured reflection after each writing task, discussing reflections with peers or lecturers, and integrating reflective insights into future drafts. This continuous reflective practice helps students internalize writing strategies while shaping their professional identity (Ahmed, 2019; Muthmainnah & Hasbi, 2022, Madkur et al., 2021, Studer, 2017).

Genre-Based and Contextualized Instruction

Comprehending academic genres is pivotal for effective writing in specific disciplines. Students are exposed to authentic academic texts, such as research abstracts, literature reviews, and argumentative essays, to learn their structural and rhetorical conventions. In addition, they may deconstruct a published abstract, identifying the research gap, methodology, findings, and conclusion. They then draft their own abstracts following the same rhetorical moves. These stages cover introducing authentic academic texts, discussing genre features through guided discussion, practicing genre-based writing, and revising drafts to ensure alignment with disciplinary conventions. This approach helps them transfer skills to multiple academic writing contexts, making their writing both accurate and contextually meaningful. Collectively, genre-based and contextualized instruction equips students with transferable rhetorical awareness, enabling them to navigate diverse academic writing tasks with greater confidence, precision, and disciplinary relevance (Mulyono et al., 2023).

Integration of AI in Academic Writing

The integration of AI in academic writing should be conducted strategically and ethically, serving as a tool to support learning while considering academic integrity. Beyond providing feedback on coherence and clarity, AI can assist students in paraphrasing ideas accurately, improving grammar and style, managing references through software such as Zotero or Mendeley, organizing ideas, and generating outlines. For instance, students drafting a literature review may use AI to check grammar, propose clearer phrasing, and automatically format citations, while critically evaluating the suggestions to ensure originality and scholarly responsibility. In this context, the pedagogical approach undescores (1) introducing students to diverse AI tools and their functions, (2) training them to use AI wisely so that it supports rather than replaces critical thinking, (3) integrating AI use into iterative writing cycles for progressive refinement, and (4) reflecting on the role of AI in improving writing skills and supporting professional development. By combining AI assistance with careful ethical judgment, students can optimize technical aspects of writing, focus cognitive effort on higher-order thinking, and develop academic work that is both polished and integrity-driven (Abbas et al., 2019; Hasbi et al., 2024; Nguyen et al., 2024).

Iterative Writing for Deep Learning

The final stage focuses on recursive writing and reflection, which are meaningful to deep learning. Students produce multiple drafts of a research paper, with each iteration focusing on different aspects, such as argument development, paragraph coherence, and stylistic accuracy. For instance, in a semester-long project, students submit drafts of a research essay, receive peer and lecturer feedback after each, and revise accordingly. They also write a reflective commentary at the end, analyzing their progress, challenges, and evolving identity as academic writers. This iterative process consolidates skills, reinforces reflective practice, and

nurtures both cognitive development and professional identity. Thus, recursive writing fosters resilience, perseverance, and a deeper sense of ownership over the writing process, enabling students to grow as independent and confident academic writers.

C. FURTHER DISCUSSION

The practice of deep learning in academic writing offers substantial potential for advancing EFL students' literacy, critical thinking, and professional identity. By engaging students in higher-order cognitive assignments, enhancing collaboration, and integrating reflective practice, deep learning approaches move beyond surface-level memorization and facilitate students with transferable skills for scholarly communication. The integration of AI further extends these benefits, offering scaffolding for linguistic accuracy, coherence, and reference management while allowing students to focus on more complex dimensions of argumentation and knowledge construction. Studies suggest that such approaches enhance learners' autonomy, motivation, and ability to participate in global academic communities (Ahmed, 2019; Lee et al., 2024). When implemented systematically through well-designed pedagogical models, deep learning strategies can therefore transform EFL classrooms into spaces where writing is not merely a skill but a developmental process enhancing both cognitive and professional development.

However, the implementation of deep learning in academic writing also presents notable challenges. First, the cognitive and reflective demands of deep learning may overwhelm students who are accustomed to teacher-centred approaches and product-oriented writing tasks. Without sufficient scaffolding, students may struggle to balance critical engagement with the technical demands of academic writing (Hasbi et al., 2025). Second, the integration of AI, while offering considerable benefits, raises concerns about overreliance, ethical use, and the erosion of originality, particularly among novice writers who may lack the ability to critically evaluate automated feedback (Kweldju, 2023; Wahyuningsih, 2024).

Furthermore, institutional challenges such as limited resources, heavy teaching loads, and insufficient training for lecturers can hinder the systematic application of deep learning practices. Addressing these challenges requires thoughtful teaching design, clear ethical guidelines for AI use, and institutional support to ensure that deep learning approaches are sustainable and pedagogically meaningful.

AUTHOR

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