PEDAGOGICAL FOUNDATIONS FOR DEVELOPING STUDENTS' ACADEMIC WRITING COMPETENCE THROUGH ARTIFICIAL INTELLIGENCE

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Annotation: This paper examines the pedagogical foundations for integrating artificial intelligence into the development of students' academic writing competence. It adopts a conceptual approach informed by writing pedagogy, self-regulated learning, and human-centred principles of AI use in education. Academic writing competence is understood as the ability to construct coherent arguments, evaluate and integrate evidence, follow disciplinary conventions, and revise texts independently. The paper proposes an instructional framework combining explicit teaching, guided AI interaction, critical feedback evaluation, and reflective revision.

Keywords: artificial intelligence, academic writing competence, writing pedagogy, scaffolding, self-regulated learning, feedback literacy, academic integrity.

Academic writing is an essential component of higher education because it enables students to communicate knowledge, evaluate competing perspectives, and participate in scholarly discussion. Writing competence involves more than grammatical accuracy. It includes identifying a meaningful problem, developing a defensible position, organising ideas logically, integrating reliable sources, and adapting language to a particular academic audience.

Artificial intelligence introduces additional opportunities for supporting these activities. Students can use AI tools to request explanations, examine alternative outlines, identify unclear passages, and obtain feedback on their drafts. However, producing a polished text with technological assistance does not necessarily demonstrate that the writer has developed the underlying competence. An educational approach must therefore

distinguish improvements in the submitted product from improvements in students' independent writing ability.

The purpose of this paper is to identify pedagogical foundations for AI-supported academic writing instruction and propose a framework that connects technological assistance with active learning, critical judgement, and responsible authorship.

Theoretical and Methodological Basis

This paper presents a conceptual synthesis rather than an empirical investigation. It draws on established perspectives in writing instruction and educational guidance concerning generative AI. No participant data, experimental findings, or measured learning gains are reported.

Flower and Hayes' cognitive process theory provides a foundation for understanding writing as an interaction among planning, translating ideas into text, and reviewing [1]. Applying this perspective to AI-supported instruction suggests that assistance should address specific writing processes while keeping students responsible for their decisions.

Hyland's work on second language writing offers a further basis for examining writing instruction in relation to texts, composing processes, and learners' educational contexts [2]. Zimmerman's account of self-regulated learning provides a complementary perspective for considering how students plan their work, monitor performance, and reflect on outcomes [3].

UNESCO's guidance places human agency, inclusion, and capacity development at the centre of educational AI integration [4]. These principles inform the proposed framework's emphasis on teacher mediation and student responsibility.

Main Discussion

1. Explicit instruction in academic writing

The first pedagogical foundation is explicit teaching of the knowledge and strategies that students need to write independently. Before using AI feedback, students should understand thesis statements, paragraph organisation, coherence, evidence integration, paraphrasing, and citation.

Teachers can illustrate these features through the analysis of authentic academic texts. For example, students may identify how a paragraph introduces a claim, presents supporting evidence, interprets that evidence, and connects it to the wider argument. Such instruction gives learners criteria against which they can evaluate both their own writing and AI suggestions.

Without these criteria, students may accept fluent language as evidence of quality, even when an argument is weak or insufficiently supported.

2. Scaffolding and gradual independence

AI assistance should be organised as temporary support within a planned learning sequence. At an introductory stage, the teacher can demonstrate how to request focused feedback and assess its usefulness. Students may then practise this process with guidance before applying it independently.

Support should gradually decrease as competence develops. A student who initially requests help identifying an unclear claim should later attempt to diagnose the problem before consulting an AI tool. The educational goal is increasing control over the writing process.

A suitable instructional prompt might be: *"Identify two places where the relationship between my claim and evidence is unclear. Explain the problem and ask questions that will help me revise. Do not rewrite the paragraph."* This directs assistance towards analysis and preserves the student's responsibility for revision.

Conclusion

The pedagogical value of artificial intelligence in academic writing depends on how it is incorporated into instruction. The framework proposed here connects AI assistance with explicit teaching, gradual independence, critical feedback evaluation, reflection, and responsible authorship. Its intended outcome is students who can explain and defend their writing decisions and apply academic writing strategies independently. Empirical research is needed to determine whether this approach produces sustained improvements across different educational contexts.

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