



## English Education Students' Thesis Abstracts Error Analysis: An EFL Learners' Corpora Study

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### Abstract

Over the last decades, applied linguistics and language teaching/learning have investigated language errors committed by learners for both diagnostic and prognostic purposes. Initially, error analysis was conducted manually and involved a limited number of corpus. However, computer software advancement has facilitated much larger amounts of data analysis. This study aimed at analyzing the errors identified in undergraduate thesis abstracts written by 28 students of an English Education study program in Jakarta. Data were analyzed using UAM Corpus Tool. The results show that, successively, the types of errors most frequently committed in the corpus are: (1) grammatical errors; (2) phrasing errors; and (3) punctuation errors; while the rarest errors are pragmatic errors and lexical errors. These findings indicate that the students need to improve their mastery of grammatical rules, ability to prevent their first language interference, and skills to use correct punctuation to empower them to write more effective thesis abstracts.

### Keywords:

*academic writing,  
Computer-Aided  
Error Analysis; UAM  
Corpus Tool*

## INTRODUCTION

Writing is a versatile skill every individual needs in learning, working, and social life. Throughout human history, people have been using writing to learn new ideas, persuade others, record information, create imaginary worlds, express feelings, entertain others, heal psychological wounds, record experiences, and explore the meaning of events and situations (McMahan et al., 2016; Graham, 2018). For students in all fields and at all levels of education, writing skills are necessary to organize the materials they have studied, develop thinking skills, and demonstrate their mastery of the material they have studied. Preiss et al. (2013) reported that compared to other skills, including math, writing skills are the most significant predictor of student learning abilities. Downing (2014) asserts that writing is one of the most powerful ways to create deep and longer-lasting learning.

One type of writing skill that contributes crucially to English language education students is academic writing. This skill is compulsory to write essays, papers, reports, and theses to fulfill the requirements for completing their academic program (Aunurrahman et al., 2017; Sriwichai & Inpin, 2018; Yasuda, 2014). To be able to write such academic writings, students must master various skills using proper diction, making effective sentences, developing and organizing ideas in a coherent and cohesive paragraph, and using proper grammar and punctuation.

However, apart from its essential role, the learners of both English as a first language and English as a second/foreign language (ESL/EFL) worldwide found writing difficult to master (Bian & Wang, 2016; Graham & Rijlaarsdam, 2016; Mastan et al., 2017). ESL/EFL learners, certainly struggle more to master writing due to various factors, including the writing skills complex nature which necessities considerable time and effort to solve, writing strategies, learning styles, attitudes, educational background, and prior experiences (Lee, 2005; Thongrin, 2000). In Indonesian contexts, various studies show that students face many difficulties in academic writing. Ariyanti & Fitriana (2017) reported that the majority of students in an English study program who participated in their research had difficulties in the aspects of grammar, cohesion, coherence, paragraph organization, and diction, and made many mistakes in the use of spelling. Hasan & Marzuki (2017) found many grammatical problems, especially in the use of plural forms, articles, verb forms, clauses, passive sentences, and prepositions in student writing. Toba et al. (2019) reported that Indonesian students encountered many problems related to writing components including content, organization, vocabulary, grammar, and mechanics.

To help the learners of a second/foreign language master the target language, until the 1960s, Contrastive Analysis (CA)—a method that systematically compares two or more languages, to describe their similarities and differences, especially language aspects students find difficult to master—had been employed. The results of CA are expected to help teachers, curriculum designers, and textbook writers to develop materials and use appropriate learning methods. The analysis results can also help students understand the similarities and differences in specific forms or systems between their mother tongue and

the target language, including phonemes, morphemes, words, and overall phonological, morphological, lexical, or grammatical systems.

CA is based on the theory of behaviorism which dominated the field of second/foreign language learning until the late 1960s. The hypothesis emphasizes that language learning is essentially an activity of learning new habits. Thus, interference arising from the system differences between the mother tongue and the target language can cause errors (Dost & Bohloulzadeh, 2017). In this regard, to help make the learning process effective, it is necessary to make a detailed and careful comparison between the mother tongue and the target language of the learner to predict and describe areas that are difficult to learn (Khansir, 2012).

However, CA is criticized for limiting the sources of language errors of second/foreign language learners only to mother tongue interference. In the early 1970s, Error Analysis (EA) revealed that learner errors occurred not only due to mother tongue interference but also as a natural and integral part of the learning process (Khansir, 2012) which indicated a gradual movement toward developing learner communicative competence, emerged. With EA, mistakes are no longer seen as "unwanted forms" but as evidence of the learner's active contribution in efforts to master communicative competence in the target language (Ellis, 1995 in Sattayatham & Ratanapinyowong, 2008). Errors made by language learners can be used as corrections or input so that the same mistakes can be avoided in the next act of communication. Such input can come from peers (peer correction), teachers (teacher correction), or oneself (self-correction).

EA is defined as a technique for identifying, classifying, and systematically interpreting unacceptable forms generated by second/foreign language learners (Karim et al., 2018; Sengupta et al., 2018). Since the analysis informs student errors, they can be used to achieve two objectives: to inform the competence level achieved by learners (diagnostic function) and to provide input to teachers, curriculum designers, and textbook writers to develop and use appropriate learning methods according to areas of difficulty faced by the learner (prognostic function). Al-Ahdal (2020) asserted that the results of EA provide data to teachers about how much the learner has learned, provide facts to researchers about how language is learned, and help learners to discover the principles of the target language.

EA is carried out in several stages. Corder (1974) proposed the following five-step model: (1) Collection or selection of a learner's language sample (written or spoken language corpus); (2) Error identification; (3) Error description which includes a grammatical analysis of each error and its source; (4) Explanation of various types of errors, the final object of error analysis; and (5) Evaluation of collected errors. Ellis (2002) proposed similar steps to be followed, namely: (1) identification of errors; error description; (3) error explanation; and (4) error evaluation. The difference between the two models is that in Ellis's model, errors are presented more holistically, not only classifying errors but also including errors arising from omissions, misinformation, and misordering. Moreover, the Ellis model calls for a distinction between errors (resulting from the learner's lack of knowledge of the target language) and mistakes (occasional deviations in performance; learners simply cannot apply elements of the language they

already know). To facilitate the identification of the two categories of errors, sentences made by students must be compared with reconstructed sentences, namely sentences that are correct and acceptable in the target language. Since EA examines language use data contained in several corpora produced by language learners, it is essentially a part of corpus linguistics—a language study that is based on large collections of "real life" language use stored in corpora.

Until the 1990s, EA was carried out by manually analyzing several non-electronic corpora (corpora) made by students. Since the traditional EA compiles and analyzes large language data sets relying only on paper, hands, and eyes, it is prone to inaccuracies. What is more, corpora analysis is a monotonous job, so human error tends to occur easily. To avoid such inaccuracy, technology is then employed, and this emerged computational linguistics—a branch of linguistics that uses computer techniques in language and literature research (Kridalaksana, 2009). Due to computer support, computational linguistics facilitates quantitative analysis of much larger amounts of data and more detailed and accurate results in much less time. Lindquist (2009) elicited that in computational linguistic software, parts of the corpora can be marked (such as conversational elements), annotated (such as semantic, pragmatic/discourse, or prosodic features), and described (such as grammatical structures). Computational linguistic analysis can be used effectively to create concordances by calculating the frequency of sounds, words, and word elements that can be expressed as absolute numbers, normalized numbers, or percentages. One of the branches of computational linguistics is Computer-aided Error Analysis (CEA), which emerged as a new approach to EA and re-establish it as an important area of study (Díaz-Negrillo & Fernández-Domínguez, 2006).

Several corpus-based error analysis studies that focus on the writing skills of learners of English as a second/foreign language have been carried out. To identify the most common errors committed by adult Spanish learners of EFL in writing, Sánchez (2013) analyzed 36 essays written by 18 intermediate English learners using the UAM Corpus Tool. The results showed that the most common errors were grammatical errors in two sub-types: errors in the use of determiners and prepositions. To identify the most common types of errors made by Spanish learners of English as a foreign language at all levels when writing essays, and see if there is a relationship between the student's level of competence with the types and frequency of errors they made, MacDonald (2017) employed UAM Corpus Tool to analyze 950 essays on immigration written by English learners at all levels. The results showed that grammatical errors with the sub-category of making noun phrases are the most common mistakes. Looking at the types of errors under this sub-category, determiner errors ranked at the top (accounting for almost a third of grammatical errors), followed by prepositional errors (14%) and clause errors (13%).

Another computational linguistics study conducted to identify English learners' errors was conducted by Mushtaq et al. (2019). They analyzed 70 English essays written by high school students in a district in Central Punjab, Pakistan, using Antconc 3.4.4.0. The results showed that the most frequently made errors are spelling, followed by verb errors. Additionally, choosing the right words and using the correct punctuation marks

are also the main problems for these students. Thus, it is concluded that intermediate-level students often make mistakes as a result of a lack of grammar knowledge.

In Indonesian EFL context, various corpus-based error analysis studies have also been conducted. However, they were majorly conducted manually. These studies showed that Indonesian students face various forms of writing problem. Mubarok & Budiono (2022) analyzed six theses written by English Education students at a university in Jakarta to identify grammatical errors in the corpora. The analysis was focused on the findings and discussions as well as conclusions and suggestions sections. They identified 125 items in 11 types of errors. Based on the frequency, the most frequent to the least frequent errors are successively unnecessary word usage (21%), article errors (20%), punctuation errors (19%), and prepositional errors (13%). subject-verb matching errors (5%), word choice errors (5%), auxiliary verb errors (5%), parallel structure errors (5%), word order errors (2%), plural form errors (2%), and redundancy error (2%). Another study by Haninda & Bram (2022) aimed at investigating the use and accuracy of using discourse markers by students in the background section of their thesis. Data were collected from the background sections of 28 theses and were analyzed manually. The results showed the use of elaborative discourse markers, which were identified 763 times (74.58%) as the most frequently used. It is followed by reasoning markers, 95 times (9.29%); inferential markers, 85 times (8.31%); and contrast markers. 80 times (7.82%). The discourse markers are majorly used accurately, despite the inappropriate use of a few markers.

Similar to the first three previous studies, (MacDonald, 2017; Mushtaq et al., 2019; Sánchez, 2013), this research is a corpus-based error analysis. However, if these studies analyzed essays as the corpora, this study used theses. The fourth and fifth previous studies used theses as the corpora. However, if Mubarok & Budiono, (2022) focused on the findings and discussions as well as conclusions and suggestions sections of the theses, and Haninda & Bram (2022) focused on the background section, this study focused on the abstract section. In addition, in contrast to the two studies that employed manual analysis, this study used software as an analytical tool. Thus, this study is a student corpus-based CEA aiming to identify patterns of grammatical errors in English abstracts written by English Language Education students at the Indonesian Christian University. It utilized the UAM Corpus Tool designed by O'Donnell (2008) as the analytical tool.

Based on the discussion above, this research was conducted to answer the following research questions: (1) What are the most frequent grammatical error categories conducted by students in writing thesis abstracts? (2) What are the most frequent sub-categories of errors in each main category?

## **METHOD**

### **Research Design**

This research is a descriptive study that employs a corpus-based error analysis method. The quantitative data obtained from the corpora were analyzed using a qualitative descriptive technique.

## Corpora

This study involved 28 thesis abstracts written by 28 students of the English Education Study Program, at Indonesian Christian University. The Corpora were randomly selected from 58 theses written by the graduates who completed their study in the study program in the 2021/2022 and 2022/2023 academic years.

## Annotation Software

The corpora in this study were parsed and error-annotated manually. The parsing aims to obtain information about the author's intention using the expression, while the annotation (error marking) will reveal the author's errors. Annotation was conducted using the UAM Corpus Tool.

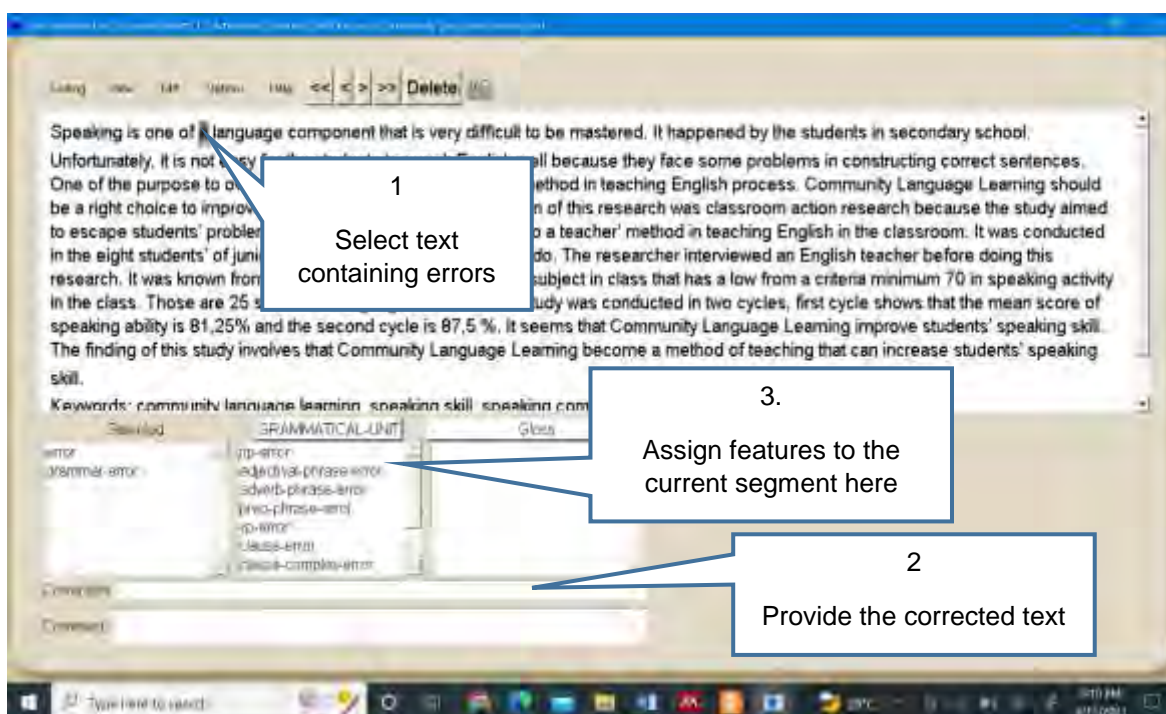


Image 1. Coding with UAM Corpus Tool

As illustrated in Figure 1, the error annotation procedure in Corpus UAM is carried out in three steps. First, the researcher selects the text which is identified as containing errors. Second, the researcher writes down the correct words, phrases, or clauses (reconstruction). Third, the researcher selects the appropriate error category and sub-category codes from the options available. To facilitate the coding of grammatical errors, the Corpus UAM system provides a set of error codes arranged hierarchically, which consists of 6 main categories, namely: grammar, lexical, punctuation, pragmatic, phrasing, and uncodable. Each major error category can be traced further into several levels of sub-categories to reach a specific type of error. Grammar error, for example, is classified into 9 sub-categories: np-error (noun phrase error), adjectival-phrase error,

adverb-phrase error, prepositional-phrase error, vp (verb-phrase)-error, clause error, clause-complex error, morphological error, special structure error, and other grammar error. The np-error is further differentiated into 8 more specific category, i.e.: determiner-error, premodifier-error, head-error, post modifier-error, np-complex-error, proper-name-error, pronoun-error, and unhandled-error. The determiner-error is finally classified into 9 most delicate errors, namely: determiner-order, determiner-present-not-required, determiner-absent-required, determiner-choice, determiner-agreement, inappropriate-pluralization-of-determiner, partitive-expression-error, genitive-formation error, and special-determiner-order-error. Overall, the error coding scheme covers 170 error features, of which 132 are not more delicately specified (leaf features).

## FINDINGS AND DISCUSSION

Corresponding to the research questions, this section presents the research results and discussion, commencing with the major categories errors, and then continuing with the presentation of sub-category errors.

### Number and Types of Errors

Table 1 reveals the number of errors identified in the corpora by the six main categories. The table displays that grammar errors (76.07%) are the most dominant type, followed by phrasing errors (9.82%), punctuation errors (7.36%), lexical errors, and pragmatic errors (1.84%). These findings indicate that the students still lacked the knowledge and ability to apply English grammar rules to write thesis abstracts accurately.

Table 1. Number of Errors by Major Categories

No	Type/Category	Number	Percentage
1	Lexical error	8	4.91%
2	Grammar error	124	76.07%
3	Punctuation error	12	7.36%
4	Pragmatic error	3	1.84%
5	Phrasing error	16	9.82%
6	Uncodable error	0	0.00%
Total		163	100%

### Number and Types of Lexical Errors

Lexical errors refer to errors related to one word and do not affect other parts of the phrase or clause. As shown in Table 2, the identified types of lexical errors are errors that arise because the writer uses a word that does not come from his mother tongue. So, the error was not caused by a transfer from the first language. Among the errors of this type, the most dominant is noun-based lexical errors. For example, "... questionnaire in the form of Liker scale 5 ..." and "... the correlation between the two variables is higher than the rtable value ..." The word "Liker" should have been written as "Likert", and "rtable" should be "r- tables".

Table 2. Number and Types of Lexical Errors

No	Sub Category	Number	Percentage
1	Lexical-transfer-error	0	0%
2	Lexical-Interlanguage-error		
	a, noun-based-lex-error	4	50%
	b. verb-based-lex-error	1	12.5%
	c. adverb-based-lex-error:	1	12.5%
	d, adjective-based-lex-error	1	12.5%
	e. other-wc-lex-error:	1	12.5%
Total		8	100%

### Grammar Errors

Grammar errors refer to violations of grammatical rules, such as incorrect word order, loss of necessary words, inappropriate word forms, and so on. This category, covering 76.07% of the whole errors), is the most numerous. As shown in Table 3, the sub-type of grammatical errors that occurred most often are noun-phrase-errors (62.9%), followed by prepositional-phrases-error in the second place, and verb-phrases-errors in the third place. The followings are some examples and reconstructions of words, phrases, or clauses that contain erroneous noun phrases found in the corpus. The asterisk (\*) placed at the end indicates that the line contains an error, while "r" indicates the corrected or reconstructed version.

1. ... the perception of using short story as media ...\*  
... the perception of using short *stories* as media ... (r)
2. The students were taken from tenth and eleventh grades.\*  
The students were taken from *the* tenth and eleventh grades. (r)
3. The study was a survey research conducted ...\*  
The study was  $\emptyset$  survey research conducted ...(r)

Table 3. Grammar Errors Sub-Categories

No	Sub Category	Number	Percentage
1	Noun Phrase Error	78	62.90%
2	Adjectival Phrase Error	2	1.61%
3	Adverb Phrase Error	0	0.00%
4	Prepositional Phrase Error	23	18.55%
5	Verb Phrase Error	14	11.29%
6	Clause Error	2	1.61%
7	Clause Complexity Error	0	0.00%
8	Special Structure Error	2	1.61%
9	Morphological Error	1	0.81%
10	Other Grammar Error	2	1.61%
Total		124	100%



The followings are some examples of words, phrases, or clauses containing prepositional phrase errors found in the corpus and their reconstruction.

- 4..... to describe students perception on using short stories ...\*  
... to describe students' perception *of* using short stories ...(r)
- 5.It was related to the teacher's method in teaching English.\*  
It was related to the teacher's method *of* teaching English. (r)

The following excerpts exemplify words, phrases, or clauses containing verb-phrase errors found in the corpus and their reconstruction.

6. Community language learning improve the students' speaking skills.\*  
Community language learning *improved* the students' speaking skills. (r)
7. Findings show that blended learning increase students' performance.\*  
Findings show that blended learning *increased* students' performance. (r)

As shown in Table 3, grammar errors are not only the most frequently occurred but also the most diverse in sub-categories. Of the 124 grammar errors, 62.9% are errors in making noun phrases, followed by errors in the use of prepositional phrases (18.55%), and errors in the use of verb phrases (11,29%). This finding indicates that the students' lack of knowledge to apply grammar rules is the main problem they encountered to produce effective academic writing. This corresponds with MacDonald's (2017) findings that grammar errors are the most frequently occurred in students' essays. It also confirms the findings of Mushtaq et al. (2019) that EFL learners often make mistakes as a result of their lack of grammar knowledge.

The numerous rules that belong to English grammar make it quite difficult for many EFL learners to master them without a commitment to study them deeply and practice using them intensively. Prepositions, in particular, need to be memorized first along with their accompanying verbs, and then immediately used in context. In addition, EFL learners should also read extensively. English texts provide various concrete examples of applying grammar rules in context. Thus, reading facilitates grammar learning. Through reading, students will also be acquainted with good writing techniques, and if they are allowed to practice these techniques, their transition to becoming better writers will take place seamlessly. Emak & Ismail (2021) reported that integrating reading activities into writing classes significantly improves participants' writing performance. So, to develop academic writing skills, students need to spend time reading a lot of academic documents.

### **Punctuation Errors**

Punctuation errors refer to the use of incorrect punctuation marks. Table 4 shows that unnecessary capitalization use is the most common punctuation error identified in the corpora. The second type is the loss of necessary punctuation.

Table 4. Punctuation Errors.

No	Sub Category	Number	Percentage
1	Unnecessary Capitalization	7	58.33%
2	Capitalization required	1	8.33%
3	Punctuation inserted not required	1	8.33%
4	Punctuation required not present	3	25%
5	Wrong punctuation	0	0
6	Space separator error	0	0
Total		12	100%

The following excerpts exemplify words, phrases, or clauses containing punctuation errors found in the corpus and their reconstruction.

8. ... interested in learning english by using ....\*  
... interested in learning *English* by using ... (r)
9. The data was collected online using google Forms.\*  
The data was collected online using *Google Forms*. (r)
10. ... opinions of using Advertisements to learn vocabulary.\*  
... opinions of using *advertisements* ... (r)

### Pragmatic Errors

Pragmatic errors occur when a text is grammatically correct but incoherent with the text's environment or context. These errors are subdivided into three sub-types: cohesion errors, coherence errors, and register errors. Cohesion errors occur because a cohesive device doesn't work, e.g., referring to "a woman" with "he" or using the "past tense" to refer to something that will happen. Coherence errors occur when the intent conveyed by the author is not meaningful or has another meaning in the context of the text. Register errors refer to the use of lexis, syntax, or phrases that do not fit the context of the text. The "She'd say" contraction, for example, is inappropriate for use in academic writing.

Table 5. Pragmatic Errors

No	Sub Category	Number	Percentage
1	Cohesion error	0	0%
2	Coherence error	0	0%
3	Register error	3	100%
Total		3	100%

As shown in Table 5, the only pragmatic errors identified in the corpora were register errors. The followings are the three pragmatic errors identified in the corpora.

11. ... to overcome those problems is using a kind of method in the teaching process.\*

... to overcome those problems is using *an effective* method in the teaching process. (r)

12. One of the hopes of using this teaching method is ....\*  
One of the *objectives* of using this teaching method is ... (r)

13. They're using it to avoid students from encountering problems ....\*  
*They were* using it to avoid students from encountering problems ... (r)

In excerpts 11 and 12, the underlined expressions are not suitable for the sentence contexts. Thus, they must be replaced with registers that are more appropriate. In Sentence 13, the contraction 'They're' is not appropriate to use in academic texts.

### Phrasing Errors

Phrasing errors occur when a text does not break grammar rules, but the expressions are not common in the target language. For example, the expression "People with a happy life" is grammatically correct but unusual for English speakers. That sentence should have been phrased as "People who live happily". As shown in Table 6, the phrasing errors identified in the corpora are transferred phrasing, i.e., phrasing errors committed due to the student's first language interference.

Table 6. Phrasing Errors

No	Sub Category	Number	Percentage
1	Transferred phrasing	16	100%
2	Other phrasing error	0	0%
Total		16	100%

The following are 3 of the 16 phrasing errors identified in the corpora.

14. The researchers used techniques in analyzing data, namely ....\*  
To analyze the data, the researchers used ...techniques. (r)

15. ... difficult aspect of descriptive writing accepted by this study is ....\*  
... difficult aspect of descriptive writing found in this study is ... (r)

16. The respondents were picked randomly from 96 students of grade IX.\*  
The respondents were *selected* randomly from... (r)

In the three sentences above, each writer uses expressions whose meanings are relatively acceptable in Indonesian but unusual in English.

The finding that phrasing errors, which arise due to the learner's mother tongue interference, are the second most common type of error confirms the theory that the influence of the learners' mother tongue cannot be avoided from second/foreign language

learning. Second/foreign language learners are apt to transfer many things from their mother tongue to the target language (Delbio et al., 2018). Various studies show that first language knowledge and competence naturally provide many benefits to second/foreign language learning. One of the positive impacts is that the use of literacy and academic skills in the mother tongue supports the development of writing skills in a second/foreign language (Mukhopadhyay, 2015). Stapa & Majid (2012) reported that the use of writing strategies in the mother tongue not only resulted in higher quality ideas in target language writing but also improved performance in writing. As the learner's mastery of the target language increases, the interference of his mother tongue will decrease. Therefore, it is recommended that students practice writing more intensively to produce texts that are more accurate.

## CONCLUSIONS

This study identified 163 errors in the corpora consisting of 28 thesis abstracts. Of the six types of major errors, the most frequently occurred errors are grammar errors, followed by phrasing errors in the second place, and punctuation errors in the third place. Then, out of 124 grammar errors, the most dominant sub-category is errors in making noun phrases, followed by errors in using prepositional- phrases, and errors in using verb phrases in the third place. These findings indicate that students' knowledge and ability to apply English grammar rules are still insufficient to write thesis abstracts accurately. The complexity of grammar rules requires students to study them more deeply and practice using them more intensively. Additionally, they need to read a lot of texts because readings offer many concrete examples of applying grammatical rules in context.

The finding that phrasing errors, which occur due to the interference from the learner's mother tongue, is the second most common type of error confirms the theory that the influence of learners' mother tongue is unavoidable from a second/foreign language learning. However, the higher the learner's linguistic competency in the target language, the less interference his mother tongue will have when he uses the target language. Thus, students are recommended to practice writing more intensively to produce texts that are more accurate.

Since this study involved only a small number of corpora and focused only on the abstract section of a thesis written by students from a single study program, the results cannot be generalized to students at other universities. To obtain more comprehensive results, future research is suggested to involve more corpora written by students from various study programs and analyze various sections of the texts.

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