Bridging the Gap between Grammar Knowledge and Writing Performance among EFL University Students

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Abstract

This study looks at how English as a Foreign Language students write and how that is connected to what they know about grammar. It focuses on three parts of grammar that English as a Foreign Language students need to know: how words are formed how sentences are put together and how to make sentences. The study involved 120 English as a Foreign Language students from an universities in Indonesia who are studying to be English teachers. To get the information needed the students took a test, on grammar. Also wrote an essay that was then analyzed. The results showed a significant positive correlation between grammar knowledge and writing performance ($r = 0.624$; $p < 0.001$), with syntactic knowledge as the strongest predictor. Regression analysis showed that grammar knowledge explained 32.9% of the variation in students' writing performance. These findings indicate that grammar mastery plays an important role but does not fully determine the quality of writing. Therefore, writing instruction needs to integrate grammar with rhetorical, lexical, and discourse skills through a contextual and process-based approach.

Keywords: EFL Students; Grammar Knowledge; Language Accuracy; Syntactic Knowledge; Writing Performance

Introduction

In the context of learning English as a Foreign Language (EFL) in higher education, writing skills remain one of the most challenging competencies for students to master. Academic writing is a complex skill because it requires a balanced integration of content mastery, idea organization, vocabulary selection, writing mechanics, and grammatical accuracy(Teuten, 2009; Odendahl et al., 2008). A number of studies have consistently shown that grammatical knowledge is an important component in supporting writing proficiency (Ahangari & Barghi, 2012; Al-Jarf, 2022). However, the relationship between students' grammatical knowledge and

their writing performance is not yet fully understood and shows diverse empirical findings.

From a pedagogical perspective, understanding how grammatical knowledge is transformed into effective writing performance has important implications for EFL learning in higher education. In practice, lecturers often assume that explicit mastery of grammar will automatically improve the quality of students' writing. However, learning experience has revealed a discrepancy between learners' knowledge of grammar and their capacity to use it in written work. Therefore, there is a growing need to create learning strategies for students that aim to impart this knowledge through meaningful writing practice rather than just concentrating on learning grammar rules in isolation.

Theoretically, there are two main views regarding the role of grammar in writing. On the one hand, the basic perspective states that knowledge of grammar provides a structural framework that enables writers to produce coherent and acceptable texts through mastery of sentence construction, verb forms, clause relationships, and other linguistic conventions. Several studies show that Indonesian EFL students have basic grammatical knowledge, but still face ongoing difficulties in certain aspects such as tense usage and sentence structure, even though explicit grammar instruction has a positive impact on their academic writing skills (Mustakim et al., 2025; Sianturi, 2021; Volya, 2024)

However, more recent research demonstrates that mastery of grammar does not ensure excellent writing. For instance, Hetthong (2013) Hetthong (2013) discovered that students' writing performance was not significantly predicted by a combination of grammatical and reading skills. Similar findings were reported by Belmekki et al., (2025) who showed a relatively weak relationship between grammatical competence and the writing performance of university students in Morocco. These results indicate that the relationship between grammar and writing is likely influenced by other variables that act as moderating or mediating factors.

The tension between the importance of theoretical grammar knowledge and the variation in empirical writing performance results marks what can be called a grammar–performance gap in EFL writing in higher education. Although students can demonstrate an understanding of grammar rules (declarative knowledge), their ability to convert this knowledge into fluent, accurate, and contextually appropriate writing (procedural performance) is still uneven. The literature also points to factors that

complicate this relationship, such as metacognitive knowledge and writing strategies, teaching practices that focus on form without considering process and genre, writing anxiety, feedback mechanisms, and limitations in curriculum and assessment systems. The discrepancy between the conceptual importance of grammar knowledge and the empirical variation in writing performance reflects a grammar–performance gap in the context of EFL writing in higher education. Although learners can demonstrate an understanding of grammar rules (declarative knowledge), their ability to convert that knowledge into fluent, accurate, and contextually appropriate writing (procedural performance) is still uneven. The literature also highlights a number of factors that complicate this relationship, including metacognitive knowledge and writing strategies (Teng & Mei, 2025), teaching practices that focus on form without considering genre and writing process, writing anxiety, feedback mechanisms, and limitations of the curriculum context and assessment system.

Although research on this issue continues to evolve, there are still a number of significant gaps, particularly in the context of EFL higher education in Indonesia and similar contexts. First, many studies examine grammatical knowledge and writing performance separately, without examining the mechanism of transfer from grammatical awareness to actual writing performance. Second, existing research has not sufficiently explored writing performance from multiple dimensions, including accuracy, complexity, coherence, and rhetorical control, particularly in connection with grammatical knowledge. Third, the literature remains limited in providing integrated and context-based empirical evidence that simultaneously connects instructional factors and learner characteristics with writing outcomes.

Given these gaps, the present study, "Bridging the Gap between Grammar Knowledge and Writing Performance among EFL University Students", aims to investigate the relationship between university students' grammar knowledge and multiple dimensions of their writing performance, while also exploring instructional and learner-related mediators of this relationship within the Indonesian EFL higher education context. By doing so, the study contributes to both theory (by illuminating the transfer processes from grammar knowledge to writing performance) and practice (by providing evidence-based implications for writing pedagogy in EFL higher education settings).

Research Methodology

This study applies a quantitative correlational research design to explore the relationship between grammar knowledge and the writing performance of EFL students at the higher education level. The correlational approach is selected because it enables researchers to examine the direction and strength of relationships between variables without applying any experimental treatment (Creswel & Creswel, 2018). Through this design, the study seeks to determine how strongly grammar knowledge is related to students' writing performance in an EFL context.

This study involved 120 undergraduate students from English Education programs at three universities in Indonesia. The participants were chosen using purposive sampling, with the requirement that they had completed at least two academic writing courses and one grammar course. These criteria were applied to ensure that all participants had sufficient experience with both formal grammar instruction and academic writing activities. The students were between 19 and 23 years old, with a fairly even gender composition, consisting of 65 female and 55 male students. Prior to entering university, all participants had studied English for a minimum of six years. Based on the results of institutional placement tests, their levels of English proficiency ranged from intermediate to upper-intermediate.

Data was gathered using two primary instruments: 1). Test of Grammar Knowledge (GKT): To assess both explicit and implicit grammar knowledge, a researcher-developed Grammar Knowledge Test was modified from validated instruments by Ellis (1998) and Ramli et al., (2013). Ten brief constructed-response questions and forty multiple-choice questions covering important grammatical elements pertinent to EFL writing, such as verb tense, subject-verb agreement, relative clauses, articles, and sentence structure, made up the test.

The instrument's reliability was established through a pilot study involving 30 non-participant students, yielding a Cronbach's alpha of .86, indicating high internal consistency. Expert validation was also conducted by three EFL lecturers to ensure content and construct validity; 2). Writing Performance Task (WPT): Participants were asked to complete a 250–300-word argumentative essay on one of two topics provided by the researcher. The essays were assessed using an analytic writing rubric adapted from Susanti & Agung (2023) ,which included five dimensions: content, organization, vocabulary, language use (grammar accuracy), and mechanics. Each essay was rated independently by two experienced writing instructors. The inter-rater

reliability was determined using Cohen's kappa (κ = .82), which indicated substantial agreement between raters.

Data collection was conducted over a three-week period during the second semester of the 2024/2025 academic year. During the first session, participants were briefed about the research purpose, confidentiality, and consent requirements in compliance with institutional ethical guidelines. In the second session, students completed the Grammar Knowledge Test under supervised classroom conditions, with a 45-minute time limit, the Writing Performance Task took place a week later in the same controlled setting, and students had 60 minutes to write their essays. All student responses were sent in without names, using participant codes.

Utilizing SPSS version 26, data were examined through both descriptive and inferential statistical methodologies. For both grammatical knowledge and writing performance scores, descriptive statistics (means, standard deviations, and distribution normality) were calculated. A Pearson Product–Moment Correlation was utilized to ascertain the strength and direction of the association between grammatical knowledge and writing performance, thereby addressing the primary research question. To ascertain the specific elements of grammar knowledge that most significantly forecast writing ability, a multiple regression analysis was performed, utilizing subcomponents of grammar knowledge (morphology, syntax, and sentence building) as independent variables.

Also, the analytic scores for writing were looked at one dimension at a time (accuracy, complexity, cohesiveness, and organization) to see how grammar knowledge connected to each writing dimension. The threshold for statistical significance was established at $p < .05$, and effect sizes were analyzed in accordance with Cohen's (1992) guidelines (small = .10, medium = .30, large = .50). We also looked at the qualitative comments from the raters' input to provide more depth to the interpretation, especially when it came to how grammar problems showed up in real writing examples.

In addition, writing performance scores were analyzed based on each assessment dimension to explore the relationship between grammar knowledge and specific aspects of writing performance. This study did not measure or model mediating variables; therefore, other factors that could theoretically influence writing performance were not included in the statistical analysis and were treated as

methodological limitations. The significance level was set at p < 0.05, and effect sizes were interpreted according to Cohen's (1992) criteria.

All participants provided informed consent prior to participation. Anonymity and confidentiality were maintained throughout the research process. Institutional approval was granted by the participating universities' ethics committees to ensure compliance with research ethics and academic integrity standards.

Findings and Discussion

Findings

This section presents the results of the data analysis addressing the relationship between grammar knowledge and writing performance among EFL university students. The analysis includes descriptive statistics, correlation analysis, and multiple regression results.

Descriptive Statistics

The descriptive statistics for the two major variables, GK and WP, are reported in Table 1.

Table 1. Descriptive Statistics of Grammar Proficiency and Writing Performance (N = 120)

Variable	Min	Max	Mean	SD	Skewness	Kurtosis
Grammar Knowledge	55	90	73,45	8,62	0,24	0,31
Writing Performance	52	88	70,13	7,95	0,18	0,42

Findings indicate that the students' grammar knowledge and writing quality were moderate-to-high in level with not much variation in scores. This is an indication of the homogeneity of the sample with respect to language proficiency.

1. Correlation between Grammar Knowledge and Writing Performance

A Pearson Product–Moment correlation explored the relationship between grammar knowledge and writing ability.

Table 2. Grammar Knowledge and Writing Performance

No	Variables	1	2
1	Grammar Knowledge	1	
2	Writing Performance	.624**	1

Table 2 presents the correlation coefficients between the components of grammar knowledge and the four dimensions of writing performance. The data reveal that syntactic knowledge exhibits the strongest positive correlation with writing performance ($r = .684$, $p < .001$), suggesting that students with better mastery of
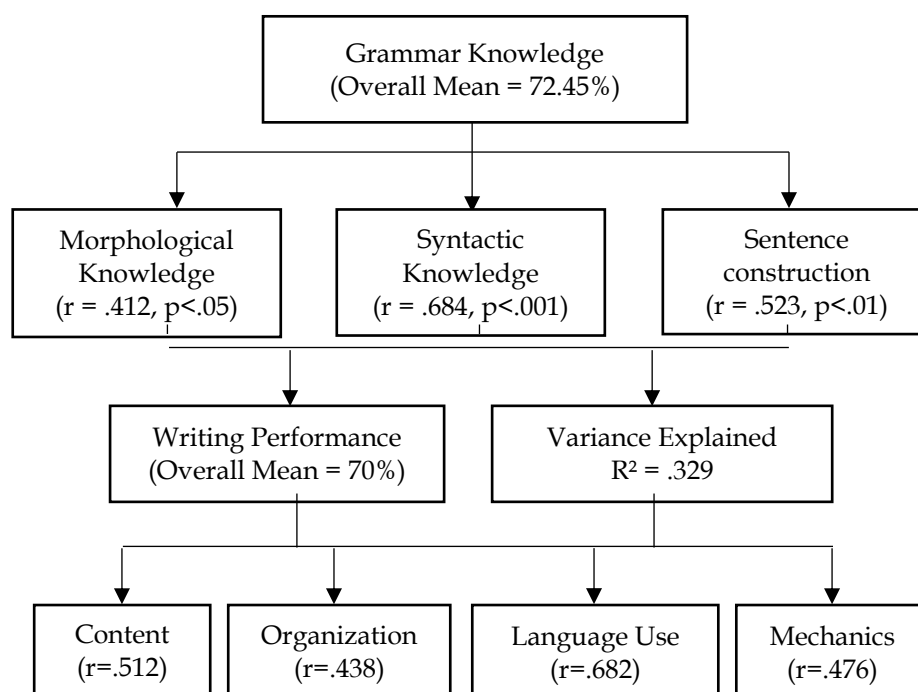
sentence structure tend to produce more cohesive and syntactically accurate writing.

To provide a more granular analysis, correlation coefficients were calculated between the three subcomponents of grammar knowledge (Morphological, Syntactic, Sentence Construction) and the five dimensions of the writing rubric (Content, Organization, Vocabulary, Language Use, Mechanics). The results are presented in Table 3.

Table 3. Correlations between Grammar Knowledge Components and Writing Performance Dimensions

Grammar Component	Content (r)	Organization (r)	Vocabulary (r)	Language Use (r)	Mechanics (r)	Overall WP (r)
Morphological Knowledge	.312*	.278*	.401**	.412**	.290*	.412**
Syntactic Knowledge	.512**	.438**	.498**	.684**	.476**	.684**
Sentence Construction	.403**	.365**	.387**	.523**	.320*	.523**
**Note: *p < .05, p < .01						

Syntactic knowledge As depicted in Table 3, overall positivism exhibited the strongest significant relationship with total writing performance (r =. 684, p <. 001), and the language use domain as well (r =. 684, p <. 001). This would imply that the more proficient students are at wrestling the sentence-grammar into submission, the clear and coherent their writing should become. Awareness of sentence construction was also significantly related; awareness of morphology, however, demonstrated the statistical relationships to a lesser extent. The language use dimension was most strongly related to all grammar components among the writing dimensions, which indicates the direct influence of grammatical competence on linguistic accuracy. The relationship between grammar knowledge and writing performance is illustrated in Figure 1.

Figure 1. Scatter Plot of the Relationship between Grammar Knowledge and Writing Performance

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                    ┌─────────────────────────┐
                    │    Grammar Knowledge    │
                    │  (Overall Mean = 72.45%)│
                    └─────────────────────────┘
          ┌──────────────────┬──────────────────┐
          ▼                  ▼                  ▼
  ┌──────────────┐   ┌──────────────┐   ┌──────────────┐
  │ Morphological│   │   Syntactic  │   │   Sentence   │
  │   Knowledge  │   │   Knowledge  │   │ construction │
  │(r = .412,    │   │(r = .684,    │   │(r = .523,    │
  │ p<.05)       │   │ p<.001)      │   │ p<.01)       │
  └──────────────┘   └──────────────┘   └──────────────┘
          ▼                              ▼
  ┌──────────────────┐         ┌──────────────────┐
  │Writing Performance│         │ Variance Explained│
  │(Overall Mean = 70%)│        │   R² = .329       │
  └──────────────────┘         └──────────────────┘
       ┌───────┬───────┐          ┌───────┬───────┐
       ▼       ▼        ▼         ▼       ▼
  ┌────────┐┌────────┐      ┌────────┐┌────────┐
  │Content ││Organiz.│      │Language││Mechanics│
  │(r=.512)││(r=.438)│      │Use     ││(r=.476)│
  │        ││        │      │(r=.682)││        │
  └────────┘└────────┘      └────────┘└────────┘
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2. Multiple Regression Analysis

To further examine which aspects of grammar knowledge most strongly predicted writing performance, a multiple regression analysis was performed using three predictors: Morphological Knowledge (MK), Syntactic Knowledge (SK), and Sentence Construction Knowledge (SCK).

Table 4. Summary of Multiple Regression Analysis

Predictor	B	SE B	β	t	Sig.
(Constant)	25.38	4.82	–	5.27	.000
Morphological Knowledge	0.241	0.081	.256	2.97	.004
Syntactic Knowledge	0.318	0.090	.322	3.53	.001
Sentence Construction Knowledge	0.197	0.076	.204	2.58	.011

Based on Table 4, It is also clear from the results of the regression analyses that not all components of grammatical knowledge weigh equally on the writing performance of EFL learners. Of the three factors investigated, syntactic knowledge was by far the strongest predictor of writing skill. This result corroborates the idea that mastering sentence patterns and syntactic connections is a key to facilitating writing of coherent and grammatically correct academic texts.

The influence of knowing morphology and how to create sentences was found also strong, but of a lesser degree. Thereby, we demonstrate that knowledge of word forms and the skill of forming clauses appropriately are constituent prerequisites, yet

at the same time do not alone determine text quality. Therefore, these findings imply that advancement of writing skills in an EFL context does not rely solely on the accuracy of elementary grammatical structures, but is mostly related to students' proficiency in handling syntactic patterns in written language use.

Analysis by Writing Dimensions

To explore how grammar knowledge correlated with specific aspects of writing, each subcomponent of the analytic rubric (content, organization, vocabulary, language use, and mechanics) was analyzed separately. Table 4 summarizes the correlation results.

Table 5. Correlations between Grammar Knowledge and Writing Subskills

No	Writing Dimension	r	p	Strength
1	Content	.412	.000	Moderate
2	Organization	.389	.000	Moderate
3	Vocabulary	.457	.000	Moderate
4	Language Use (Grammar Accuracy)	.682	.000	Strong
5	Mechanics	.354	.001	Moderate

According to Table 5, language use correlated most highly with grammatical but not with overall language knowledge, indicating the grammaticality and preciseness of students' writings. These results suggest that grammatical skills make a direct contribution to the language quality of writing and there is no indirect effect on idea formation or discourse organization. The modest relationship with the dimensions of content, organization, and vocabulary suggests that while grammar plays some role in text comprehension, higher levels of writing are more influenced by other factors such as discourse competence, writing strategies and academic experience. Meanwhile, the relatively weaker correlation in the mechanical aspect confirms that technical elements such as punctuation and spelling do not entirely depend on formal grammatical knowledge.

In conclusion, the major points can be made on the basis of the present study. To begin with, the English language learners at the university in which this investigation took place demonstrated moderate to high levels of grammar knowledge and writing performance. Second, grammar knowledge and overall writing performance were positively correlated to a large degree in the words of Reeds explanation that one-third of the variance in writing scores was accounted for by grammar knowledge. Third, syntactic awareness was found to be the best predictor of writing performance which highlighted its significant nature in students' ability to develop grammatically correct and cohesive written academic texts.

Discussion

The results of this study indicated that there is a significant positive relationship between grammatical proficiency and writing performance in EFL university students, which highlights the ongoing importance of grammar skills as predictors of writing quality in high education settings. The significant relation (r =. 624, p <. 001) is consistent with earlier work that went on to argue that grammar knowledge forms the structure upon which accurate and cohesive writing can be written (Ahangari & Barghi, 2012; Andleeb et al., 2025). Stronger students, who had better mastery of grammatical forms, produced more complex, accurate and varied sentences; a quality component to successful academic writing.

However, the finding that grammar knowledge explains only 32.9% of the variance in writing performance indicates that other cognitive, linguistic, and contextual factors also contribute substantially to students' ability to write well. This supports Abdulrahman & Abu-ayyash (2019) and Savignon (2018) proposition that grammatical competence should be viewed as one component within a broader construct of communicative competence. Writing performance, particularly in academic settings, also relies heavily on rhetorical organization, lexical resources, idea development, and discourse-level cohesion (Galloway, E.P., Uccelli, 2015). Thus, while grammar remains a necessary condition for successful writing, it is not sufficient in itself—confirming the existence of the "grammar–performance gap" that has been discussed in second language writing research (Andleeb et al., 2025; Hans & Hans, 2017; Harris, 2022).

Regression analysis also indicated that syntax knowledge was the most significant predictor of writing performance, with morphology and sentence construction knowledge coming next. This finding supports the role of syntax in writing, for syntactic complexity helps to make the text more Complex, cohesive, and easier for the reader to understand (Jagaiah, T., Olinghouse, N.G. & Kearns, 2020; Ortega, 2015; Roger S. Frantz, Laura E. Starr, 2025). Students who demonstrated higher syntactic awareness were more capable of using varied sentence structures, subordinations, and complex clauses to convey nuanced meaning, suggesting that explicit instruction focusing on sentence-level development remains pedagogically valuable. In contrast, morphological knowledge contributed modestly to performance, likely because it affects word-level accuracy but not necessarily broader textual coherence.

Interestingly, the strongest correlation between grammar knowledge and the language use dimension (r = .682) suggests that grammar knowledge mainly influences accuracy-based writing measures. Nonetheless, weaker correlations with content, organization, and mechanics imply that grammatical competence is not necessarily a direct factor of improved higher-order writing skills. This is in line with argument that academic writing involves not only linguistic accuracy but also rhetorical awareness and genre-based competence. In the Indonesian EFL context, where grammar instruction usually takes up most of the classroom time (Marzulina et al., 2019; Mustakim et al., 2025; Siregar et al., 2019), this finding highlights the need to move away from isolated grammar teaching to an integrated writing pedagogy which links grammar to meaning-making and discourse-level practice.

These findings, in theory, align with the interface hypothesis in second language acquisition (Ellis, 1998)that explains the relationship between explicit(declarative) and implicit(procedural) knowledge is indirect and the latter is obtained through practice and task engagement. Grammar knowledge needs to be proceduralized through meaningful writing activities, feedback, and revision cycles, so that it can show up as better performance. Our study, which found only a slight correlation, implies that a large number of students might still be using declarative rule-based knowledge which has not achieved deep-rootedness. From a teaching perspective, this means that task-based and process-oriented approaches (e.g., Project-Based Learning, peer review, and Automated Writing Evaluation) should be used to bridge the gap between explicit knowledge and fluent production (Ashrafova, 2025; Minami, 2017).

In fact, these research outcomes practically imply that curriculum and teaching materials in English as Foreign Language (EFL) tertiary programs need to consider the following points:

To begin with, grammar teaching should definitely continue but be integrated within a genre-based writing pedagogy that focuses more on the usage of grammar and the functions relating to a text's purpose than the mere peg of grammar rule isolation. Besides that, tech-enhanced instruments including Artificial Intelligence-powered writing give-back platforms (like Grammarly, Write & Improve) for instance could be thoughtfully leveraged in a combination to offer corrective feedback immediately which in turn would result in learners noticing, reflecting, and revising their mistakes without delay (Alharbi, 2023; Altmäe et al., 2023; Kühl et al., 2022). And lastly, the rubrics for writing tests work is one of the things that would need to be changed in

a way that there will be an equal emphasis on both spelling and accuracy, as well as on the effectiveness of communicative aspects, thus allowing for the recognition of fluency, complexity, and content development as even more non-negotiable facets of writing skill (Alsamani & Daif-Allah, 2015; MOURI, 2020; Rahmawati et al., 2021).

Basically, the present research is a great addition to the existing foreign language writing literature as it offers empirical data on the grammatical knowledge as a predictor of writing performance from an EFL setting that has scarcely been represented (Indonesian higher education). At the same time, it keeps refuting the notion of grammatical competence as a central element in language use while pointing to the necessity of instructional integration that connects grammar and meaning. The results demonstrate that what really matters for EFL teachers is not just teaching grammar but teaching grammar through writing, i.e. grammar as a means of achieving rhetorical clarity, academic accuracy, and communicative purpose.

Conclusion and Suggestion

This research paper demonstrates how there is a close link between the extent of one's grammatical knowledge and the academic writing performance of EFL students at tertiary education level, where the most substantial influence is from syntactic proficiency. The research results reveal that being able to handle sentence structure correctly is a key basis for writing academic papers that are both accurate and coherent. At the same time, the outcomes point to the fact that grammar knowledge alone cannot account for the quality of a student's writing since it is dependent on other aspects such as the organization of discourse, the choice of vocabulary, and rhetorical mastery.

The pedagogical implications of these findings emphasize the importance of integrating grammar teaching into academic writing instruction. Grammar should be positioned as a linguistic resource that supports the achievement of communicative goals in writing, rather than as a set of rules taught in isolation. A learning approach that links grammar to genre, task context, and the writing process has the potential to help students transfer their grammatical knowledge into more effective writing practices.

This study has several limitations. The correlational design limits the drawing of causal conclusions regarding the relationship between grammar knowledge and writing performance. In addition, the limited number of institutions and the use of

purposive sampling techniques limit the generalization of the findings. The focus of assessment on the final written product also does not fully represent the complexity of the writing process, while affective and contextual factors that potentially influence writing performance have not been measured directly.

Therefore, longitudinal or experimental designs should be considered for future work in order to follow the development and proceduralizing of grammatical knowledge through continuous writing practice. Broadening the scope of the study and investigating the writing process through qualitative data may also help to get a deeper insight. Consequently, the findings of this paper support the notion that an EFL student's academic writing skill development is best facilitated by combining grammar mastery with meaningful and contextual writing practice.

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