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Linguistic Difficulties in Undergraduate Academic Writing Within an English-Medium Instruction Context

Gourob Das

Department of Linguistics, University of Dhaka, 1000 Dhaka, Bangladesh

* Correspondence: Gourob Das (gourobdas737@gmail.com)

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Abstract: Proficiency in academic writing is widely recognized as a foundational competence for students enrolled in English-medium instruction programs; however, systematic evidence regarding the nature and distribution of writing difficulties across socio-academic groups remains limited. In the present study, linguistic error patterns in undergraduate academic writing were examined within an English-medium instruction context, with particular attention given to disciplinary background and gender as socio-educational variables. A total of 49 undergraduate students from the University of Dhaka participated in the study, and academic essays were collected as writing samples. A multi-stage analytical framework was employed, combining manual linguistic error analysis with quantitative statistical procedures conducted using SPSS (Version 25). Errors were categorized into four principal domains: grammatical errors, lexical errors, mechanical errors, and discourse-level errors. The distribution of errors revealed that grammatical errors constituted the most frequent category, whereas discourse-level errors occurred least frequently. Independent-samples t-tests were performed to examine differences across gender and disciplinary affiliation. No statistically significant differences were identified between male and female students in overall linguistic error production. In contrast, statistically significant differences were observed between disciplinary groups, with students from social science disciplines producing fewer linguistic errors than their counterparts from science disciplines. The results underscore the importance of discipline-sensitive writing instruction and targeted pedagogical interventions aimed at strengthening grammatical accuracy and genre-specific discourse competence. This study contributes to a more nuanced understanding of academic writing difficulties in English-medium instruction in higher education and provides an empirical foundation for curriculum design and academic writing support programs.

Keywords: Academic writing; Writing error; Writing difficulties; English-medium instruction; English writing

1. Introduction

In addition to genre awareness, academic writing is characterized by linguistic accuracy, including logical coherence, grammatical correctness, syntactic precision, and appropriate lexical selection (Campbell, 2019). In the English-medium instruction context, mastering writing skills in English is crucial for boosting academic performance (Subandowo & Sárdi, 2023). Undergraduate students often encounter various difficulties in mastering their writing skills, which results in their poor academic performance due to spelling errors, grammatical errors, and complexity in illustrating ideas coherently (Taye & Mengesha, 2024). To develop writing instructions and curricula effectively, it is crucial to consider these complexities.

Globalization and technological advancements make English an effective tool for communication, and English serves as a lingua franca worldwide (Galloway & Numajiri, 2020; McKay, 2018). English plays a prominent role in learners' career opportunities and academic performance (Nageen et al., 2025). In higher education institutions, these opportunities help to facilitate the inclusion of English as a medium of instruction to become a global hub for education (Sah & Fang, 2025) along with the colonial past. In the English-medium instruction context, proficiency in English is considered as a key instrument for university admission requirements as well as academic progress (Li & Akram, 2024; Sah & Fang, 2025) in various countries, including Bangladesh, where English-medium instruction policies have been adopted in response to globalization. However, attaining proficiency in

English writing is important for completing academic tasks as part of the course for undergraduate students (Li & Akram, 2024) and for future career prospects.

Writing is a unique way of thinking (Flower & Hayes, 1981) and a technical language skill that facilitates the coherent expression of thoughts for fruitful communication (Taye & Mengesha, 2024). In the context of higher education, writing, such as assignments, theses and scholarly papers, is significant for enhancing the academic performance of undergraduate students. Maintaining grammatical structure, word choice, and syntactic and semantic forms accurately in written form is crucial for enhancing the quality and acceptability of writing. In recent years, an increasing number of studies have attempted to identify writing difficulties and causes behind poor writing qualities (Al-Nafjan & Alhawsawi, 2022; Mohammadi & Mustafa, 2020). Effective writing in an academic context is significant for conveying messages properly and attracting readers' attention in terms of writing quality, authenticity and trustworthiness. Owing to multidimensional features in organizing ideas coherently with grammatical and syntactic correctness, writing is a difficult task in second language acquisition (Khan, 2022). In terms of disparities and differences in linguistic background and familiarity with academic writing, undergraduate students face numerous complexities in academic writing. These complexities, as suggested by previous studies (Mohammadi & Mustafa, 2020; Nuruzzaman et al., 2018; Taye & Mengesha, 2024), include errors at the morphological and syntactic levels, vocabulary and word choice, illustrating messages in written form coherently and interference with the first language. Additionally, for non-native learners, grammar is a major concern in attaining writing proficiency (Nuruzzaman et al., 2018).

Generally, grammatical misuses result from incorrect tense usage, subject-verb agreement, pronoun-antecedent (Li & Akram, 2024), preposition and number (Özkayran & Yılmaz, 2020). Gayo & Widodo (2018) noted that grammatical errors extend to both the morphological and syntactic levels. Similarly, inappropriate word choice is frequently found in writings that indicate learners' short range of vocabulary knowledge (Taye & Mengesha, 2024). Rahman et al. (2024) reported that along with grammatical difficulties, limited lexical knowledge leads to inappropriate choices of vocabulary that create a significant gap between intended meaning and manifested expression. The clarity of texts is also reduced by the misuse of mechanics such as misspelling, the misuse of punctuation marks and the inconsistent usage of capitalization (Dobrić et al., 2021). Taken together, these complexities weaken the accuracy and quality of academic writing tasks. Beyond grammatical issues, learners often face difficulties in organizing thoughts in written form. The use of cohesion devices is crucial for maintaining the flow of ideas. Owing to the lack of awareness and poor organizing skills in writing, learners often struggle to form ideas logically, resulting in an ill-fragmented way. As a result, academic standards in writing are constrained by complexities at the discourse level.

Furthermore, external factors, such as learners' sociocultural backgrounds, play a significant role in shaping learners' language learning strategies and academic performance. Female students present better writing ability than male students, as reported by Adams & Simmons (2019). Al-Saadi (2020) emphasized that better proficiency in the English language leads to female superiority in terms of writing quality and fluency. Academic support is another crucial factor that shapes learners' psychological aspects in writing proficiency. Additionally, instructor stringency in the academic context also leads to anxiety prior to the task (Al Fraidan, 2025), which is another concern that ultimately degrades writing quality and accuracy. Hossain (2024) argued that underlying issues such as cultural phenomena play an important role in the language learning and teaching context. Thus, sociocultural aspects are interrelated in shaping learners' academic writing performance. Additionally, Yang et al. (2025) illustrated that students from urban areas outperform those from rural areas in terms of reading and writing literacy and emphasized that the role of urban-influenced curricula and assessment criteria also makes this kind of difference. Inequalities in socioeconomic opportunities also constrain learners' proficiency in language learning and writing skills (Razzaq & Hamzah, 2024), which appears in the rural context. Similarly, Terasawa (2025) reported that socio-economic status is strongly responsible for attaining English proficiency, which influences the ability to obtain academic support and learning materials in the learning context. As a result, disparity in mastering writing proficiency is observed among learners from different backgrounds.

To address profound challenges and opportunities in the globalized world, developing countries, such as Bangladesh, have also adopted English learning as a compulsory subject and as a medium of instruction in higher education institutions (Khanom, 2014; Younus, 2024). Since English is used as a compulsory subject from the first to twelfth grades (Rahman et al., 2019), the national curriculum nominally addresses improving language skills in terms of speaking, listening, reading and writing. English classes primarily focus on grammar and vocabulary drills, passage comprehension, literature studies and examination performance, with instruction still predominantly conducted in Bangla (Chowdhury & Le Ha, 2008). As a result, undergraduates have a modest English language proficiency, with a majority coming from Bangla-medium-of-instruction schools. Without an official status, English is acknowledged as the second language after Bangla and serves as a medium of instruction in both public and private universities (Khanom, 2014; Rahman, 2022). However, many students enroll in universities where English is used as a medium of instruction despite having limited prior exposure to English-medium instruction. As a result, to enhance proficiency in English as well as in academic writing, various accredited courses have been incorporated into undergraduate curricula (Muniruzzaman & Afrin, 2024; Rahman & Hasan, 2019). However,

students face numerous challenges in maintaining linguistic accuracy in academic writing. Younus (2024) illustrated the writing difficulties of Bangladeshi undergraduate learners in conveying ideas into written form coherently and emphasized students' writing challenges, including errors in grammatical issues, difficulties in word use, and poor organizational skills (Muniruzzaman & Afrin, 2024; Rahman et al., 2024), which degrade writing quality and acceptance. Underlying issues such as first language interference, poor knowledge about academic writing and pressure for course completion restrain learners' academic writing proficiency. To understand writing difficulties related to linguistic accuracy, previous studies have focused primarily on the frequency analysis of writing errors (Rahman, 2022; Taye & Mengesha, 2024).

To address these limitations, this study investigated the patterns of linguistic difficulties as well as underlying issues related to external factors. The external factors related to academic writing difficulties, such as gender and the role of undergraduate discipline, remain unexplored. Understanding these factors' roles is crucial for developing writing instruction and teaching methods, as well as targeted interventions. By examining the roles of these underlying factors, this study aims to explore linguistic difficulties in the academic writing of Bangladeshi undergraduate students in the English-medium instruction context. Consequently, this study intends to address the following research questions:

(i) What are the most recurrent linguistic error types and categories in the academic writing of undergraduate students in the English-medium instruction context?

(ii) Is there any difference in producing major linguistic error categories with respect to the student's gender and undergraduate discipline?

2. Method

2.1 Research Design

This study employed a descriptive cross-sectional design to examine patterns of writing errors. The main objective of this study was to investigate the types and major categories of academic writing errors produced by students in the English-medium instruction context. In addition to the manual error analysis procedure used to identify error types and major categories, several quantitative analyses were applied to illustrate the distribution of error frequency.

2.2 Participants

Undergraduate students from Dhaka University participated in this study, who were aged between 21 and 25 years (Table 1). A purposive sampling technique was applied to select participants for this study. This kind of sampling procedure allows for selecting participants on the basis of the objective of the study. Initially, 60 students were selected for this study via a purposive sampling technique. A total of 49 students gave full consent to participate anonymously in this study. To enhance learners' writing skills, various accredited academic writing courses were incorporated into the curricula to enhance their academic writing performance across all disciplines. The selection criteria for this study included the following: (i) they were undergraduate students; (ii) their medium of instruction was English; and (iii) they had completed accredited academic English writing courses in previous curriculum semesters. Prior to data collection, consent was obtained from the participants as well as the university's relevant authority.

Table 1. Demographic overview of the participants

Categories		Frequency	Percentage
Age	21–23	27	55.10%
	23–25	22	44.90%
Gender	Male	33	67.35%
	Female	16	32.65%
Undergraduate discipline	Social science	20	40.82%
	Science	29	59.18%
	Total	49	100%

2.3 Data Collection Tool and Procedure

To analyze error patterns and frequency, a total of 49 writing samples were collected from the participants. The participants were instructed to write an academic essay with a minimum of 150 words. Approximately 40 minutes were allocated to ensure that the participants had adequate time for writing. Participants were assured that their writing samples would not be evaluated for grading purposes.

2.4 Data Analysis

After the data were collected, a manual error analysis was performed. Error analysis involved identifying types, major categories and frequency distributions of errors from written samples. SPSS (Version 25) software was used to conduct various statistical analyses. Statistical tests involved descriptive statistics and independent t-tests to determine error differences across gender and undergraduate disciplines.

3. Findings

3.1 Error Analysis of the Writing Sample

To identify error types from the writing sample, a manual error analysis technique was applied. This study collected 49 writing samples for error analysis from the participants. Upon applying a manual error analysis of those essays, an overview of recurrent errors emerged that indicates common linguistic difficulties encountered by students in their academic writing. The identified error types and their corresponding error frequencies presented in Table 2 illustrate academic writing difficulties. A total of 743 errors within 13 error types were identified from the academic writing sample. These errors were subsequently categorized into four major error categories (grammatical, mechanical, lexical, and discourse-level). The frequency distribution shows that punctuation errors were the most common (27.46%), followed by errors related to collocation and word choice (20.86%). Another considerable portion of errors were run-on and long sentences (10.09%), cohesion and cohesive devices (7.81%) and subject-verb agreement (7.54%). Errors in articles (5.11%), prepositions (4.98%) and tenses (4.44%) were also commonly observed. In contrast, errors in the misuse of capitalization (3.50%), misplaced and dangling modifiers (2.42%), wrong word formation (2.29%), spelling (2.15%) and sentence fragments (1.35%) appeared less frequently.

Table 2. Overall frequency distributions of error types

No.	Error Type	Frequency	Percentage	Identified Major Error Category
1	Subject-verb agreement	56	7.54%	
2	Articles	38	5.11%	
3	Tenses	33	4.44%	
4	Preposition	37	4.98%	Grammatical errors
5	Misplaced and dangling modifiers	18	2.42%	
6	Sentence fragments	10	1.35%	
7	Run-on and long sentences	75	10.09%	
8	Punctuation	204	27.46%	
9	Spelling	16	2.15%	Mechanical errors
10	Capitalization	26	3.50%	
11	Collocation and word choice	155	20.86%	Lexical errors
12	Wrong word formation	17	2.29%	
13	Cohesion and cohesive devices	58	7.81%	Discourse-level errors
	Total	743	100%	

Overall, the frequency distribution of error types indicates major difficulties in academic writing faced by undergraduate learners. These findings provide a substantial basis for descriptive analysis to identify patterns and causes of writing difficulties and would be useful for targeted intervention and instructional assistance.

3.2 Descriptive Statistics of the Major Error Categories

On the basis of the frequency distribution of error types (Table 2), four error categories, i.e., grammatical, mechanical, lexical, and discourse-level, were categorized. Different categories of writing error (per 100 words) were calculated through descriptive statistical tests, i.e., means and standard deviations, as presented in Table 3. Among all four error categories, grammatical errors were the most frequent with a mean of 2.38 (standard deviation = 1.24), and the observed value ranged from 0.34 to 5.85, indicating substantial variability in grammatical errors. In contrast, discourse-level error had the lowest mean frequency (mean = 0.50, standard deviation = 0.48), and the observed value ranged from 0.77 to 3.90, indicating comparatively lower coherence- and cohesion-related difficulties.

Additionally, analysis revealed that the second most frequent error was mechanical errors, with a mean of 2.38 (standard deviation = 0.77), and the observed values ranged from 0.77 to 3.90. The frequency of lexical errors was lower (mean=1.53, standard deviation = 1.03) than that of grammatical and mechanical errors, with a wide range of values (0.00–4.46). Overall, descriptive analysis suggested a higher frequency of errors in grammatical and

mechanical categories with prevalent variability in error range, followed by lexical and discourse-level errors, which occurred less frequently. Furthermore, the standard deviation and relatively wide range of variability indicate writing difficulties at different levels.

Table 3. Descriptive statistics of the major error categories

Error Categories	Mean	Standard Deviation	Minimum	Maximum
Grammatical errors (per 100 words)	2.38	1.24	0.34	5.85
Mechanical errors (per 100 words)	2.09	0.77	0.77	3.90
Lexical errors (per 100 words)	1.53	1.03	0.00	4.46
Discourse-level errors (per 100 words)	0.50	0.48	0.00	2.06

3.3 Gender-Based Analysis of Writing Errors

In the independent sample t-test, a statistically significant gender difference was observed for discourse-level errors ($p = 0.042$), where female students (mean = 0.31, standard deviation = 0.30) outperformed male students (mean = 0.60, standard deviation = 0.52) by producing a lower rate of discourse-level errors (Table 4). In contrast, there were no significant gender-based differences in the other error categories. Furthermore, the mean of errors per 100 words from the gender-based analysis suggested that male students produced higher grammatical (mean = 2.53, standard deviation = 1.24), lexical (mean = 1.61, standard deviation = 0.97) and discourse-level (mean = 0.60, standard deviation = 0.52) errors than female students (Table 4). Conversely, female students produced slightly higher mechanical errors (mean = 2.32, standard deviation = 0.86) than male students (mean = 1.98, standard deviation = 0.71). These findings suggested significant gender-based differences in discourse-level errors, and male students produced more errors in academic writing than female students.

Table 4. Independent t-test of gender-based errors

Error Categories	Group	N	Mean	Standard Deviation	t(df)	*p*-Value	Mean Difference
Grammatical errors (per 100 words)	Male	33	2.53	1.24	t(47) = 1.23	0.226	0.46
	Female	16	2.06	1.21			
Mechanical errors (per 100 words)	Male	33	1.98	0.71	t(47) = 1.46	0.152	–0.34
	Female	16	2.32	0.86			
Lexical errors (per 100 words)	Male	33	1.61	0.97	t(47) = 0.78	0.440	0.25
	Female	16	1.37	1.17			
Discourse-level errors (per 100 words)	Male	33	0.60	0.52	**t(47) = 2.09**	**0.042**	**0.29**
	Female	16	0.31	0.30			

3.4 Discipline-Based Analysis of Writing Errors

To determine discipline-based differences in writing errors across the four categories, an independent t-test was conducted (Table 5). The results revealed significant differences in the production of grammatical ($p < 0.001$) and lexical ($p = 0.001$) errors across disciplines, where students from the social sciences discipline outperformed science students in producing lower error rates. In contrast, no significant difference was found in mechanical or discourse-level errors in academic writing. Additionally, discipline-based analysis illustrated that science-major students produced substantially more errors than social-science students in terms of grammatical, lexical and discourse-level errors. On the other hand, mechanical errors were produced slightly more often by social science students (mean = 2.32, standard deviation = 0.85) than science students (mean = 1.94, standard deviation = 0.68). Overall, the findings suggest significant differences across undergraduate disciplines in the production of grammatical and lexical errors, with students from the science major producing more errors in academic writing.

Table 5. Independent t-test of discipline-based errors

Error Categories	Group	N	Mean	Standard Deviation	t(df)	*p*-Value	Mean Difference
Grammar errors (per 100 words)	Science	29	3.03	1.12	**t(47) = 5.74**	**0.000**	**1.60**
	Social science	20	1.43	0.66			
Mechanical errors (per 100 words)	Science	29	1.94	0.68	t(47) = -1.76	0.085	-0.39
	Social science	20	2.32	0.85			
Lexical errors (per 100 words)	Science	29	1.92	1.02	**t(47) = -1.76**	**0.001**	**0.94**
	Social science	20	0.98	0.78			
Discourse errors (per 100 words)	Science	29	0.53	0.45	t(47) = 0.57	0.572	0.08
	Social science	**20**	**0.46**	**0.52**			

4. Discussion

The objective of this study was to explore the types and frequency distributions of errors in academic writing, followed by gender- and discipline-based differences, to find out external factors behind the production of errors in academic writing. Manual error analysis allows for identifying 13 distinct error types within four major error categories, including grammatical, mechanical, lexical and discourse-level errors. Overall, this study provided a major account of linguistic difficulties in academic writing encountered by undergraduate learners in the English-medium instruction context. By identifying major error patterns in academic writing, this study extends the current understanding by conducting gender- and discipline-based comparisons via quantitative analysis.

4.1 Patterns of Writing Errors

The first research question intends to find out the most recurrent linguistic error types and categories in academic writing. The findings indicate prevalent linguistic difficulties in academic writing faced by undergraduate learners in the English-medium instruction context, as a high number of total errors (743) were identified across 49 writing samples. The presence of various error types within the four categories suggests that writing is a multidimensional task and requires a better understanding of linguistic accuracy (Khan, 2022). This finding aligns with the view that writing is the most challenging task, as it requires substantial cognitive and psychological engagement, strict adherence to rhetorical conventions, and linguistic accuracy (Bal et al., 2025; Sun & Zhang, 2022). Additionally, academic writing requires maintaining a strict genre style along with linguistic accuracy.

In addition, grammatical errors were identified as the most frequent among the four major error categories, indicating the significance of grammatical accuracy for improving academic writing. This finding is consistent with several recent studies (Nuruzzaman et al., 2018), emphasizing that grammatical problems are the most frequent in the writing of undergraduate students. Persistent difficulties across grammar-related errors, such as subject-verb agreement and correct usage of articles, prepositions and tenses, indicate that learners of a second language often face difficulties in internalizing grammatical systems, whose first language is structurally different from English. Despite Bangladeshi learners' early exposure to English, limited exposure to academic writing instruction and practices might be a barrier to internalizing grammatical accuracy in writing.

The findings also revealed that mechanical errors, specifically punctuation issues, constituted the second most frequent error type. Mechanical issues in academic writing remain neglected but are a critical aspect for academic writing instruction (Giawa et al., 2024; Patwary et al., 2023), which is the key to enhancing clarity and meaning in text. This finding is also consistent with a previous study by Yuliah et al. (2019), indicating that punctuation is a persistent weakness in writing. The results also emphasized that punctuation errors are widespread in undergraduate learners' academic writing, which aligns with the findings of previous studies (Patwary et al., 2023).

Lexical errors, related to collocation and word choice, constituted the third most frequent error in this study. This finding aligns with the previous study by Masruddin & Nasriandi (2022) that highlighted the importance of lexical competence for enhancing academic writing accuracy. Inadequate vocabulary knowledge may lead to poor collocational patterns and improper word choices. Although lexical errors are less frequent than grammatical and mechanical errors, they may reduce writing quality (Badilla & Núñez, 2020). The relatively lower rate of word formation error suggests basic morphological knowledge, although learners face difficulties in using lexical items appropriately. The results also confirmed the lowest level of discourse-related error compared to other categories; however, the misuse of cohesion and cohesive devices remained another concern. A previous study by Mestre & Carrió-Pastor (2013) also highlighted the importance of discourse competence for writing accuracy related to rhetorical knowledge and genre awareness.

In essence, linguistic difficulties are present across the academic writings of undergraduate students. Errors related to grammar issues, i.e., subject-verb agreement and tense, appeared to be developmental. Though learners have to study English as a compulsory subject up to the 12th grade (Chowdhury & Kabir, 2014), these mistakes indicated the learner's evolving interlanguage understanding. Meanwhile, learners' first language interference has a significant impact on all major error categories, as also reported in previous studies (Ehsanzadeh & Dehnad, 2024; Khan, 2022; Salima, 2012; Zafar, 2016). As English differs structurally from learners' first language, Bangla, linguistic inaccuracies in mechanical, lexical, and discourse-level categories appeared across learners' academic writing due to first language interference. Along with poor background knowledge, a lack of motivation and practice is also another major cause for poor writing skills, as reported by Salima (2012). Limited exposure to academic writing practices and instruction constituted a great challenge for developing academic writing. Linguistic difficulties in writing may reduce academic writing accuracy as well as quality, which also results in students' poor academic performance.

4.2 Gender-Based Differences in Writing Errors

The second research question intends to find out the difference in linguistic error types and categories in

academic writing on the basis of gender and undergraduate discipline. The findings revealed significant gender-based differences only in discourse-level errors, and female students produced fewer errors in academic writing than male students. This finding aligns with a previous study insisting that female students have stronger organizational and cohesive writing proficiency (Zhao et al., 2024). In contrast, the findings also concluded the absence of gender-based differences in producing grammatical, mechanical and lexical errors. Conversely, the present study's lack of statistical significance based on gender also contradicts the findings of previous studies (Adams & Simmons, 2019; Al-Saadi, 2020). Similarly, this finding contradicts those of previous studies (Almusharraf & Alotaibi, 2021; Cheong et al., 2022), which reported significant gender-based differences in terms of writing accuracy and performance. Instead of using gender to predict overall writing accuracy, exposure to academic writing practices and cognitive awareness during writing may play significant roles.

Additionally, the higher discourse-level accuracy of female students reflects differences in rhetorical awareness and revision practices. However, overall findings suggest that in academic writing development, both male and female students encounter comparable linguistic challenges.

4.3 Discipline-Based Differences in Writing Errors

Discipline-based analysis illustrated significant differences in grammatical and lexical errors, suggesting differences in academic writing instruction and practices. Students majoring in social science produced fewer errors than science majors, indicating discipline-based differences in linguistic accuracy, which is consistent with the findings of Smirnova & Pérez-Guerra (2025), who reported discipline-based differences in writing. Students from the science discipline often face pressure from course completion and lab classes, which may force them to prioritize technical content and solve problems rather than focus on linguistic accuracy in writing. As a result, to achieve a smaller scope of practice and genre development, science students may fall behind. Additionally, students majoring in social science reflect better linguistic accuracy by producing fewer errors in academic writing, suggesting better linguistic accuracy and awareness in academic writing. To enhance linguistic accuracy in academic writing, developing discipline-based curricula is crucial (Starkey et al., 2023).

Furthermore, the absence of differences in mechanical and discourse-level errors across disciplines indicates that linguistic difficulties in academic writing may illustrate shared educational experiences. Significant differences in linguistic accuracy require the development of academic writing instruction across disciplines. To enhance academic performance, redesigning writing instruction and learner-centered teaching is crucial.

5. Conclusion

This study investigated academic writing samples of undergraduate students by addressing two research questions, namely, linguistic difficulties and differences based on gender and undergraduate discipline. The findings revealed that linguistic difficulties at the grammatical, mechanical, lexical and discourse levels emerged in academic writing. Firstly, grammatical errors are the most frequent in academic writing, followed by mechanical and lexical errors, whereas discourse-level errors occur frequently at least. Secondly, gender doesn't significantly differ in terms of producing errors at the discourse level, indicating that both male and female learners face substantial linguistic difficulties in academic writing. Additionally, disciplinary differences in linguistic difficulties were observed in terms of grammatical and lexical accuracy. However, these findings provide an understanding of linguistic difficulties in academic writing to develop writing instruction and intervention strategies.

To enhance academic writing instruction, considering these linguistic difficulties is crucial. The findings emphasize the need for linguistic error-centric intervention through an integrated approach to writing instruction. Writing pedagogy should prioritize discipline-specific approaches rather than gender-oriented ones. Overall, this study provides notable insight into the significance of targeted feedback and discipline-based writing instruction.

In light of these findings, this study has several limitations. For instance, the usage of writing strategies and psychological aspects (i.e., motivation and anxiety) has significant effects on writing accuracy, which are not addressed in this study. Additionally, external factors, such as prior exposure to academic writing and individual differences in second language learning experience, also remain unexplored. In spite of these constraints, this study emphasizes and extends the understanding of linguistic difficulties in academic writing by incorporating further analysis.

Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

Data Availability

The data used to support the research findings are available from the corresponding author upon request.

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Conflicts of Interest

The author declares no conflict of interest.

References

Adams, A. M. & Simmons, F. R. (2019). Exploring individual and gender differences in early writing performance. *Read Writ*., *32*(2), 235–263. https://doi.org/10.1007/s11145-018-9859-0.

Al Fraidan, A. (2025). Test anxiety across writing formats: The mediating role of perceived teacher strictness. *Acta Psychol*., *256*, 104942. https://doi.org/10.1016/j.actpsy.2025.104942.

Almusharraf, N. & Alotaibi, H. (2021). Gender-based EFL writing error analysis using human and computer-aided approaches. *Educ. Meas. Issues Pract*., *40*(2), 60–71. https://doi.org/10.1111/emip.12413.

Al-Nafjan, E. F. & Alhawsawi, S. (2022). A scoping review of research on tertiary English writing in the Saudi context. *Ampersand*, *9*, 100090. https://doi.org/10.1016/j.amper.2022.100090.

Al-Saadi, Z. (2020). Gender differences in writing: The mediating effect of language proficiency and writing fluency in text quality. *Cogent Educ*., *7*(1), 1770923. https://doi.org/10.1080/2331186X.2020.1770923.

Badilla, D. C. & Núñez, V. M. (2020). Errores léxicos en la producción escrita de estudiantes de ILE. *Letras*, *2*(68), 175-198. https://doi.org/10.15359/rl.2-68.7.

Bal, M., Uyumaz, G., & Maden, B. (2025). Examining the mediating role of metacognitive writing strategies in the relationship between self-regulated writing skills and writing anxiety among middle school students. *Brit. Educ. Res. J*., *51*(6), 2964–2988. https://doi.org/10.1002/berj.4212.

Campbell, M. (2019). Teaching academic writing in higher education. *Educ. Q. Rev*., *2*(3), 608–614. https://doi.org/10.31014/aior.1993.02.03.92.

Cheong, C. M., Zhang, J., Yao, Y., & Zhu, X. (2022). The role of gender differences in the effect of ideal L2 writing self and imagination on continuation writing task performance. *Think. Skills Creat*., *46*, 101129. https://doi.org/10.1016/j.tsc.2022.101129.

Chowdhury, R. & Kabir, A. H. (2014). Language wars: English education policy and practice in Bangladesh. *Multiling. Educ*., *4*(1), 21. https://doi.org/10.1186/s13616-014-0021-2.

Chowdhury, R. & Le Ha, P. (2008). Reflecting on Western TESOL training and communicative language teaching: Bangladeshi teachers' voices. *Asia Pac. J. Educ*., *28*(3), 305–316. https://doi.org/10.1080/02188790802236006.

Dobrić, N., Sigott, G., Ilc, G., Lazović, V., Cesnik, H., & Stopar, A. (2021). Errors as indicators of writing task difficulty at the Slovene general matura in English. *Int. J. Appl. Linguist*., *31*(3), 475–491. https://doi.org/10.1111/ijal.12345.

Ehsanzadeh, S. J. & Dehnad, A. (2024). Analysis of high-frequency errors and linguistic patterns in EFL medical students' English writing: Insights from a learner corpus. *BMC Med. Educ*., *24*(1), 1264. https://doi.org/10.1186/s12909-024-06242-z.

Flower, L. & Hayes, J. R. (1981). A cognitive process theory of writing. *Coll. Compos. Commun*., *32*(4), 365–387. https://doi.org/10.58680/ccc198115885.

Galloway, N. & Numajiri, T. (2020). Global Englishes language teaching: Bottom-up curriculum implementation. *TESOL Q*., *54*(1), 118–145. https://doi.org/10.1002/tesq.547.

Gayo, H. & Widodo, P. (2018). An analysis of morphological and syntactical errors on the English writing of junior high school Indonesian students. *Int. J. Learn. Teach. Educ. Res*., *17*(4), 58–70. https://doi.org/10.26803/ijlter.17.4.4.

Giawa, K., Tampubolon, S., & Sipayung, K. T. (2024). Grammatical and mechanical errors analysis in writing recount text. *JoLE*, *2*(2), 232–241. https://doi.org/10.69820/jole.v2i2.161.

Hossain, K. I. (2024). Reviewing the role of culture in English language learning: Challenges and opportunities for educators. *Soc. Sci. Humanit. Open*, *9*, 100781. https://doi.org/10.1016/j.ssaho.2023.100781.

Khan, A. (2022). The effect of writing exercises in classroom on the production of written sentences at undergraduate level by Saudi EFL learners: A case study of error analysis. *Cogent Educ*., *9*(1), 2122259. https://doi.org/10.1080/2331186X.2022.2122259.

Khanom, H. (2014). Error analysis in the writing tasks of higher secondary level students of Bangladesh. *GSTF J. Educ*., *2*(1), 2. https://doi.org/10.7603/s40742-014-0002-x.

Li, S. & Akram, H. (2024). Navigating pronoun-antecedent challenges: A study of ESL Academic writing errors. *Sage Open*, *14*(4), 21582440241296607. https://doi.org/10.1177/21582440241296607.

Masruddin, M. & Nasriandi, N. (2022). Lexical and syntactical errors performed by junior high school student in writing descriptive text. *IDEAS J. Engl. Lang. Teach. Learn. Linguist. Lit*., *10*(1), 1094–1100. https://doi.org/10.24256/ideas.v10i1.3024.

McKay, S. L. (2018). English as an international language: What it is and what it means for pedagogy. *RELC J*., *49*(1), 9–23. https://doi.org/10.1177/0033688217738817.

Mestre, E. M. M. & Carrió-Pastor, M. L. (2013). A proposal for the detection and classification of discourse errors. *Procedia Soc. Behav. Sci*., *95*, 528–534. https://doi.org/10.1016/j.sbspro.2013.10.678.

Mohammadi, T. & Mustafa, H. R. (2020). Errors in English writing of ESL/EFL students: A systematic review. *Theory Pract. Lang. Stud*., *10*(5), 520–526. https://doi.org/10.17507/tpls.1005.05.

Muniruzzaman, S. M. & Afrin, S. (2024). Improving academic writing skill: Difficulties encountered by undergraduates of English studies in Bangladesh. *Englisia J. Lang. Educ. Humanit*., *11*(2), 215. https://doi.org/10.22373/ej.v11i2.19918.

Nageen, S., Sarwar, M., Alam, M., Jabeen, M., & Tayyab, J. (2025). Assessing English-speaking proficiency among secondary school students in Pakistan: A quantitative cross-sectional study. *Lang. Test Asia*, *15*(1), 49. https://doi.org/10.1186/s40468-025-00384-7.

Nuruzzaman, M., Shafiqul Islam, A. B. M., & Jahan Shuchi, I. (2018). An analysis of errors committed by Saudi non-English major students in the English paragraph writing: A study of comparisons. *Adv. Lang. Lit. Stud*., *9*(1), 31. https://doi.org/10.7575/aiac.alls.v.9n.1p.31.

Özkayran, A. & Yılmaz, E. (2020). Analysis of higher education students' errors in English writing tasks. Adv. *Lang. Lit. Stud*., *11*(2), 48.

Patwary, M. N., Alam, M. S., & Reza, M. M. (2023). Exploring nuanced errors in Bangladeshi tertiary EFL students' writing mechanics: A pedagogical implication. *Bull. Adv. Engl. Stud*., *8*(2), 93–102. https://doi.org/10.31559/BAES2023.8.2.5.

Rahman, M. & Hasan, K. (2019). Academic writing difficulties of Bangladeshi students at a higher institution in Malaysia. *J. Res. Multidiscip*., *2*(2), 145‑171. https://doi.org/10.5281/jrm.v2i2.19.

Rahman, M. M. (2022). An error analysis of students' paragraphs and essays: A case of first-year students of an English medium university in Bangladesh. *Int. J. Lang. Lit. Stud*., *4*(4), 350–363. https://doi.org/10.36892/ijlls.v4i4.1094.

Rahman, M. M., Hossain, M. A., & Uddin, M. M. (2024). Challenges in academic writing for undergraduate students in Bangladesh. *Eur. J. Teach. Educ*., *6*(4), 49–77. https://doi.org/10.33422/ejte.v6i4.1418.

Rahman, M. M., Islam, M. S., Karim, A., Chowdhury, T. A., Rahman, M. M., Seraj, P. M. I., & Singh, M. K. M. (2019). English language teaching in Bangladesh today: Issues, outcomes and implications. *Lang. Testing Asia*, *9*(1), 9. https://doi.org/10.1186/s40468-019-0085-8.

Razzaq, S. & Hamzah, M. H. (2024). The integration between metacognitive writing strategies and willingness to write: A way to expediate writing performance of Pakistani ESL learners a mixed-methods approach. *Soc. Sci. Humanit. Open*, *10*, 101010. https://doi.org/10.1016/j.ssaho.2024.101010.

Sah, P. K. & Fang, F. (2025). Decolonizing English-medium instruction in the global south. *TESOL Q*., *59*(1), 565–579. https://doi.org/10.1002/tesq.3307.

Salima, R. (2012). Measures of eliminating EFL students' errors in writing. *Procedia Soc. Behav. Sci*., *69*, 318–327. https://doi.org/10.1016/j.sbspro.2012.11.416.

Smirnova, E. A. & Pérez-Guerra, J. (2025). Do formal stance strategies reveal disciplinary variation in professional scientific writing? *Int. J. Appl. Linguist*., *35*(3), 1242–1261. https://doi.org/10.1111/ijal.12694.

Starkey, L., Yates, A., de Roiste, M., Lundqvist, K., Ormond, A., Randal, J., & Sylvester, A. (2023). Each discipline is different: Teacher capabilities for future-focussed digitally infused undergraduate programmes. *Education Tech Research Dev*., *71*(1), 117–136. https://doi.org/10.1007/s11423-023-10196-2.

Subandowo, D. & Sárdi, C. (2023). Academic essay writing in an English medium instruction environment: Indonesian graduate students' experiences at Hungarian universities. *Ampersand*, *11*, 100158. https://doi.org/10.1016/j.amper.2023.100158.

Sun, Q. & Zhang, L. J. (2022). Understanding learners' metacognitive experiences in learning to write in English as a foreign language: A structural equation modeling approach. *Front. Psychol*., *13*, 986301. https://doi.org/10.3389/fpsyg.2022.986301.

Taye, T. & Mengesha, M. (2024). Identifying and analyzing common English writing challenges among regular undergraduate students. *Heliyon*, *10*(17), e36876. https://doi.org/10.1016/j.heliyon.2024.e36876.

Terasawa, T. (2025). Relationship between English proficiency and socioeconomic status in Asia: Quantitative cross-national analysis. *World Engl.*, *44*(3), 492–516. https://doi.org/10.1111/weng.12705.

Yang, J., Luo, Q., Li, Y., Huang, C., Xu, Y., Ou, K., & Lu, S. (2025). Unveiling the urban-rural discrepancy: A comprehensive analysis of reading and writing development among Chinese elementary school students. *Learn. Instr*., *98*, 102145. https://doi.org/10.1016/j.learninstruc.2025.102145.

Younus, M. A. A. (2024). English writing problems and remedies of Bangladeshi undergraduate learners. *J. Appl. Linguist. Lang. Res*., *11*(4), 120–140.

Yuliah, S., Widiastuti, A., & Meida, G. R. (2019). The grammatical and mechanical errors of students in essay writing. *J. Bahasa Ingg. Terapan*, *5*(2), 61–75. https://doi.org/10.35313/jbit.v5i2.1763.

Zafar, A. (2016). Error analysis: A tool to improve english skills of undergraduate students. *Procedia Soc. Behav. Sci*., *217*, 697–705. https://doi.org/10.1016/j.sbspro.2016.02.122.

Zhao, P., Liao, X., & Yao, Y. (2024). Gender differences in critical thinking and strategy use in English writing from sources among Chinese EFL undergraduates. *Think. Skills Creat*., *52*, 101547. https://doi.org/10.1016/j.tsc.2024.101547.