

An Investigation of the Use of Cohesive Devices in ESL Students' Essay Writing

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Abstract

Essays are commonly used to project one's thoughts, awareness, and ideas in order to make them apparent to others. Despite its pervasiveness, many ESL (English as a Second Language) students view essay writing as a difficult task, especially at tertiary level where students are required to produce matured and sophisticated written texts. This study investigated the use of cohesive devices in ESL students' essays and highlighted the problems that these students face in writing essays. An action research approach using a quantitative and qualitative analysis of cohesive markers was used to carry out this research. The subjects of this study were 100 diploma students who had enrolled in the English for Academic Purposes (EAP) course. One hundred essay scripts written in the essay writing section of the final examination were analysed using Halliday and Hasan's (1976) framework of cohesion. Findings indicated that reference markers have the highest frequency, whereas substitutions were the least common cohesive device. The analysis also revealed that some cohesive devices were overused or incorrectly used by ESL learners, with conjunctions being the most common. The choice of cohesive devices was found to be influenced by the language proficiency of students because most of the students seemed to be unsure about the significance of using cohesive devices in their essays. Even though some students employed a sufficient number of cohesive devices in their essays, they were not aware of the functions conveyed by these resources. Given this, they require explicit instruction and direct exposure to the communicative meanings of cohesive devices as well as being familiarised with the ways to apply them in order to produce a cohesive piece of writing.

Keywords: Academic writing; cohesion; cohesive devices; essay; ESL students

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1. Introduction

A course like English for Academic Purposes (EAP) can be designed in a way to take into account the genre-specific needs of second language learners including the need to write cohesively and coherently in academic settings (Hinkel, 2001). The skills to operate proficiently in a variety of written genres is often a main concern as it can help students establish career opportunities, create positive identities as well as contribute to making life choices (Hyland, 2004). Therefore, in EAP classrooms, students are taught how to write short research articles, journal reviews, and other undergraduate write-ups for which they require to organize their discourse and formulate the information in an essay format (Kashiha & Marandi, 2019). This explains the significance of mastering writing skills for students, especially those who are pursuing a tertiary level of education.

Essays manifest comprehension, writing skills, and organisational skills. People write essays to communicate, convince, discuss, debate, pass exams, and conduct research. In addition, essays can be used to project one's thoughts, awareness, and ideas and, thus, this would make their thoughts and the quality of their thoughts apparent to others, which consequently result in creating new cognitive links (Strongman, 2013). Evidently, writing is a complex process. Cognitive models define writing 'in terms of problem-solving' (McCutchen, Teske, & Bankston, 2009). This is because the process of writing involves the writer charting language into his or her own thoughts and feelings while considering the expectations of the reader. It is essential to note that many ESL writers view writing as a challenging task. The issues of writing difficulty become more intense at tertiary level where students are required to produce matured and sophisticated written texts to be equivalent to their perceived intellect (Ismail, Hussin & Darus, 2012). According to Hyland (2007), to achieve academic success, tertiary literacy requires students to be skilful in producing their write-ups in English that involves sustaining arguments and synthesising ideas. For instance, students who are non-native speakers of English are commonly found to have issues with grammar, lexis, and syntax (Kashiha, 2015; Kashiha, 2018; Kashiha & Chan, 2014a,b; 2015). Therefore, their limited language proficiency makes it complicated to convey their ideas in the form of writing (Paltridge, 2002).

One of the particular challenges faced by students in writing is the concept of cohesion. The notion of cohesion is basically "a semantic one - it refers to relations of meaning that exist within the text and that define it as a text" (Halliday & Hasan, 1976, p. 4). It aids in comprehending how language or written discourse, operates or "hangs together" via "cohesive ties or chains that link the presupposing and the presupposed across sentence boundaries" (Halliday & Hasan, 1976, p. 8). This framework explains that cohesion is attained in written essays

when the writer uses suitable vocabulary and various grammatical structures such as pronouns, conjunctions, lexical substitutions as well as other lexical items to produce “a basic unit of meaning in language” (Halliday & Hasan, 1976, p. 8). Halliday and Hasan introduced a taxonomy for various types of cohesive devices including reference, substitution, ellipsis, conjunction, and lexical cohesion. Cohesion and coherence have long been recognised as important features of standard writing. The notion of cohesive tie enables a writer to evaluate their linguistic and communicative competence which refers to the writer’s competency in using grammatical rules at the levels of syntax and semantics. Hence, it is advisable to teach language learners how to produce a written text cohesively and coherently, especially if they intend to show their written proficiency and prove that they have a good command of the English language (Ghasemi, 2013; Kashiha 2021a,b; Kashiha, 2022).

Cohesion can be determined through a range of linguistic devices including references, substitutions, ellipses, conjunctions, and lexical relationships (Halliday & Hasan, 1976). References have four categories: pronominals, demonstratives, the definite articles ‘the’, and comparatives. Substitutions are also classified into four categories including substitutes of noun phrases, substitutes of the predicates, substitutes of adverbials, and substitutes of clauses. Ellipses are divided into noun phrases, predications, and clauses. Conjunctions are categorised into additives, adversatives, causatives, temporals, and continuatives. Finally, lexical cohesions contain lexical reiterations and lexical collocations. Lexical reiteration can be achieved by using the same word, a superordinate, a synonym, or near-synonym, while lexical collocation involves using words that appear together regularly such as antonyms, complimentary terms, and converses (Halliday & Hasan, 1976).

The significance of cohesion in writing and its relation to language proficiency can be seen from the abundant works that have been done in the field of academic writing (Bhatia, 2014; Hyland, 1990; 2004; Lazar & Ellis, 2011; Swales, 1990; Swales & Feak, 2004, among many others). The high tendency to conduct studies on cohesion in students’ writing indicates how theorists and practitioners are concerned about students’ academic success in instructional settings. Perhaps, another reason for this trend is the students’ inadequate writing skills, especially those for whom English is not a native language (Chandrasoma, 2010).

Writing a cohesive text is not something that would come naturally for second language learners. This is because each language has a different way of addressing cohesion (Izumi, 2011), and students’ fluency in the target language is normally culturally embedded. Several studies have been conducted to investigate L2 writers’ use of cohesive devices and whether using these devices could help them communicate their meaning. Hinkel (2001) explored the ways that L2 writers realize cohesion in academic writing to see whether there is a relationship between cohesive devices and the quality of writing. The participants involved four undergraduate students who had enrolled in the advanced writing course and scored A- or better for their first two writing assignments. The data gathered for the study involved two types of writing namely definition writing and essay writing. Each written work was checked manually for the use of references, conjunctions, and lexical cohesion. The researcher found that successful L2 writers utilised all types of cohesive devices appropriately in their texts.

Izumi (2011) found that the written works of non-native speakers did not flow smoothly even with correct grammar and a good command of vocabulary. She asserted that although several researchers have discovered language learners’ various patterns of use in writing including misuse, underuse, and overuse of cohesive ties, little attention has been given to determine the possible causes. Therefore, she investigated the causes of lack of cohesion in writing of five Japanese learners who had to compose different essays in English and discovered that they did not rely on cohesive devices unless they had an equivalent for each of the devices in their native language. Based on classroom observation and sentence analysis, Priyatmojo (2012) also found that many second language writers faced difficulty in producing systematic and cohesive sentence structures. The results of textual analysis in the post-test showed that exposing students to the notion of cohesion can help develop their writing skills.

As for Malaysian L2 learners, Ting and Tee (2008) conducted a case study to examine the ability of Teaching English as a Second Language (TESL) undergraduate students to accomplish a variety of academic test types. The results revealed that although the undergraduates were familiarised with how to present their argument and discussion, the ideas they wrote were underdeveloped and lacked clarity. Upon analysing the linguistic choices made by the students, it was found that for assignments that required explanations, there was inadequate use of modal verbs and conditional clauses to communicate the arguments as well as a lack of connectors to express the sequence of steps. In another comparative study, 14 narratives and 14 argumentative essays written by Malaysian students and 14 narratives and 14 argumentative essays written by Thai students were analysed and compared by Dueraman (2007) to see how these students perceive cohesion in their writing. Each student was required to study demographic information and then write a narrative essay and an argumentative essay. The written texts were evaluated through manual analysis of the cohesive devices used in them. Dueraman (2007) found that both Malaysian and Thai writers used more syntactic ties (reference and conjunction) than semantic ties (reiteration and collocation).

Upon reviewing previous literature, it can be said that what makes the present research different from previous studies is that this research draws on a classroom action research approach to investigate the issues

faced by ESL students when writing cohesively. The main aim of conducting action research in this study is to identify the possible problems faced by Malaysian ESL students in writing academic essays in English. Once the problems have been recognised, the ways in which these problems are perceived by students and teachers as well as the ways to improve the lack of cohesion in students' writing are investigated and discussed through an analysis of cohesive markers. To address these, this research intends to answer the following questions:

1. What problems do Malaysian ESL students face in writing essays?
2. What are the most and least frequent cohesive devices used by Malaysian ESL students in their essays?
3. What functions do these cohesive devices carry in the students' essay writing?

2. Data and methodology

The participants of this research were 100 ESL Malaysian students who had enrolled in an English for Academic Purposes (EAP) course at a private college in Malaysia. An action research approach using a quantitative and qualitative data analysis was used to identify the type of problems that these students face in writing as well as analysing the types and functions of cohesive markers used in their essays. The technique used in this action research was based on Kemmis's model of action research which involves 4 stages including problem identification, data gathering, data interpretation, and taking action. First, a small-scaled pilot test was carried out to identify the problems through documentary analysis of 20 random essay scripts written in the essay writing section of the final exam. Once the problems had been identified, 2 lecturers who were teaching the EAP course were interviewed to highlight and discuss the problems faced by these students. The next step was to carry out another documentary analysis on the collected 100 essays based on Halliday and Hasan's (1976) analytical framework of cohesion in writing. All the scripts were manually analysed to identify the most and least frequently used cohesive device in students' essays. Finally, the communicative functions served by identified devices along with the students' overuse, underuse, and misuse of them were studied in the context in which they were used. Excerpts from essays are used as example sentences to discuss students' language use.

2.1 Analytical Framework

Halliday and Hasan's (1976) work on cohesion serves as the basis of several investigations on the notion of cohesion. Many researchers have employed their framework in studying cohesion in a wide range of registers (Crossley & McNamara, 2010; McNamara, Louwse, McCarthy & Graesser, 2010; Priyatmojo, 2012; Shea, 2011; Alarcon, & Morales, 2011; Olateju, 2006, among many others). Similarly, the framework is used as the main platform for examining the use of cohesive devices in ESL students' essay writing in the current research. The 5 cohesive devices are reference, substitution, ellipsis, conjunction, and lexical cohesion.

Reference is defined as "the relation between elements of the text by giving reference to different parts in the given utterance" (Halliday and Hasan, 1976, p. 83). In a textual sense, reference is used when the reader or listener has to retrieve the discussed point by referring to an alternative expression in the same context. When the interpretation is within the text, it is known as an endophoric relation, whereas when the understanding of the text lies outside of the context, it is known as an exophoric relation. It should be mentioned that exophoric relations do not play a significant part in textual cohesion and only endophoric relations form cohesive ties because it refers to elements within the text. In terms of function, there are three types of references: personal, demonstrative, and comparative. A personal reference is realized through the use of personal and possessive pronouns as well as possessive adjectives. Items are referred to using first person, second person, and third person pronouns as well as possessive determiners like 'mine', 'yours', 'his', and 'hers'. The demonstrative reference attempts to refer to the location of information using proximity realizations such as 'this', 'these', 'that', 'those', 'here', 'there', and 'then'. Comparative reference functions as giving comparative references to either a previously mentioned topic or forthcoming item using adjectives such as 'so', 'such', 'similarly', and 'more'.

Substitution typically replaces a word or expression with another word or expression and there are 3 main ways to substitute an item: nominal, verbal, and causal. Nominal substitution replaces words using 'one' or 'ones', whilst in verbal substitution, the whole verb or action is replaced using for example 'do so'. In causal substitution, the entire clause is substituted.

Ellipsis occurs when a fragment of a sentence is eliminated because the writer assumes that the omitted parts are clear from the context and readers would have no difficulty in decoding them. If substitution involves replacing one word with another, the ellipsis is the removal of that word. Ellipsis makes readers retrieve specific information from the context of an utterance. There are 3 types of ellipsis: nominal, verbal, and clausal ellipsis

A conjunction is a form of cohesive device that connects clauses and sections of a text in order to establish a meaningful pattern between them. The four functions of conjunction are additives, adversatives, causals, and temporals. Additive conjunctions are used to structurally connect ideas by adding to them. The examples of additive conjunctions are 'and', 'also', 'too', 'furthermore', and 'additionally'. Adversative conjunctions are used when a writer intends to indicate conflicting ideas through using 'yet', 'though', 'only', 'but', 'in fact', and

‘rather’. Through the use of causal conjunctions such as ‘so’, ‘then’, ‘because’, ‘for this reason’, and ‘as a result’, a writer wishes to express result, reason, and purpose. Finally, temporal conjunctions are used to signal sequence, time, or stage in the text through markers such as ‘first’, ‘second’, ‘then’, ‘next’, ‘after that’, ‘until then’, ‘at the same time’ and ‘at this point’.

What distinguishes lexical cohesion from other types of cohesive devices is that it is non-grammatical. It deals with ways in which lexical items correlate with each other to create cohesion and ensure textual continuity in discourse. There are two types of lexical cohesion, namely reiteration and collocation. Reiteration involves repeating the same lexical items as well as the occurrence of related items. Collocation occurs when a pair of words that do not have the same semantic relationship tend to occur or co-occur within the same lexical environment.

3. Results and discussion

Using a manual analysis, a number of language errors were depicted in the students’ essays in relation to the notion of cohesive devices. It was also found that most of the students favoured using cohesive devices mainly at the beginning of their paragraphs as a point of departure. Some patterns of overuse and underuse of cohesive devices were also seen in their essays with some devices being excessively used while other types were rarely used or ignored. Thus, the most and least frequent cohesive devices were identified and calculated through a quantitative as well as a documentary data analysis. However, these analyses were not sufficient in highlighting the significance of the issue. Hence, an informal face-to-face interview with the two lecturers who were teaching the participants was carried out to shed more light on the writing performance of their students. Both lecturers mentioned that cohesion and grammar were the main issues that their students encountered during the course and also when marking their essays. “Most of the students seemed to have many ideas to include in their essays; however, the lack of cohesion caused most essays to seem detached and sometimes incomprehensible”, said by one of the lecturers. The followings are other issues raised by the lecturers.

Lecturer 1: If students practised drafting prior to writing, it could help develop a more organised essay. In addition, lack of cohesion in the essay caused the marking process to be more time-consuming because I had to spend a longer time trying to link thesis statements with topic sentences.

Lecturer 2: Most students had grammatical issues that caused the quality of their essays to drop immensely.

3.1 Text analysis

The analysis aimed at finding the most commonly used cohesive devices in students’ essays. The identified devices were tabulated based on their discourse function. From the tabulation of data in Table 1, it is clear that the most frequently used cohesive device was references, followed by conjunctions, lexical cohesion, ellipsis and substitutions.

Table 1. Distribution of cohesive devices in students’ essays

Cohesive Devices	Frequency of use (n)	Percentage (%)
Reference	3115	43.9%
Conjunction	2335	32.9%
Lexical Cohesion	940	13.2%
Ellipsis	440	6.2%
Substitution	260	3.7%
Total	7090	100%

The possible reason for the high occurrence of references is that students normally employed them as a way to connect their ideas precisely. Thus, they were feeling confident that their reader (in this case their teacher) would be able to comprehend their ideas through linking them to previous or forthcoming ideas.

3.1.1 References in Students’ Essays

Table 2 shows the distribution of the subtypes of reference devices. As can be seen, students mostly favoured demonstrative references (49%) such as ‘this’, ‘these’, ‘that’, and ‘those’, in order to serve this function. This is due to the fact that most of them may find demonstrative devices to be the simplest form of giving a reference, representing a way to signal cohesion and to avoid repeating longer sentences. This is illustrated in Example (1).

(1) Another example of handphone etiquette is a phone should be in silent mode in a theatre or restaurant.

The reason for *this* is the sound of a phone ringing may disturb people who are paying attention.

In the above example, the reference marker ‘this’ represents the action of setting the phone on silent mode which is related to the previous sentence about mobile phone etiquettes. Hence, the first and the second sentence are cohesively tied through this marker.

Table 2. Distribution of the subtypes of references

Subtypes of reference devices	Frequency of usage (n)	Percentage (%)
Demonstrative	1527	49%
Prominal	1402	45%
Comparative	186	5.97%

Other types of references used were prominal and comparative with prominal being more frequent (see Table 2). Prominal references were used when a student provided examples of scenarios to support their claim or stance in their arguments. Besides that, many essays were found to contain first and second-person pronouns to address the reader. Despite the fact that objective writing had been emphasised in the course, most students tended to write subjectively (consciously or unconsciously) when it came to specific topics. An example of this is shown in Example (2).

(2) Please remember, people around **you** may not want to listen or know about **your** personal thing.

The pronouns ‘you’ and ‘your’ were used vastly by students as an engagement strategy to engage with their readers. This made their propositions sound more subjective and made their reader feel that the writer is communicating with them directly. Another feasible reason for using several prominal references could be the nature of the essay topics, in which students were required to write about the topics relating to society or to connect the ideas to people’s life experiences. To do so, they employed more prominal references unconsciously. On the other hand, comparative reference devices were used the least (only 6%). This was again due to the nature of essays which did not emphasize and ask for a comparison or contrast. However, there were a few cases where a number of proficient students used comparative reference devices in order to provide a more in-depth explanation on the topic, as in Example (3). In this example, the word ‘different’ is used by the student to contradict their previously mentioned idea. This shows that although essays were exploratory in nature, students were able to support their ideas from various perspectives without a need to move away from the main topic.

(3) However, young people have a **different** idea. They think that clothes are a form of expression which ...

3.1.2 Conjunctions in Students’ Essays

As for conjunctions, results plotted in Table 3 show that conjunctions were the second most frequent cohesive device used by students (32.9%). Halliday and Hasan (1976) divided conjunctions into four subtypes – additive, adversative, causal and temporal. Table 3 shows the frequency information of the subtypes of conjunctions in the essays, the most common being additives (32%), followed by temporals (30%), adversatives (22%), and clausal (16%). The following subsections illustrate the use of each subtype of conjunctions in students’ essays.

Table 3. Distribution of the subtypes of conjunctions

Subtypes of conjunctive devices	Frequency of usage (n)	Percentage (%)
Additives	747	32%
Temporals	701	30%
Adversatives	513	22%
Causals	374	16%

Additive

Most students used additive conjunctions at the beginning of a sentence. In example 4, the additive conjunction ‘furthermore’ is placed at the beginning of the sentence to show the students’ intention to add extra information to the ideas previously mentioned. It was depicted that students typically used short sentences, thus, it was easier for them to use additives to expand or add ideas.

4) **Furthermore**, the basic handphone etiquettes in public is not to speak too loud.

Temporal

Temporal were typically used to show a sequence in presenting their ideas. In example (5), the student started their paragraph using a temporal device in order to make their second point.

5) **Secondly**, a proper dress code in college like formal wear make students look smart and tidy.

Adversative

By using an adversative device, the writer clearly denotes that they are giving an opposite argument. In example (6), the student uses an adversative device ‘However’ to contradict a previously mentioned idea.

6) **However**, many people argue that it may restrict the students’ freedom.

Causal

Causal conjunctions were normally employed towards the end of utterances to explain a cause for a given argument. In Example (7), the student used the causal conjunction ‘therefore’ to show that they are making a statement in a form of giving a reason. In general, the over-use of conjunctions mostly at the beginning of paragraphs could show the students’ uncertainty or unfamiliarity with the other positions that conjunctions can be generally used. Another possible reason is that since in oral language conjunctions are typically used at the beginning of utterances, students might have failed to distinguish such differences from the ways they are used in written language.

7) Therefore rather than spending money on fashionable items, money can be save and used to invest in the proper matter.

3.1.3 Lexical Cohesion in Students' Essays

Lexical cohesion is a type of cohesive device that mainly deals with words and their meaning rather than grammar. Therefore, the use of lexical cohesion in one's writing can reveal a lot about their language proficiency. Table 4 shows the subtypes of lexical cohesion and their frequency of usage in the analysed corpus. Repetitions were found to be the most frequent lexical cohesion (36%), followed by general lexical cohesion, synonyms, and superordinate.

Table 4. Distribution of the subtypes of lexical cohesion

Subtypes of lexical cohesion	Frequency of usage (n)	Percentage (%)
Repetition	338	36%
General lexical cohesion	320	34%
Synonym	254	27%
Superordinate	28	3%

It was found that almost all the students employed repetitions. They did so by reversing phrases and modifying the tense of significant contextual words or their forms sometimes by adding suffixes or infixes. The high disposition to the use of repetitions can be due to the students' lack of vocabulary knowledge. There were many essays in which the ideas were well developed but a small range of words were constantly repeated throughout the essay which could consequently drop the quality and proficiency level of their essay. However, there were cases where some students attempted to reverse the form of their phrases in order to avoid using the same previously written phrase, thus, having novelty in writing while repeating the idea, as in Example 8.

8) From the parents' side of view, it is understandable that they do not what to see their children dressing inappropriately... As for the teachers, they do not want to feel distracted while teaching at the front of the classroom and are able to see inappropriate dressing in class.

They used general lexical cohesion to turn their utterances into common knowledge, thus making them sound more acceptable. It was found that many students preferred using a variety of general lexical cohesion because it seemed to be one of the simplest ways to change an utterance to a more formal and general form. In example 9, the student made use of words such as 'nowadays', 'everyone', and 'people' to imply that what they were saying was general and, thus, considered common sense in the society.

9) Nowadays, handphone is very important for everyone. Because handphone can make people build relationships...

There were also cases where students attempted to use a range of synonyms in their sentences to show that they have a good command of vocabulary which made them use words with a similar meaning, as in:

10) So we must pay attention when a person is doing a presentation in front of us. Do not pick up a call or text message because it shows that we are not focusing.

3.1.4 Ellipsis in Students' Essays

Ellipsis are divided into two subtypes namely nominal and clausal based on Halliday and Hasan's (1976) theory. Nominal ellipsis involves the elimination of a noun head in a nominal group. A nominal group involves a pre-modifier, head, and a post modifier (Halliday & Hasan, 1976). The noun head is normally a common noun, a proper noun, or a pronoun. While clausal ellipsis involves eliminating a part of the clause or all of it, it is often associated with questions and responses in dialogues. Thus, this explains as to why students' essays in this study only used nominal ellipsis (see Table 5). In example 11, the student removed the noun head 'argument' because they felt that it was unnecessary to mention it and assumed that the teacher would still be able to comprehend the phrase.

11) Most students agree with this argument but not the previous (argument).

Table 5. Distribution of the subtypes of ellipsis

Subtypes of ellipsis	Frequency of usage (n)	Percentage (%)
Nominal	440	100%
Clausal	0	0%

3.1.5 Substitutions in Students' Essays

Similar to ellipsis, substitutions also have two subtypes namely nominal and clausal (Halliday & Hasan, 1976). Table 6 indicates the frequency of the subtypes of substitutions. As can be seen, nominal substitutions occurred almost three times more frequent than clausal substitutions in students' essays. In Example (12), the student used the word 'one' to substitute the word 'smart phone'. This way of connecting ideas cohesively can further be an engaging strategy for which the reader needs to be constantly engaged with the text in order to comprehend the arguments.

(12) Smartphones are a common gadget nowadays, even kids have one.

Table 6. Distribution of the subtypes of substitutions

Subtypes of substitutions	Frequency of usage (n)	Percentage (%)
Nominal	334	76%
Clausal	106	24%

Example (13) shows the use of a clausal substitution. As can be seen, the student used the word ‘so’ to substitute a clause which is ‘the feeling of confidence that one could obtain by dressing professionally’. As can be seen, some students were aware that the use of substitution could simplify the way of expressing ideas. That is, substituting a lengthy idea with only one word could help students avoid repetitions which in part could affect the quality of their writing.

(13) Colleges usually emphasise professional dress codes because such dressing could boost your confidence. Thus, they want their students to feel so.

This was most likely because using substitution requires the writer to be proficient in the target language, or else the sentence or phrase would seem hanging or incomplete. Due to this fear, ESL learner writers might have avoided using substitution. From this, it is clear that the frequency and use of cohesive devices are influenced by the language proficiency of the writers. Moreover, the choices made by the writers to switch various cohesive devices depend on the intention of the writer to produce a creative and high-quality write-up with a high degree of clarity.

3.2 Incorrectly used cohesive devices

Although the analysis showed that cohesive devices were widely used, there were many cases where these devices were incorrectly used by students. Therefore, another manual analysis was done to examine the issues faced by the students when writing cohesively or when applying cohesive devices in their essays. Table 7 illustrates that 10.8% of the cohesive devices used by the students were incorrectly used and Table 8 indicates that the most frequent device which was incorrectly used was conjunctions (38.2%), followed by references (26.2%), Ellipsis (19.1%) and lexical cohesion (16.4%). However, no case of substitution was found to be incorrectly used in students’ essays which is most likely due to the phenomenon that only those students who were proficient in English preferred to use substitutions and, thus, they managed to use these devices accurately.

Table 7. Correctly and incorrectly used cohesive devices

Cohesive devices	Frequency of usage (n)	Percentage (%)
Correctly used	6324	89.1%
Incorrectly used	766	10.8%
Total:	7090	100%

Table 8. Frequency of the subtypes of incorrectly used cohesive devices

Incorrectly used cohesive devices	Frequency of usage (n)	Percentage (%)
Conjunctions	293	38.2%
References	201	26.2%
Ellipsis	146	19.1%
Lexical cohesion	126	16.4%
Substitutions	0	0%

Albeit being the second most frequently used device, conjunctions also accounted for the most frequent device that was incorrectly used. This can be due to the immaturity of students in using this function correctly, especially with temporal and adversative conjunctions which accounted for 44% and 38% of the incorrectly used conjunctions accordingly (see Table 9). The following examples illustrate the incorrect use of these two conjunctions.

14) After that, it also helps the college to maintain its standards...

15) You can easily search for the place you want to go. However, you are planning to fly overseas.

Table 9. Frequency of the subtypes of incorrectly used conjunctions

	Frequency of usage (n)	Percentage (%)
Temporal	128	44%
Adversative	112	38%
Causal	38	13%
Additive	15	5%

It was interesting to note that the incorrect use of temporal conjunctions occurred in almost all the analysed essays, typically as a way to shift from one topic to another. This implies that albeit being aware of using cohesive devices, students made wrong lexicogrammatical choices when it came to understanding the communicative meaning of these transitions. This could be due to their poor command of vocabulary knowledge

which consequently resulted in producing less cohesive arguments.

4. Conclusion and implications

This research aimed to investigate the use of cohesive devices in L2 students' essay writing and the problems that these students face in writing academic essays. Despite limitations, this research suggests that the study of cohesion in academic writing is indeed of merit, both to the students and the teaching communities. In response to research questions, ESL students did use a sufficient number of cohesive devices in their essays but with some telling problems in terms of writing cohesively. The overuse and underuse of a few cohesive markers highlighted that ESL students are required to be familiarised with the communicative functions of cohesive devices in order to help them produce cohesive essays.

Several pedagogical implications could be made to help deal with the problems that ESL students face in writing. Students need to be taught how to organise their sentences in a paragraph and how and where to use appropriate cohesive devices in an essay to ensure unity in the text and sustain the proper flow of ideas. The idea is that students should reach a certain degree of sentence-level mastery before moving to the next unit of written discourse which is 'the paragraph' because as Heffernan (2006) notes, a sentence is regarded as the basic element of written communication. Heffernan (2006) suggested a 'paragraph-based approach' that involves "a more vertical integration of grammatical instruction as opposed to the standard horizontal integration" (p. 25). There are 2 essential key points that this approach stresses: (1) a well-organised paragraph or essay can still be comprehended even if every sentence contains grammatical errors, however (2) a badly organised paragraph or essay can be quite complex for the reader to comprehend even if each individual sentence is grammatically perfect.

To carry out a "paragraph based approach" in ESL classrooms, lecturers would need to pay close attention to the basics of paragraph design and paragraph structure such as topic sentences, supporting sentences, concluding sentences, unity, and coherence. Educators need to encourage students to discuss and concentrate on logical relationships and transition markers used to indicate textual relationships in the essays. The second pedagogical implication is the need to enhance the students' knowledge about the significance of using cohesive devices in their essays. Although the data analysis revealed that almost 10% of the cohesive devices were incorrectly used in the essays, their writings could benefit from being familiarized with the functions of cohesive devices.

There were several limitations to this research that the future research could venture on. First, the duration of this research was limited. The research was carried out only for one academic semester. Besides that, the data was not collected based on the disciplines of the students. Future research, thus, can study the use of cohesive devices by students from various disciplines to observe the possible differences in the language use of various academic fields. Another limitation was the number of samples involved. A large-scaled sample would enable future researchers to provide more accurate and valid results. Future investigations can also concentrate on the use of cohesive devices by students in other ESL/EFL settings to shed more light on their facilitative role in composing a cohesive piece of writing.

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