

Linguistic and Cognitive Challenges in University EFL Students' Academic Writing: A Conceptual Review

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ABSTRACT

This study aims to examine the interaction between linguistic constraints and cognitive challenges in English as a Foreign Language (EFL) academic writing and to synthesize recent evidence on their implications for writing instruction. Academic writing is one of the most essential yet demanding skills for EFL learners because it requires not only language proficiency but also higher-order cognitive abilities. Although numerous studies have investigated linguistic errors or writing difficulties separately, limited attention has been given to how language-related limitations and cognitive factors interact to influence academic writing performance. This study employed a qualitative research synthesis of 25 recent peer-reviewed journal articles published on EFL academic writing. The findings indicate that grammatical inaccuracies and limited vocabulary are closely interconnected with difficulties in concept development, critical thinking, and working memory overload. These challenges collectively hinder students' ability to produce coherent and academically appropriate texts. The study highlights the need for a holistic pedagogical approach that addresses both linguistic and cognitive dimensions. It recommends integrating collaborative writing, metacognitive strategy instruction, and AI literacy into EFL writing pedagogy to strengthen students' academic writing competence and cognitive engagement.

Keywords: *Academic Writing, Cognitive load, EFL Learners, Linguistic Challenges, Pedagogical Strategies*

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INTRODUCTION

Academic writing is the foundation of higher education and the common language of international scholarship. Today, the academy demands that all students be able to explain complicated concepts, synthesize diverse literature, and generate rigorous arguments in written form. For English as a Foreign Language (EFL) learner, the stakes are particularly high. English has become the lingua franca of academia worldwide. Non-native users of English in academia face a double challenge: they not only need to grasp extensive discipline topic knowledge, but also simultaneously acquire sophisticated language standards with which to articulate that information. Thus, competent academic writing is an important gatekeeper to students' success in their academic pursuits, their ability to contribute to international research and their whole professional trajectory.

Despite its indisputable importance, the acquisition of English academic writing skills remains one of the most enduring and formidable challenges in EFL higher education. The shift from general communicative English to English for Academic Purposes (EAP) entails a significant transformation in the learner's register, tone and cognitive processing. Students are then asked to rapidly switch from subjective, conversational language to objective, evidence-based and highly organized text. The changeover is rarely seamless. It is a huge difficulty that affects learners in almost every geographical location, at all levels recent work is consistent in pointing out that the fight starts early. Basic EFL learners face serious challenges when initially confronted with formal academic writing patterns, sometimes finding it impossible to adjust to the tight structural demands of university assignments (Osman et al., 2025).

Crucially, these problems are not resolved simply by moving forward in students' academic careers, but instead compound and change. Undergraduate students confront enormous strain and developmental challenges as they try to cope with the intense and prolonged requirements of thesis writing (Febriyanti et al., 2025). Moreover, research done locally, for instance with English Education students writing introductions to journal articles, shows that even the beginning and structuring of academic writings is a common stumbling block that leads to a lot of aggravation (Mar, 2026). This is likely more apparent at the postgraduate and professional levels where these impediments to writing continue to exist. Recent empirical studies have demonstrated that even highly fluent general English speakers, such as advanced graduate students and university EFL teachers, continue to encounter structural and psychological barriers to writing research articles for international publication, even after years of experience (Tiwari, 2023) (Azizah et al. 2025). The universal battle is seen in larger assessments of the problems of academic writing in many institutions. It points to the fact that academic writing issues are a systemic problem in EFL education, and not isolated cases of student underperformance (Alzahrani, 2025).

It is critical to analyze the complexity of the problems to produce successful educational solutions. Traditionally, the obstacles in EFL writing have been strongly tied to linguistic limitations. Non-native learners in particular suffer from poor lexical diversity, recurrent grammatical errors and strong first language (L1) interference that obstruct the clarity and the academic tone of their texts. But writing is not just mechanical recording of language; it is a very complicated cognitive enterprise. Students encounter not just the challenge of surface-level linguistic faults, but also the cognitive load of critically evaluating sources, formulating original arguments, and logically linking concepts across a long essay. When students are using much of their working memory to produce grammatically acceptable sentences, they have limited cognitive bandwidth left to focus on high-level critical thinking and textual coherence. This cognitive overload is sometimes exacerbated by emotive filters such as high levels of writing anxiety and low self-efficacy that further freeze the writing process.

These writing issues are so widespread and often interrelated that we need to understand their underlying causes if we are to effectively enhance writing teaching. Most prior work has studied these problems in isolation, concentrating either only on grammar faults or only on the psychological obstacles of writing. What have still to be understood is how linguistic difficulties cause mental overload, and how the cognitive stress translates into structural errors on paper. This paper looks at the problems that students have when they write in English as a language. It puts these problems into two groups: things that are hard because of language and things that are hard because of how we think. By looking at how these two thinkers connected we can see the whole picture of what students are up against. This paper gives us some ideas for how to make things better like helping students think about their thought process working together on writing and understanding how computers can help us write. The goal is to make writing classes in college more helpful and interesting for English, as a foreign language student.

METHOD

The research design applied in this study is conceptual, which is based on a thorough literature-based analysis. Conceptual research is, in essence, about developing new insights through the critical examination, integration and synthesis of existing ideas, empirical findings and scholarly discussions, rather than through the collection of actual empirical data from the field. This methodological approach is very appropriate for the setting of teaching English as a Foreign Language (EFL) especially on the complex procedures of academic writing. There are a number of overlapping aspects that go into writing as a skill, from the mechanics of grammar at the sentence level, to high-level cognitive processing and emotional control. This conceptual approach makes it possible to map out these intertwined issues in multiple

educational contexts without being limited to one empirical setting, through an analysis of a broad spectrum of pre-existing studies.

The theoretical framework and the academic sources used in this study were selected with great attention due to their close relationship to the primary research objectives. A total of twenty-five peer-reviewed journal papers have been collected such that the literature is representative of the most recent trends in instructional practice and current student concerns. Most of the publications have been published between 2023 and 2026. These sources were picked on purpose to include levels of higher education. This means they have students who are trying to figure out how to write essays and theses. They also have graduate students and university level English teachers who are dealing with the parts of getting research articles published. The study uses the information so it can show what is happening now. This includes the ways that artificial intelligence and digital media are being used to teach writing. The study looks at how these new things are changing the way people learn to write. The people doing the study wanted to make sure they were looking at the situation with writing and education including how artificial intelligence is being used.

A strong conceptual framework was constructed by categorically dividing the selected literature into four core thematic groups. The first section offers an overview of the problems of academic writing in some university contexts. The second domain is exclusively devoted to linguistic and technical restrictions, considering error patterns such as vocabulary deficiencies, tense mistakes and structural incoherence in the light of recent research (Laoli et al. 2026). The third section includes cognitive and psychological hurdles, critically analyzing the mental load, absence of critical thinking and writing anxiety, which paralyses the writing process (Anaktototy, 2023). Finally, the fourth field integrates these issues by studying multidimensional educational solutions such as metacognitive training, self-regulated learning, and AI prompt literacy (Jaya, 2025; Manggolo et al., 2024).

The main analytical approach was a thematic conceptual synthesis based on qualitative meta-analytical frameworks (Hamdani & Abid, 2025). The study did not simply summarize discrete challenges in writing. Rather, it sought to establish theoretical linkages and causal relationships between the characteristics revealed. For example, the investigation tested the direct limitation of a student's basic deficit in English vocabulary on his/her cognitive capacity to develop and structure complicated arguments. Therefore, a conceptual research design was viewed as the most rigorous and acceptable way to fulfill the goal of the study. It gives an eagle eye panoramic view that transforms scattered writing problems into holistic, integrated and actionable instructional implications for EFL teachers.

Respondents

Since this is a conceptual and literature-based research approach, there were no human respondents or participants or classroom observation involved in this study. There was no active recruitment of undergraduate students, EFL teachers, or higher education institutions for empirical data gathering. A hallmark of conceptual research is the absence of traditional respondents, where data is solely based on secondary sources, document analysis, and theoretical reasoning to reach findings. The 'subjects' of this inquiry were the 25 selected peer-reviewed scholarly articles, not human subjects. Therefore, the use of techniques of population sampling, characteristics of participants, or field research ethics did not apply to the implementation of this study.

Instruments

In accordance with the conceptual framework, this study did not use empirical data collection devices in the form of student writing performance tests, psychological questionnaires, structured interviews, and classroom observation sheets. Instead, the main analytical tools were the 25-peer published scientific articles, which supplied both the empirical data and the theoretical basis for the synthesis. Also, digital academic databases, especially Google Scholar, were the major search tools for literature search. Mendeley was also

used as reference management software to methodically catalogue the sources, extract relevant metadata (titles, abstracts, publication years, etc.) and guarantee formatting compliance.

Procedures

The research procedure was carried out in a systematic multi-stage manner. A preliminary literature search was undertaken to identify the present research lacuna on the junction of linguistic and cognitive difficulties in EFL writing. Second, a wide literature search was undertaken, filtering strictly for scientific works published between 2023 and 2026 to ensure currency. Third, the 25 recovered papers were methodically grouped into four different conceptual clusters: general obstacles, linguistic limits, cognitive/psychological impediments, and pedagogical solutions. Finally, the abstracts, the results and conclusions of these papers were studied in depth in order to extract their main arguments and data. The gathered information was ultimately used to build the theoretical story described in the findings.

Data Analysis

Data analysis was carried out utilizing a qualitative thematic synthesis approach. The textual data obtained from the 25 articles were rigorously analyzed to find out the patterns, contradictions and correlations on EFL writing challenges. The data were then rigorously classified into two main aspects; mechanical language faults (linguistic) and working memory or emotional obstacles (cognitive/affective). After coding a relational analysis was conducted to synthesize the interaction and compounding of these two dimensions in an academic setting. The synthesis data were analyzed via a theoretical lens to create holistic educational approaches. This resulted in the integrated instructional frameworks discussed in the Discussion section.

FINDINGS AND DISCUSSION

Linguistic Challenges in EFL Academic Writing

Linguistic challenges are one of the most serious barriers that EFL learners confront in doing academic writing. Although students may have a comprehension of the concepts of their study topics, the issue remains translating these ideas into structurally good academic English. According to (Nurdianingsih et al., 2021), Linguistic deficiencies (such as lack of vocabulary and major grammatical errors) have a heavy impact on students' writing skills as well as on the quality of the documents. Students are limited by these underlying linguistic restrictions from expressing opinions with the precision demanded in academic discourse.

These issues are taken up in further detail in the study of particular academic text production. For example, the primary challenges that students experience when writing descriptive and academic essays are basic grammar standards. Students make blunders in tenses, subject-verb agreement and the right usage of articles (Laoli et al. 2026). In addition, the constraints of their vocabulary often make pupils employ terms which are repetitive and inexact, and this in turn undermines the formal academic tone of their work. From the standpoint of error analysis, these linguistic obstacles are indications of more fundamental structural problems, which are generally aggravated by interference from the Indonesian students' first language (L1) (Budiman et al., 2021).

Beyond sentence-level mechanics, students often struggle with the greater textual order. Articles Laoli et al. (2026) noted that poor text organization, which is characterized by unclear generic structures, poor coherence, and little use of cohesive devices, is also a result of linguistic constraints. As a result, readers will find it difficult to understand the students' arguments. As a result, it is urgently necessary to reconsider the ways in which we now teach. The creation of highly targeted writing instructional resources that precisely address the diagnostic requirements of college EFL students is necessary to address these specific language deficits (Serliah Nur & Muthiah, 2020). Educators can really help students by giving them materials that deal with the grammar and word problems they are having. This can make it

easier for students to express their thoughts about school work. The materials that educators provide can help students overcome the language problems they are facing and understand things easily. By doing these students can find it easier to talk about what they're learning in school. Educators are helping students, with grammar and word issues, which is a big part of the language problems that students have to deal with.

Cognitive and Psychological Challenges in Academic Writing

While linguistic competence is essential, contemporary academic discussion has emphasized that academic writing is at its core a complicated cognitive process. Indeed, cognitive and psychological limitations rather than linguistic ones commonly hinder students' writing progress. (Anaktototy, 2023) showed that cognitive elements are the most crucial in causing writing deficits among postsecondary EFL students, overruling both language and motivational considerations. Writing demands a great deal of cognition, requiring pupils to remember language mechanics and to analyze, organize, and distribute complicated thoughts at the same time in a productive and appealing manner. If this cognitive demand is too high for the working memory capacity of the students, this leads to significant mental weariness and cognitive overload.

The cognitive load is most apparent in argumentative writing, a form that pushes pupils to the limit of their intellectual capacities. Students need to apply higher-order critical thinking skills to analyze data, integrate diverse opinions, and create sound rebuttals in order to write a convincing essay (Pratiwi & Arifin, 2025). The combined demand to generate critical, abstract thoughts and to worry about sentence construction produces a major bottleneck in the writing process. A comprehensive scoping analysis of EFL learners shows that dealing with these simultaneous demands makes argumentative writing one of the most cognitively taxing jobs, often resulting in writer's block and loss of coherence (Wang & Mat Said, 2024).

Furthermore these cognitive impairments are strongly associated with psychological characteristics such as the absence of intrinsic drive and excessive writing anxiety. In the absence of personal interest and sufficient opportunity to see and study real-life learning objects, students' internal motivation is weakened and students' cognitive difficulties are intensified (Anaktototy, 2023). Therefore, reducing cognitive load in EFL writing requires more than language practice; it demands a multi-faceted approach (Thaha, 2025). Teachers need to decompose writing activities into a series of cognitive processes, give constant stimulation, and establish a psychological environment that minimises students' psychological distress so that students could devote their mental resources to idea production and critical thinking.

Discussion

Synthesis and Pedagogical Implications

The dichotomy between linguistic and cognitive problems is hypothetical only. In practice they are highly interrelated and impact the EFL learners simultaneously. A qualitative meta-analysis by (Hamdani & Abid, 2025) illustrates this complex interplay. It shows that the students' writing problems are spread widely among linguistic (45.16%), affective (38.71%), and cognitive (16.13%) domains. The limited language proficiency of students directly impacts their logical idea development and structural organization (Jaya, 2025). On the other hand, cognitive anxiety and low self-efficacy restrict their capacity to construct coherent arguments, thus trapping them in a cycle of writing paralysis traditional text-based teaching methods relying solely on isolated error analysis and grammar drills are no longer sufficient to meet the changing needs of today's university students.

To tackle these intersecting challenges effectively, educators need to put in place comprehensive, process-focused coping strategies that foster learner autonomy and active collaboration (Asnas & Hidayanti, 2024). One very effective and empirically supported method is collaborative academic writing. This method enables students to share the enormous cognitive load required for idea generation (Anggraeni et al., 2025). Also, to fight

cognitive overload, metacognitive strategies have to be taught explicitly and deliberately. As (Jaya, 2025) emphasizes that the combination of intrinsic motivation, effective time management and self-regulated learning skills enables students to deliberately plan, monitor and evaluate their own writing processes. Embedding these cognitive strategies in daily classroom instruction is an important scaffold to help students approach complex writing tasks systematically rather than becoming overwhelmed by them (Nusivera et al., 2025).

The Role of Digital Technology and AI Integration

Today, responding to these complex writing challenges also requires a proactive adaptation to the digital age in the contemporary educational landscape. Modern higher education is increasingly populated by millennial and Gen-Z learners, and as digital natives, they are naturally drawn to technologically enhanced learning environments. Manggolo et al., (2024) want to stress that these students have demonstrated surprisingly high levels of motivation for digital-assisted courses, which offer very accessible ways to overcome their internal struggles with academic self-expression and grammatical correctness.

This dynamic is further transformed by the recent infusion of Artificial Intelligence (AI) in L2 writing, offering both unprecedented opportunities and new pedagogical responsibilities. AI applications can substantially transform and decrease the cognitive load experienced by students during the writing process, specifically during the drafting and revision stages, if used effectively as a scaffolding support tool (Yao & Fan, 2025). Allowing AI to take care of basic structural and grammatical problems frees students' mental bandwidth for higher-order cognitive tasks such as critical analysis and evidence synthesis. But if AI is to be a real pedagogical asset, not a destructive crutch, then writing instruction in universities must rapidly adapt to include comprehensive AI literacy. Contemporary EFL curricula need to move beyond the perception of AI as a conversational Chabot and consider "prompt literacy" (the ability to generate accurate, critical, and context-aware instructions) as a key component of contemporary writing pedagogy (Patty, 2026). By explicitly instructing students to engage with these digital tools critically and ethically, educators can support them in harnessing technology to transcend fundamental linguistic challenges, while also sustaining their rigorous cognitive engagement and preserving the highest standards of academic integrity.

CONCLUSIONS

Academic writing in English remains a demanding task for EFL students because it requires the integration of linguistic competence, cognitive processing, and academic reasoning. This review demonstrates that writing difficulties extend beyond grammatical and lexical limitations, as they are closely intertwined with cognitive overload, writing anxiety, and low self-efficacy. When students devote excessive mental effort to language form, they have fewer cognitive resources available for generating ideas, organizing arguments, and engaging in critical thinking. Consequently, improving academic writing requires more than traditional grammar-focused instruction. Higher education institutions should adopt process-oriented pedagogies that integrate collaborative writing, metacognitive strategy instruction, and scaffolded writing activities to reduce cognitive burden while strengthening students' confidence. Furthermore, digital technologies, including ethically guided AI tools, should be incorporated into writing instruction to support language development without replacing independent thinking. By combining linguistic support, cognitive strategies, and responsible technology use, educators can create more effective learning environments that help EFL students overcome writing challenges and develop the academic writing competence required for success in higher education and future professional contexts.

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