



**AN ANALYSIS OF THAI STUDENTS' ERRORS ON
ENGLISH FRAGMENTS, RUN-ONS, AND
COMMA SPLICES: A COMPARISON
BETWEEN SCIENCE-MATH AND INTENSIVE
SCIENCE-MATH PROGRAMS**

BY

MISS PRAPAIPUN PORNTANACHOTANAN

**AN INDEPENDENT STUDY PAPER SUBMITTED IN PARTIAL
FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS IN CAREER ENGLISH FOR
INTERNATIONAL COMMUNICATION
LANGUAGE INSTITUTE
THAMMASAT UNIVERSITY
ACADEMIC YEAR 2020
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ENTITLED

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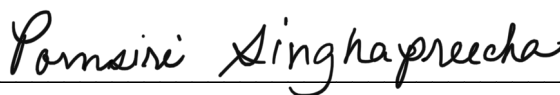
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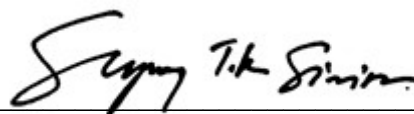
(Assistant Professor Virasuda Sribayak, Ph.D.)

Member and Advisor



(Associate Professor Pornsiri Singhapreecha, Ph.D.)

Director



(Associate Professor Supong Tangkiengsirisin, Ph.D.)

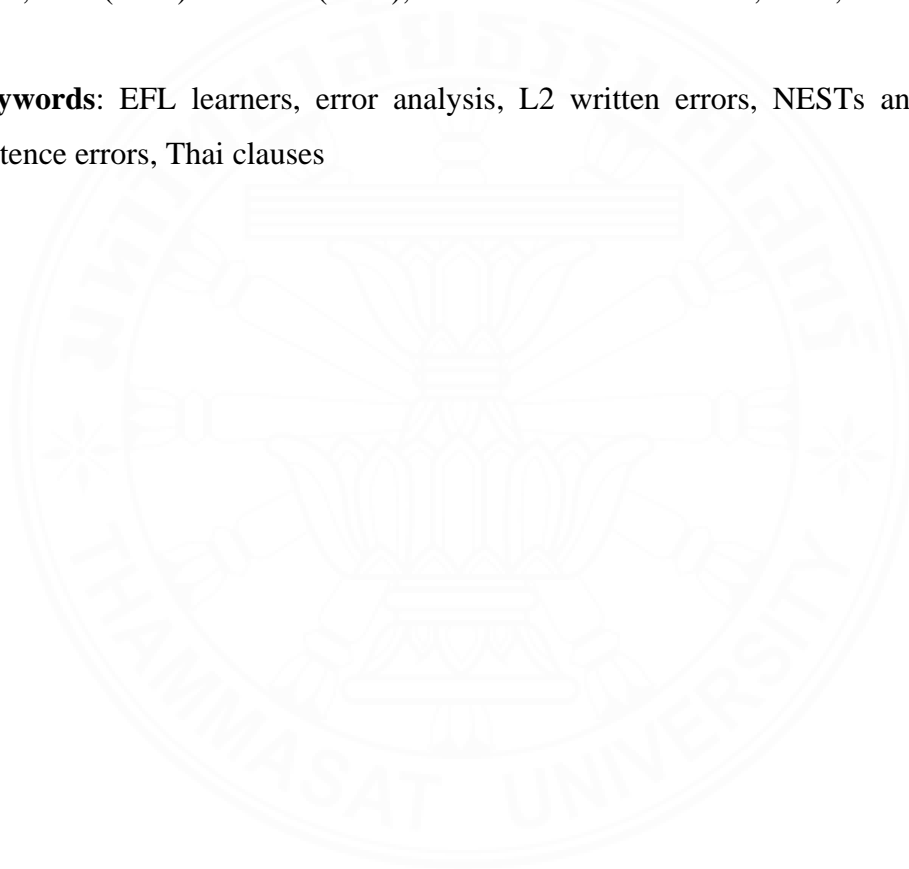
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Author	Miss Prapaipun Pornthanachotanan
Degree	Master of Arts
Major Field/Faculty/University	Career English for International Communication Language Institute Thammasat University
Independent Study Paper Advisor	Associate Professor Pornsiri Singhapreecha, Ph.D.
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ABSTRACT

The research study aimed to investigate three types of errors, i.e., run-on sentences, comma splices, and sentence fragments, to determine the most frequently occurring type of writing errors made by science-math students and intensive science-math students. In addition, the current study identified similarities and differences in the types of errors made by both groups. The participants of this study were 40 students, consisting of 20 students from a science-math program and 20 students from an intensive science-math program. They were studying in the twelfth grade in the academic year 2020 at a public school in Bangkok. The data were collected from 80 pieces of students' writings. Corder's paradigm (1974) was adopted to analyze the three types of writing errors. In addition, L1 Thai was highlighted as a factor that could play a role in the errors. The findings showed that comma splices occurred most frequently in the science-math group, accounting for 44.44% (36 tokens). In the intensive science-math group's errors, run-on sentences occurred most frequently, accounting for 47.24% (60 tokens). There were individual differences in these results. In terms of the similarity, sentence fragments were the second most frequently occurring error type in both groups. This was in contrast to the previous studies of Pongwacharapakorn (2014) and Sermsook et al. (2017), which found that sentence fragments occurred most

frequently. The slightly greater accuracy in the science-math groups compared to the intensive science-math group could be attributed to the instructor's role, i.e., non-native English speaking teachers (NNEST) vs. native English speaking teachers (NEST). This suggests the enhancement of English grammatical accuracy by NNESTs, consistent with Al-Shewaiter's (2019) findings. As certain types of errors could have been influenced by L1 Thai, it can be inferred that both groups of students committed interlingual errors (Zobl, 1980, as cited in Al-Khresheh, 2016) and local errors (Ellis, 1994; Burt (1975) and Ellis (2008), as cited in Phoocharoensil, 2016; Touchie, 1986).

Keywords: EFL learners, error analysis, L2 written errors, NESTs and NNESTs, sentence errors, Thai clauses



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Miss Prapaipun Pornthanachotanan

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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Nowadays, English plays a vital role in every aspect of life and is considered a Lingual Franca (ELF), which refers to the use of English as a common means of international communication for speakers of different native languages (Nordquist, 2020). In addition, currently, Thailand becomes a part of the ASEAN Community; having high proficiency in English will increase the chance of success due to the fact that the working language of ASEAN is English (The ASEAN Charter, 2015). Owing to the importance of English, it is stated in the Basic Education Core Curriculum B.E. 2551 (A.D. 2008) that Thai students are required to study English as a core subject at school and are expected to use all four skills of English to communicate in various situations, to seek knowledge or to further their education at higher levels.

However, several English teachers have noted that compared to other language skills, acquiring the writing skill appears to be more challenging and laborious (Zheng, 1999, as cited in Ahmed, 2010). Also, competence in writing is not a naturally acquired skill, but it must be practiced and learned through experience (Myles, 2002). To improve writing skill, producing errors seems to occur unavoidably, as Corder (1967) mentioned that errors are not only an inevitable but also an essential key of learning a language. To put it another way, without errors, development cannot occur. Therefore, errors in writings are worth investigating thanks to at least three reasons: exposing learners' existing target language knowledge, examining the language acquisition of learners and helping learners broaden the horizons in their second language proficiency through teachers' comments on or corrections of the errors found (Corder, 1987, as cited in Phoocharoensil, 2016; Corder, 1967).

Seeing that error analysis allows ESL/EFL teachers to gain insight into learners' errors and to apply some pedagogical precautions regarding learners' errors, it could be a beneficial method to help learners improve their writing skill (Al-Khresheh, 2016).

As the common faults in English syntax and grammar (Munro, 2010) are run-on sentences, comma splices and sentence fragments, these were chosen to analyze in writing.

Moreover, even though some similar research studies focused on analyzing errors in students' writings — e.g., the research study of Pongwatcharapakron (2014), which investigated the frequency and characteristics of types of sentence errors including sentence fragments, run-on sentences, and comma splices in 150 pieces of writing from three different kinds of paragraphs produced by 50 Mattayom 5 Horwang School students — there has not been a study investigating the writing outcomes of students taught by native English compared to non-native English speaking teachers.

As a matter of fact, a number of studies claim that native English-speaking teachers (NEST) and non-native English-speaking teachers (NNEST) may have different advantages (Al-Shewaiter, 2019; Ismaiel, 2017; Schenck, 2020). In terms of teaching and assessing, native English-speaking teachers are assumed to be superior in terms of accent, competence in using language in authentic contexts, and the proper use of vocabulary within the target language due to the fact that they tend to be considered as the owners of authentic English; therefore, NEST tend to rely on their own perceptions when assessing students' performance, whereas non-native English-speaking teachers are likely to possess more conscious knowledge of grammar, have more language learning experience and formal education in language teaching, and be more empathetic to language learners. Additionally, when assessing, NNEST are likely to be more aware and assess learners more formally (Arcaya, 2020; Ismaiel, 2017; Rahimi & Zhang, 2015, as cited in Al-Shewaiter, 2019).

As aforementioned, there is a research gap in that most of the research studies with regard to the analysis of errors in students' writings collected and analyzed the data from only one group of students. There has not been extensive research on L2 written expressions taught by native and non-native teachers. Consequently, this study was conducted using two groups of the students, who were studying in the science-math and intensive science-math programs. They formed different groups. For the science-math program, all of the English subjects were taught by Thai teacher. For the intensive science-math program, all of the English subjects were taught by native English-speaking teachers (NEST).

Hence, this research aimed to investigate students' errors in writings as well as to compare whether there are significant differences in types of errors between the science-math program and the intensive science-math program. In particular, error types including run-on sentences, comma splices, and sentence fragments, were the data used for investigation in this study.

1.2 Research Questions

This study aims to answer the following questions:

1.2.1 Which type of error among run-on sentences, comma splices, and sentence fragments, occurs most frequently in the science-math students' data?

1.2.2 Which type of error among run-on sentences, comma splices, and sentence fragments, occurs most frequently in the intensive science-math students' data?

1.2.3 What are the significant similarities and differences in terms of the types of errors found in Thai EFL students' writings between the science-math and intensive science-math programs?

1.3 Research Objectives

The objectives of the study are as follows:

1.3.1 To investigate three types of errors, i.e., run-on sentences, comma splices, and sentence fragments, and determine the type that occurs most frequently in the science-math students' data.

1.3.2 To investigate three types of errors, i.e., run-on sentences, comma splices, and sentence fragments, and determine the type that occurs most frequently in the intensive science-math students' data.

1.3.3 To compare and contrast types of errors found in Thai EFL students' writings between the science-math and intensive science-math programs

1.4 Scope of the Study

The study focused merely on the following errors in students' writings: run-on sentences, comma splices and sentence fragments; other error types such as subject-verb agreement and article usage were not included in the data.

1.5 Definition of Terms

1.5.1 **L1** refers to the learners' first language, which is Thai.

1.5.2 **L2** refers to the learners' second language, which is English.

1.5.3 **Errors** refer to sentence errors in students' writings, namely run-on sentences, comma splices and sentence fragments.

1.5.4 **A run-on sentence** refers to two sentences that are connected without a proper conjunction or punctuation to make a sentence.

1.5.5 **A comma splice** refers to two sentences that are incorrectly joined by a comma instead of a period to make a sentence.

1.5.6 **A sentence fragment** refers to a sentence that lacks a subject, i.e., either "It" missing, "There" missing, "Unidentified pronoun" missing, or pronoun "I" missing, a verb "be", a combination of a subject and a verb "be" or a complete thought. In this study, sentences with coordinating conjunctions such as *and* at the beginning of a sentence were not counted as errors.

1.5.7 **Writings** refer to two English paragraph writing assignments which the students were required to write.

1.5.8 **Thai EFL students** refer to the participants of this study: 40 students, consisting of 20 students from a science-math program and 20 students from an intensive science-math program in the twelfth grade in the second semester of the academic year 2020, at a public school in Bangkok.

1.5.9 **Intensive science-math program** refers to a science-math program in which all of English subjects were taught by native foreign language teachers.

1.5.10 **Error analysis** refers to the method to investigate and analyze errors made by Thai EFL students.

1.6 Significance of the Study

This study will help Thai EFL students gain insight into the common errors in writing and be aware of these errors for their further writing. In terms of teachers who teach English as a foreign language, the study will enable them to utilize appropriate materials, lessons and teaching techniques to help students form the right concepts in the target language.

1.7 Organization of the Study

There are five chapters in this study. Chapter 1 gives a general overview of the background of the study, how to improve the writing skill of students by investigating students' errors and the use of error analysis as a means to enhance students' writing skills, and the need to conduct this research. Chapter 2 presents a review of relevant studies of how English and Thai express sentences in writing, SLA related theories and previous related studies. Chapter 3 explains the research methodology and procedure of data collection based on the first three steps of error analysis (EA) method, and the results are shown in chapter 4. The final chapter of this study collects all of the results and contains the discussion, conclusion and future research recommendations.

1.8 Summary

This chapter underlines the benefits of students' writing errors as a key for language acquisition. The error analysis (EA) method is applied in order to analyze of these errors so that students can comprehend the common writing errors to improve their writing skill, whereas teachers can apply some appropriate teaching methods to address students' errors. The comparison of students' errors in the writings between two groups of students in the science-math program and the intensive science-math program, in which all the English subjects were taught by NNEST and NEST respectively, is worth undertaking to determine whether there are some significant similarities and differences in terms of the frequencies and types of errors.

CHAPTER 2

REVIEW OF LITERATURE

This chapter reviews the literature that is significant to the study of error analysis of Thai EFL students' errors in writings. The content is divided into three parts. The first part presents how English and Thai express sentences in writing. The second part reviews SLA related theories. The last part presents the previous related studies.

2.1 Background of English and Thai Written Expressions

2.1.1 English Clauses and Writing Errors

Cambridge Dictionary Online (2021) gives the definition of “sentence” as “a group of words, usually containing a verb, that expresses a thought in the form of a statement, question, instruction, or exclamation and starts with a capital letter when written”.

According to the definition, a complete sentence in English should be composed of three characteristics. First of all, a sentence begins with a capital letter and ends with punctuation: a period, a question mark, or an exclamation mark. Secondly, a sentence comprises at least two parts, which are one subject and one verb; however, the subject “You” can be hidden if that sentence is the imperative sentence: a sentence presenting a request, a command, or a forbiddance. Lastly, a sentence expresses a complete thought in the form of a statement, question, instruction, or exclamation.

Based on Cambridge Dictionary Online (2021), complete sample sentences are presented in the form of a statement, question, instruction, and exclamation as demonstrated in (1)-(4) respectively.

- (1) I finished the book last night.
- (2) Did you study Latin at school?
- (3) Leave it on the chair, thanks.
- (4) What a gorgeous dress she's wearing!

With respect to types of English sentences, Hacker and Sommers (2015, p. 325-327) divide sentences according to their structure into four types. The concept of each type together with the examples is presented as follows:

The first type is a simple sentence. A simple sentence, which is known as an independent clause, is composed of a subject and a verb, which may precede an object and a modifier. Also, there is no more than one full sentence pattern in a simple sentence. An example is shown in (5).

(5) Without a passport, Eva could not visit her parents in Lima.

The second type is a compound sentence. A compound sentence contains two or more independent clauses with no dependent clauses or subordinate clauses. A dependent clause refers to an incomplete sentence containing a subject and a verb but lacks a complete thought. It cannot stand alone and must be attached to an independent clause to become complete. To form a compound sentence, the independent clauses are joined with coordinating conjunctions (known as FANBOYS – For, And, Nor, But, Or, Yet, So) and a comma or with a semicolon. The examples are shown in (6) and (7).

(6) The car broke down, but a rescue van arrived within minutes.

(7) A shark was spotted near shore; people left immediately.

The third type is a complex sentence. A complex sentence consists of at least one independent clause and one or more dependent clauses; a dependent clause begins with a subordinating conjunction or a relative pronoun. In addition, based on the Academic Guides at Walden University (2021), it is suggested that a complex sentence starting with an independent clause will not have a comma to separate the clauses. In contrast, if a complex sentence begins with a dependent clause, a comma is needed to divide the clauses. Examples are shown in (8) and (9).

(8) They studied APA rules for many hours as they were so interesting.

(9) Because he organized his sources by theme, it was easier for his readers to follow.

The last type is a compound-complex sentence. A compound-complex sentence comprises at least two independent clauses and at least one dependent clause. An example is shown in (10).

(10) Tell the doctor how you feel, and she will decide whether you can go home.

Such correctness is accepted and held as the norm for L1 speakers. A lot of EFL learners do not conform to the rules of correctness and produce various errors in writing. Three major errors include run-on sentences, comma splices and sentence fragments, which are discussed from the L1 point of view next.

2.1.1.1 Run-on Sentences

Zheng et al. (2018) defines a “run-on sentence” as “a sentence in which two independent clauses or sentences are joined without conjunctions or punctuation between them.”

Merriam-webster Dictionary Online (2021) gives the definition of “run-on sentence” as “a sentence containing two or more clauses not connected by the correct conjunction or punctuation”

Oxford Learner’s Dictionary Online (2021) defines a “run-on sentence” as “two or more sentences or independent clauses joined without a conjunction or the correct punctuation”

In line with the above definitions, a run-on sentence occurs when two or more independent clauses or complete sentences run together without the correct punctuation to separate them. According to “Common Core English Grammar & Mechanics 8” (p. 292), a run-on sentence can be corrected by separating two independent clauses into two sentences as follows:

(11) * Today we had planned to go on a picnic it rained all afternoon.

(12) Today we had planned to go on a picnic. It rained all afternoon.

In (11), the sentence marked with an asterisk is ungrammatical because it is not split into two different sentences. In (12), a full stop is placed after *a picnic*, the end of the first clause, and *all afternoon*, the end of the second clause, respectively, resulting in grammaticality.

Furthermore, apart from separating two independent clauses into two sentences as presented in (12), a run-on sentence can be corrected by adding a semicolon (;) between two independent clauses or corrected by adding a coordinating conjunction *and* with a comma as shown in (14) and (15).

(13) * The nuclear plant malfunctioned radiation levels were high.

(14) The nuclear plant malfunctioned; radiation levels were high.

(15) The nuclear plant malfunctioned, **and** radiation levels were high.

(Heffernan & Lincoln, 1986, p. 279, as cited in Altay, 2007)

2.1.1.2 Comma Splices

Merriam-webster Dictionary Online (2021) defines a “comma splice” as “the use of a comma between coordinate main clauses not connected by a conjunction (as in “nobody goes there anymore, it's boring”)”.

A comma splice is also defined as “two or more independent clauses joined with a comma but without a coordinating conjunction” (Hacker & Sommers, 2015, p. 218).

A comma splice and a run-on sentence are closely related to each other, so in some texts, a comma splice is considered as a subtype of a run-on sentence. As stated in Hacker and Sommers (2015, p. 218-219), a comma splice can be divided into two types; the comma appears alone and the comma is followed by any other kind of conjunction which is not a coordinating conjunction. Sample sentences are shown in (16) and (17) respectively.

(16) * Air pollution poses risks to all humans, it can be deadly for asthma sufferers.

(17) * Air pollution poses risks to all humans, **however**, it can be deadly for asthma sufferers.

In (16)-(17), the sentences are grammatically incorrect due to the fact that a comma cannot appear alone to join two independent clauses in (16); and *however*, known as a transitional expression, is not a coordinating conjunction, so a comma cannot be used to combine the two sentences in (17).

Hacker and Sommers (2015, p. 219) also suggests four ways to correct a comma splice: using a coordinating conjunction with a comma, using a semicolon alone or with a transitional expression, making the clauses into separate sentences and making one clause dependent. The examples are as follows:

- (18) * Air pollution poses risks to all humans, it can be deadly for asthma sufferers.
- (19) Air pollution poses risks to all humans, **but** it can be deadly for asthma sufferers.
- (20) Air pollution poses risks to all humans; it can be deadly for asthma sufferers.
- (21) Air pollution poses risks to all humans; **however**, it can be deadly for asthma sufferers.
- (22) Air pollution poses risks to all humans. It can be deadly for asthma sufferers.
- (23) **Although air pollution poses risks to all humans**, it can be deadly for asthma sufferers.

In (18), the sentence is grammatically wrong as a comma cannot appear alone to link two sentences, whereas (19)-(23) are the corrected sentences. In (19), a coordinating conjunction *but* with a comma is used to separate the two independence clauses. In (20), a semicolon is used to divide the two sentences. In (21), a semicolon with the transitional expression *however* is used to separate the two sentences. In (22), two independence clauses are broken into two separate sentences by periods, which are *Air pollution poses risks to all humans.* and *It can be deadly for asthma sufferers.* In (23), the first independence clause, which is *Air pollution poses risks to all humans*, is changed to be a dependent clause by adding *Although* in front of the sentence and a comma is added after *all humans* in order to separate the second sentence, which is *It can be deadly for asthma sufferers.*

2.1.1.3 Sentence Fragments

The Merriam-Webster Online Dictionary (2021) defines “sentence fragment” as “a word, phrase, or clause that usually has in speech the intonation of a sentence but

lacks the grammatical structure usually found in the sentences of formal and especially written composition”.

To put it another way, a sentence fragment is a word group pretending to be a sentence; therefore, to become a sentence fragment, one or more of these elements — a complete subject, a complete verb, a combination of a complete subject and a complete verb or a complete thought — are normally missing (Hacker & Sommers, 2015, p. 212; Rockowitz, 2020).

Samples of sentence fragments are shown in (24)-(26).

(24) * When the cat leaped onto the table.

(25) * Running for the bus.

(26) * And immediately popped their flares and life vests.

Hacker and Sommers (2015, p. 213) also suggest the test of fragments and the methods of revision. For the test of fragments, three questions, which are: “Is there a verb?”, “Is there a subject?” and “Is the word group merely a subordinate clause?” are inquired. For the first two questions, if the answer is “no”, it is a fragment. However, for the last question, if the answer is “yes”, it is a fragment. In case a fragment is found, Hacker & Sommers advise two methods to revise the fragment: attach the fragment to a nearby sentence, and rewrite the fragment as a complete sentence.

Consequently, in (27) and (29), the revised sentences as shown in Hacker and Sommers (2015, p. 214) are presented as follows:

(27) We had just sat down to dinner ***when the cat leaped onto the table.***

(28) ***Running for the bus,*** I tripped and twisted my ankle.

(29) The pilot ejected from the burning plane, landing in the water not far from the ship. ***They immediately popped their flares and life vests.***

In (27) and (28), the fragments *when the cat leaped onto the table* and *Running for the bus* are corrected by attaching to a nearby sentence. In (29), the fragment *And immediately popped their flares and life vests* as previously shown in (26) is rewritten

to be a complete sentence; the word *And* is deleted, and the subject *They* is replaced instead, to form the fragment as a complete sentence.

Generally, sentence fragments can be identified and corrected by attaching the fragment to an independent clause or rewriting the fragment as a complete sentence. According to *Grammar and Mechanics Sentence Fragments* by Murray and Anna C. Rockowitz (2020), some types of sentence fragments and how to correct the sentence fragments are presented. The types of sentence fragments with the examples are presented as follows:

A fragment with the lack of a complete subject:

(30) * Michelle came into the room. Closed the door.

(31) Michelle came into the room. **She** closed the door.

The sentence in (30) is a sentence fragment because there is no complete subject in the second clause. Hence, “*She*”, which refers to Michelle, is added as a subject in order to change the sentence fragment to be a complete sentence as shown in (31).

A fragment with the lack of a complete verb:

(32) *The assembly person in our district.

(33) The assembly person in our district **works** diligently.

The sentence in (32) is a sentence fragment due to the lack of ‘a lexical main verb’. Consequently, *works* is added between *The assembly person in our district* and *diligently* as ‘a lexical main verb’ to make the sentence fragment become a complete sentence as shown in (33).

A fragment with the lack of a complete thought (dependent clause fragment):

(34) * After Maria bought the biology book.

(35) After Maria bought the biology book, **she began studying for her exam.**

The sentence in (34) is a sentence fragment because the lack of a complete thought makes it become an incomplete sentence, a dependent clause. Thus, to revise this sentence fragment to become a complete sentence, a comma is added after the word *book* in the first clause and an independent clause *she began studying for her exam* is added after the comma as shown in (35).

In addition to errors arising from the lack of a subject, a verb, and a complete thought, the researcher considers certain instances that occurred in the Thai EFL participants' data as errors as well. These instances involve the absence of sentential subjects (i.e., it, I, there, and a pronoun unidentified in the context), a main verb be, and a combination of a subject and a main verb be. The details of these additional errors will be presented in Chapter 3.

2.1.2 Thai Clauses

Briefly, there are quite a few differences between English and Thai. Concerning the intonation, in Thai, different intonation can change the meaning of the word; however, in English, the meaning can be understood even if there is a change in tone. With respect to Thai grammatical elements compared to English, Thai has no plural forms of nouns, no verb "to be" in front of adjectives, no variant forms of adjectives, e.g., bad-worse-the worst, no articles (a, an, and the) and no verb tenses to show past present and future. In Thai, when ending a sentence and beginning another sentence, a space between sentences is often needed without any punctuation, yet in English, punctuation, i.e., a period, is required. Besides, regarding the word order, in Thai, adjectives come after the noun, whereas in English, adjectives generally come before.

In the following sections, some background on Thai clauses is presented in order to understand students' errors more precisely. The clauses are divided into four types as follows:

2.1.2.1 Simple Sentences

To be a complete simple sentence in Thai, the sentence must be composed of at least two parts, which are a complete subject and a lexical main verb, and a single

complete thought. Therefore, in terms of the structure, this concept is exactly the same as that of English. To compare a simple sentence between English and Thai, sample sentences are shown in (36).

- (36) lom phát
wind blow
“The wind blows.”

In (36) shows that there is a complete subject, which is *The wind (lom)*, and there is a lexical main verb, which is *blow (phát)*, in both sentences. Additionally, these two sentences contain a single complete idea.

Nevertheless, when taking into account the details, there are certain differences between English and Thai. Firstly, in a Thai simple sentence, there is no punctuation at the end of the sentence, whereas in English, punctuation is required; the examples are also provided the previous sentences in (36). Next, with reference to communication, the subject of a sentence can be omitted in Thai if the context is sufficient to ensure understanding, but it is necessary in English.

- (37) phèt mâak
spicy very
“It is very spicy.”

In (37), the word *it*, known as expletive in English, is used as the subject of the sentence. In contrast, in Thai, the subject of the sentence may be deleted as shown in the example. The other examples are provided in (38).

- (38) (khun) hǐw mǎj
(you) hungry Q particle¹
“Are you hungry?”

According to (38), the comparison of the Thai and English simple sentence shows that the subject *you* cannot be deleted in English; nonetheless, in Thai, the subject

¹ Q particle refers to a question particle.

khun can be omitted, and *mǎj*, a typical question particle for Yes/No questions, is used in the sentence's final position.

Another point of difference is that in a Thai simple sentence an adjective can be used alone as a verb, while in English the verb “to be” or a linking verb is required to use with adjectives. The examples are shown in (39).

- (39) chǎn sǔaj
 I beautiful
 “I am beautiful.”

To elaborate, the word *beautiful*, which is an adjective, cannot be used alone in this sentence; the verb “to be” (*is*) must be preceded by a subject as shown in the English sentence. Whereas, in Thai, the word *sǔaj* can serve as the verb in the sentence *chǎn sǔaj*.

The analysis utilizes information from the US Defense Language Institute's “A Contrastive Study of English and Thai” published in 1974, which mentions two major mistakes made by Thai speakers: deleting the verb “to be” in the sentence as shown in (40) and deleting the subject of the sentence as shown in (41). As discussed earlier, in English, neither the subject nor verb “to be” can be omitted from the sentence; the correct sentence is provided in (42).

- (40) *He handsome.
 (41) *Is handsome
 (42) He is handsome.

2.1.2.2 Compound Sentences

The characteristics of a Thai compound sentence are similar to those in English, which are two or more independent clauses that can occur alone as simple sentences, and these independent clauses are linked by the use of one or more conjunctions. However, there are slight differences between Thai and English regarding the use of commas. In Thai, there is no comma preceding the conjunction to combine the independent clauses; yet in English, when a coordinating conjunction (FANBOYS –

For, And, Nor, But, Or, Yet, So) is put between two simple sentences to become a compound sentence, a comma is normally required. The sample sentences are provided in (43).

- (43) chan cà? suúu khàj sɨp fɔɔŋ lɛʔ phûan khɔɔŋ chan cà? suúu nom nuɛŋ klɔŋ

I will buy egg ten Cl and friend of I will buy milk one
carton

“I will buy ten eggs, and my friend will buy a carton of milk.”

According to (43), these compound sentences can be divided into two simple sentences, which are *I will buy ten eggs. (chan cà? suúu khàj sɨp fɔɔŋ)*; and *My friend will buy a carton of milk. (phûan khɔɔŋ chan cà? suúu nom nuɛŋ klɔŋ)*. Moreover, *and* serves as a conjunction to link these two simple sentences together.

2.1.2.3 Complex Sentences

A complex sentence in Thai is similar to that of English; there must be at least one independent clause and one dependent clause. The dependent clause cannot stand alone as a complete sentence and be used to modify the independent clause. Typically, there are three types of complex sentences in Thai: the subordinate clause as a noun, the subordinate clause as an adjective, and the subordinate clause as an adverb.

The first type of complex sentences to discuss is the subordinate clause as a noun. In Thai, the subordinate clause as a noun can perform as a subject, an object or a complement.

In (44), the sample sentences show the subordinate clause as a noun performing as a subject. Comparing English and Thai, *David playing football* is the subject of the sentence, which is similar to *David lên fútbɔɔn*, but it is not exactly the same. In particular, the phrase *David playing football* is likely to put the emphasis on David, so the sentence could mean that the spectators were impressed with David, the one who was playing football, not only his skill. Unlike English, the Thai sentence (44) means

that the spectators were impressed with David's football skills, as shown in the translation in (45).

- (44) David lên fútb๑๑n dăj pràthápcaj phûuchom
David play football able impress spectators
"David playing football impressed the spectators."

- (45) "David was able to play football in a way that impressed the spectator."

Meaning differences aside, the other parts of both sentences, *impressed the spectators* (dăj pràthápcaj phûuchom), are predicates.

In (46), the sample sentences show the subordinate clause as a noun performing as an object. In English, *children reading books* is the object of the sentence, which is the same as dèk dèk ʔaan năŋsũuu in Thai.

- (46) chăh hěn dèk dèk ʔaan năŋsũuu
I see children read books
"I see children reading books."

In (47), the sample sentences show the subordinate clause as a noun performing as a complement. The phrase, *for the students performing the play* (sămràp năkrīan thî sàdēēŋ lăkh๑๑n) modifies the preceding noun, *the food* (ʔaahăan).

- (47) ʔaahăan sămràp năkrīan thî sàdēēŋ lăkh๑๑n jùu bon tó? sǐi
námtaan
Food for students that perform play is on table color
brown
"The food for the students performing the play is on the brown table."

Next is the subordinate clause as an adjective. As a matter of fact, there are both similarities and differences with respect to this type of subordinate clause between English and Thai. With regard to the similarities, relative pronouns are used to join the independent clause and the dependent clause and the relative pronoun *that* in English is equivalent to every relative pronoun in Thai; nevertheless, there are some differences to discuss. First of all, regarding the variety of relative pronouns, English relative

pronouns tend to be more varied than those of Thai. In Thai, there are merely *thîi/ sîi/ lan*, and these Thai relative pronouns are likely to be used interchangeably (except *lan* which is used with a non-living thing) without changing the meaning in a complex sentence; yet in English, there are more relative pronouns, and apart from the relative pronoun *that*, each relative pronoun tends to be used specifically with a specific subject, i.e., if the subject is a person, only *who and whom* can be used with; the use of relative pronoun *which* will be considered wrong. A comparison between English and Thai is presented in (48) as follows:

- (48) *kon* *thîi/ sîi* *khàjǎn* *ja?* *pràsòp* *khwāam sǎmrèt*
 person that diligent will find success
 “The person who/that is diligent will be successful.”

Based on the above examples, *who* and *that* can be used with the subject *person*. In contrast, in the Thai complex sentence, *thîi/ sîi* can be used interchangeably with the subject *kon*. However, *lan* cannot be used in this context because *lan* is not used with a living thing.

Other examples are shown in (49) as follows:

- (49) *phét* *thîi/ sîi/ lan* *lám khāa?* *júu?* *naj klòw* *sǎmbàt* *khòw*
 diamond which/that precious is in box treasure my
 “A diamond which/ that is precious is in my treasure box.”

In (49) *which* and *that* can be used with the subject *diamond*, which is a thing; therefore, the relative pronoun *who* cannot be applied in this sentence. Conversely, *thîi/ sîi/ lan* can be used interchangeably with the subject *phét* without changing the meaning in this complex sentence.

Another dissimilarity between complex sentences in English and Thai is that English distinguishes complex sentences as restrictive and non-restrictive clauses based on the use of commas. According to Merriam-Webster Online Dictionary (2021), a restrictive clause refers to “a relative clause that makes clear which particular person or thing you are referring to”, and a non-restrictive clause refers to “a relative clause that

gives extra information about a person, thing, or situation in the previous clause. There is usually a comma before the relative pronoun, indicating that the information in the relative clause is not essential.” To put it another way, a comma before the relative pronoun is needed in non-restrictive clause, yet there is no comma in a restrictive clause. However, in Thai, a comma is not required in any complex sentence and there is no obvious separation of complex sentences into restrictive and non-restrictive clauses. The sample sentence of a restrictive clause with the Thai sentence is provided in (50).

- (50) dèk thîi tuiʔunnɔɔn tɛ́ɛcháw nâacàʔ mii sùkhapháp
 khě́ɛŋrɛɛŋ
 children who get up early likely have health
 strong
 “Children who get up early are likely to be healthy.”

Comparing Thai and English, a comma is unnecessary in both languages and there is no difference between the English and Thai version. As discussed earlier, a distinct dissimilarity is found in a non-restrictive clause as shown in (51).

- (51) Bangkok sūŋ pen muaŋ lǎŋ khǒŋ pràtêet taj pēn mūaŋ thîi mǐi
 chūuʔ sǎŋ mūaŋ nuŋ
 Bangkok which is capital city of country Thai is city which have
 fame city one
 “Bangkok, which is the capital city of Thailand, is a famous city.”

According to (51), the word *Bangkok* is a proper noun, so extra information does not need to be added due to the fact that people can simply understand that *Bangkok* is the name of the capital city of Thailand. Hence, in this sentence, two commas, preceding the relative pronoun *which* and *is a famous city*, are required. In contrast, compared to the Thai complex sentence, a comma is not necessary.

Lastly, the subordinate clause as an adverb will be discussed. This type of subordinate clause modifies a verb or an adverb; however, it will not modify an adjective because in Thai an adjective tends to be counted as a verb in case there is no

lexical main verb in that sentence. Sample sentences are provided in (52) and (53), respectively.

- (52) *thǔŋ mĕɛʔ wāa chǎn cà khəəj dǎj jin phleeŋ ní mǎa kòɔn chǎn mǎj rúu càk nák rɔ́ɔŋ*

Although I used to hear song this before I not know singer

“Although I had heard this song before, I had not known the singer.”

- (53) *thǔŋ mĕɛʔ wāa chǎn cà khəəj dǎj jin phleeŋ ní mǎa kòɔn tĕɛ chǎn mǎj rúu càk nák rɔ́ɔŋ*

Although I used to hear song this before but I not know singer

“Although I had heard this song before, I had not known the singer.”

To elucidate, in English, *Although I had heard this song before* (*thǔŋ mĕɛʔ wāa chǎn cà khəəj dǎj jin phleeŋ ní mǎa kòɔn*) is a subordinate clause as an adverb to modify verbs. The clause started with *Although* (*thǔŋ mĕɛʔ wāa*), which is a subordinating conjunction, modifies the verbs *had not known* (*chǎn mǎj rúu càk*) in the independence clause, *I hadn't known the singer* (*chǎn mǎj rúu càk nák rɔ́ɔŋ*). The correct written Thai sentence is shown in (52).

Normally, in the Thai spoken context, a Thai complex sentence starting with “*though, although or even though*” can be often said, “*thǔŋ mĕɛʔ wāa ... tĕɛ...*” as shown in (53); therefore, this could result in a writing error in English. When Thais write an English complex sentence from (53), they are likely to add “*but*” in the complex sentence as shown in (54) due to the interference from their mother tongue; nonetheless, this is considered as grammatically wrong in English. To revise the sentence, one conjunction should be deleted and the correct sentences are shown in (55) and (56), respectively.

- (54) *Although I had heard this song before, but I had not known the singer.

- (55) Although I had heard this song before, I had not known the singer.

- (56) I had heard this song before, but I had not known the singer.

2.2 SLA Related Theories

2.2.1 Mistakes and Errors

Before identifying errors, it is essential to distinguish between “mistakes” and “errors”. Mistakes occur from non-linguistic factors such as mental and physical exhaustion, memory limitations, a lack of concentration, a random guess or slips of the tongue or pen. Mistakes are not a result of inadequacy in knowledge; learners can self-correct the mistakes if they pay attention (Brown, 2007; Yuksel, 2007, Mourtaga, 2004, as cited in Abushihab, 2014; Corder, 1967). As a result, mistakes have no importance in the process of language learning (Corder, 1967, p.167). On the other hand, errors result from deficiency in competence in the target language; error production occurs since learners cannot differentiate what is correct and incorrect and learners cannot self-correct the errors they make (Ellis, 1997; Mourtaga, 2004). In line with Al-Mahrooqi & Thakur & Roscoe (2014, p. 292), learners are not aware of errors they make, so guidance is needed to help learners identify and correct them.

2.2.2 Significance of Errors

ESL/EFL researchers have been interested in studying learners’ errors. Learners’ errors are seen as an essential part of language learning as well as a sign of competence in language learners. This is related to “The Significance of Learners’ Errors” by Corder (1967), in which he asserts that errors are not only unavoidable but also a necessary key in learner language. In other words, without errors, development cannot occur. Therefore, errors are worth examining and relate to teachers, researchers and learners as follows:

First of all, errors help teachers realize the currently existing knowledge of the target language in language learners and what the learners have to further learn in that target language. Secondly, errors provide insight into how learners acquire the target language. Lastly, errors play a vital role as a device for learners to test their hypotheses

regarding the language, either L1 or L2, they are learning (Al-Khresheh, 2016; Khansir, 2012; Lennon, 2008; Corder, 1987, as cited in Phoocharoensil, 2016; Corder, 1967).

2.2.3 Contrastive Analysis (CA) and Error Analysis (EA)

As aforementioned, errors significantly relate to second language acquisition (SLA). To make use of errors as a part of teaching-learning process, it is essential to understand the occurrences of errors as well as to identify them (Al-Khresheh, 2016).

The field of applied linguistics — originating in the 1940's in the United States — studies about language, how to learn it and how to use it. Two theories, contrastive analysis (CA) and error analysis (EA), are two essential theories in applied linguistics (Schmitt and Celce-Murcia 2002, p.1, as cited in Khansir, 2012).

2.2.3.1 Contrastive Analysis (CA)

The most influential and well-known theory in SLA is contrastive analysis. Contrastive analysis was influenced by the notion of behavioristic theory, and the main concept of this theory is comparing two or more languages in order to find out the similarities and differences between them. As Lado (1957) stated in his book, "Linguistics Across Cultures," if learners learn a new target language (L2) that is similar to their mother tongue (L1), they will face small difficulties. In contrast, the bigger the differences between L1 and L2, the greater the difficulties for learners. In this case, the main focus of this theory is based on the interference of learners' mother tongue or L1, which could be both positive and negative interference. Contrastive analysis theory was popular in the 1950's and 1960's due to the following benefits as mentioned by Theovan Els, et. al. (1984): indicating the similarities and differences between L1 and L2, forecasting the L2 learning language in learners and helping L2 teachers prepare instructional materials which suit learners; nevertheless, this theory was criticized owing to the theoretical limitations. According to Lennon (2008), CA is good for predicting phonological errors, but it fails to predict morphology, syntax, lexis and discourse errors. As a matter of fact, the main criticism is CA's sole focus on the interference of learners from their mother tongue (L1) having an influence on second language learning (SLA), despite the existence of other factors such as analogy

replacement, ignorance of the correct pattern, inadequate practice or bad teaching. Mackey (1965), as cited in Khansir (2012), points out that different learners with the same mother tongue made different mistakes, so L1 interference cannot be the only factor influencing SLA. Owing to these shortcomings, the popularity of contrastive analysis theory declined, and it was supplanted by error analysis (EA).

2.2.3.2 Error Analysis (EA)

In the late of 1970s, error analysis (EA) was originated by Stephen Pit Corder known as the father of EA theory. This theory superseded contrastive analysis theory (CA) on account of CA's theoretical weakness of highlighting only on the interference of learners' mother tongue.

According to Corder (1973), the objectives of errors are divided into two types: theoretical and applied objectives. The theoretical objective can reflect what and how L2 learners learn the target language. Meanwhile, the applied objective plays a vital role in terms of pedagogical purposes, focusing on analyzing L2 language learners' errors so that EFL/ESL teachers can utilize learning materials and teaching methods that relate to the errors.

In "The Significance of Learners' Errors," Corder (1973) saw language errors as unavoidable while also being an important part of the advancement in L2 language learners. Also, he added that errors were involved in the positive cognitive procedure of learning the language of L2 language learners. Overall, EA focused on studying learners' errors, which helped investigate the progress of language learning and was comprised of five stages (Corder, 1974).

Stages of Error Analysis

Based on Corder (1974), error analysis is comprised of five stages: collection of a sample of learner language, identification of errors, description of errors, explanation of errors, and evaluation of errors. Each of these stages is summarized and discussed below.

The first step is collection of a sample of learner language. According to “The Study of Second Language Acquisition” by Rod Ellis (1994), this step refers to the decision by researchers on what samples of learner language to use for analysis and how to collect these samples. It is also vital that researchers keep in mind that there are several factors that can affect language learners’ errors, meaning that collecting well-defined samples of learner language concerning what types of errors the learners make and what factors result in the errors should be taken into account as well. Moreover, Ellis (1994) also classified the sample size into three types: massive, specific and incidental samples. A massive sample refers to collecting data from several samples in the whole population. A specific sample refers to collecting data from a limited number of samples. An incidental sample refers to collecting data from only one specific type of language from one sample.

The second step is identification of errors. After collecting the data from the learners, in this step it is of primary importance to distinguish between mistakes and errors because, as aforementioned, mistakes are not important to the process of language learning (Corder, 1967, p. 167). Errors can be checked by examining whether the second language which learners produce deviates from the norms of that target language or not. To interpret the errors, there are three types: normal, authoritative and plausible. A normal interpretation means errors can be pointed out by the rules of the target language. An authoritative interpretation means that an analyst asks the learner to tell the meaning of utterances. A plausible interpretation means literally translating the language learners produced (L2) into the mother tongue (L1) (Corder, 1971a, 1974, as cited in Ellis 1994).

The third step is description of errors. In this stage, the second language the learners produce is compared with the reconstruction of a native speaker. An error occurs when the appearance of learners’ L2 is different from the one that native speakers of that target language use in the same situation (Ellis & Barkhuizen, 2005, as cited in Phoocharoensil, 2016). In this stage, only the observable errors of learners will be categorized (Duray, Burt and Krashen, 1982, as cited in Ellis 1994). According to Corder’s framework (1974), errors are categorized into three kinds: pre-systematic, systematic and post-systematic errors. Pre-systematic errors occur when learners do not know the rules of the target language. Systematic errors occur when learners can

explain the rules but cannot correct the errors. Post-systematic errors occur when learners know the target-language rules but sometimes they make a mistake.

The fourth step is explanation of errors. This step is the most important for SLA since it is related to the source of errors, i.e., why an error is made.

Taylor (1986), as cited in Ellis 1994, identifies four sources of errors: psycholinguistic sources (errors caused by the difficulties of L2); sociolinguistic sources (errors caused by the lack of learners' ability to adapt their language to the social context); epistemic sources (errors caused by the lack of knowledge of learners); and discourse sources (errors caused by the difficulty in organizing information into the coherent text).

Additionally, Richards (1971), as cited in Ellis 1994, divided errors into three categories. The first one is interference errors; this kind of error stems from the influences of learners' mother tongue, such as transferring some elements of L1 into L2 when speaking. The second one is intralingual errors; this kind of error occurs due to the learners' application of rule learning. The last one is developmental errors; this kind of errors results from false hypotheses about L2 based on learners' limited experience.

Generally, there are two principal kinds of errors: interlingual errors and intralingual errors. On the one hand, interlingual errors refer to errors caused by the impact of mother tongue, sometimes called negative transfer. Zobl (1980), as cited in Al-Khresheh (2016), summarizes interlingual errors as those that occur because L2 learners have a low level of proficiency in the target language, forcing them to depend on L1 habits to form hypotheses and make generalizations in L2. On the other hand, intralingual errors refer to the errors resulting from the effect of the target language itself.

Richards (1974), as cited in Al-Khresheh (2016), classified the features of intralingual errors into four categories: overgeneralization, ignorance of rule restrictions, incomplete application of rules and hypothesis of false concepts. Firstly, overgeneralization occurs when learners create a deviant structure based on their prior knowledge in the target language and apply it to the new situation. For example, creating a sentence, "He can sings" rather than "He sings." or "He can sing." (Ellis, 1994). Secondly, ignorance of rule restrictions refers to when the rules are applied to

contexts when they cannot be applied. To illustrate, learners apply a correct sentence structure, “She arrived at home yesterday.” to a new situation, i.e., “She has arrived at home yesterday.” which is grammatically wrong. Thirdly, incomplete application of rules refers to when learners fail to fully develop structures. For instance, learners may produce a sentence, “When you will come to the meeting?” instead of the correct sentence, “When will you come to the meeting?”. Lastly, hypothesis of false concepts occurs when learners do not clearly understand expressions of tense and agreement in L2 and form false hypotheses about some grammatical rule in L2, i.e., the misinterpretation of “was or did” as the markers of past tenses. Thus, learner may produce the sentences, “One day it was happened.” or “She was finished the homework.” (Richards, 1971, as cited in Al-Khresheh, 2016).²

The last step is evaluation of errors. In this step, the seriousness of errors that learners made was assessed. The errors are divided into two types: global and local errors.

Global errors mean errors affecting the organization of sentences and the whole meaning. Global errors, for instance, involve wrong word order in a sentence. Local errors, however, refer to errors affecting trivial elements in sentences such as using “a apple” instead of “an apple”. In addition, local errors involving noun and verb inflections, the use of articles, prepositions, and auxiliaries do not hinder communication and understanding the meaning of an utterance (Ellis, 1994; Burt (1975) and Ellis (2008), as cited in Phoocharoensil, 2016; Touchie, 1986).

2.3 Previous Related Studies

This part of the literature review aims to explore previously relevant research studies on error analysis, native and non-native differences and Thai clauses, respectively.

² The *be* element preceding the past participle form of a verb in L2 has been attributed to overgeneralization from passivization (cf. Simargool, 2006, among others).

2.3.1 Relevant Research Studies on Error Analysis

In terms of the error analysis studies focusing on sentence errors, there were some studies that were relevant to this research. Pongwatcharakpakron (2014) investigated the frequency and characteristics of types of sentence errors, run-ons, comma splices and fragments, the same types as in this study, from 150 pieces of writing of mattayom 5 students. The findings showed that sentence fragments were the most frequent types of sentence errors, accounting for 66.67%. Sermsook et al. (2017), discovered that fragments were also one of the most frequently committed errors.

Other research investigated errors involving grammatical accuracy and the causes of errors. In Silalahi's (2014) study, 24 types of errors in writing assignments were classified and two major reasons for their errors, carelessness and the lack of understanding, were identified. Similar research found that students mostly committed grammatical errors and first language transfer was the main factor for the errors (Napitupulu, 2017). Additionally, Gini (2018) studied the types and causes of errors. The findings showed that there were 150 errors and the cause of errors was interlingual transfer; this is also related to Iamsiu (2014), who analyzed the five types of errors caused by the interference of mother tongue and found that the most frequent type of sentence errors was word choice errors.

2.3.2 Native and Non-native Differences

This section is concerned with previous research that investigated how NESTs and NNESTs affect L2 learners' skill development and whether or not they differ in assessing their learners' achievements. The study of Al-Shewaiter (2019) revealed that listening and speaking skills were significantly correlated in favor of native speakers, whereas writing and grammar skills were significantly correlated in favor of non-native speakers. However, the achievements of students in reading skill were not statistically significantly different, and there was no difference in the achievement of students because of gender.

Furthermore, to compare writing achievement, Schenck (2020) examined the influence of native English-speaking teachers (NESTs) and non-native English-speaking teachers (NNESTs) on writing in EFL contexts in South Korea. The results

showed that Korean EFL writers with more NEST instruction tended to use stances, verb tenses, word forms, and sophisticated vocabulary, which was similar to native English writers, as well as state more personal opinions, create a novel argument using personal experience and display more sophistication and creativity in their compositions. Nonetheless, Korean EFL learners with less NEST instruction tended to use more unbiased logical arguments and speech formulas and be encouraged regarding the accurate use of language.

In terms of assessment, Arcaya (2020) conducted a research study to investigate whether there were differences in assessing pronunciation between native English teachers and their non-native Chilean teachers. The study revealed that non-native teachers appear to rate students lower than native English teachers.

2.4 Summary

This chapter discussed various issues about how Thai and English differ in terms of written expressions, the differences between mistakes and errors, significance of errors, SLA related theories — contrastive analysis (CA) and error analysis (EA) — and examples of previous studies on error analysis (EA) and the effect of NESTs and NNESTs on L2 learners' skill development. The present study aims to investigate the differences of errors in students' writings with regard to the occurrences and characteristics between two programs taught by native and non-native teachers. The results can be applied to teachers who teach English, especially in a writing class, in order to prepare the lessons, teaching materials or appropriate teaching methodologies to improve the writing skills of students.

CHAPTER 3

RESEARCH METHODOLOGY

This study aimed to investigate the types of errors including run-on sentences, comma splices, and sentence fragments found in Thai EFL students' writings amongst science-math and intensive science-math programs, as well as to compare the significant similarities and differences of types of errors found between these two programs.

This chapter presents how the research was conducted. It consists of research design (3.1), participants (3.2), data collection (3.3), data analysis (3.4) and a summary (3.5).

3.1 Research Design

This research was conducted based on a mixed-methods approach. A numerical method, i.e., frequency counts, was applied to obtain the percentages of errors found in the student participants' essays. Additionally, the qualitative approach was applied to identify the characteristics of the errors found in the students' writing.

3.2 Participants

The participants of this study were 40 students, consisting of 20 students from a science-math program and 20 students from an intensive science-math program in the twelfth grade in the academic year 2020 at a public school in Bangkok.

The first group of the students, the science-math program students, was taught all English subjects four classes per week by Thai teachers. The other group of the students, the intensive science-math program students, was taught all English subjects four classes per week by native English-speaking teachers (NEST) from the U.S. and Nigerian-English bilinguals from Nigeria.

Both groups of students had already been taught English sentences and punctuation marks, and the deductive approach and inductive approach were applied in teaching.

The purposive sampling technique based on the researcher's judgement was used to choose the participants in the study due to the fact that there was only one class in the intensive science-math program in the twelfth grade of which the researcher was in charge, and the researcher was responsible for teaching merely one class in the science-math program.

3.3 Data Collection

The data were obtained from 80 pieces of students' writings from the science-math and intensive science-math programs. In addition, the writings were assigned at two times. Each student was required to write two 100-150-word paragraphs: A descriptive paragraph on the topic "My dream house" and a paragraph providing solutions to problems on the topic of "How can we reduce air pollution levels in our cities?". These topics were based on the textbook which the students used in the researcher's English subject.

3.4 Data Analysis

Corder's model (1974) was used to analyze the data obtained from the students' writings as follows:

First of all, the data were collected from 80 pieces of students' writings: 40 pieces of writing tasks from the science-math program and the other 40 pieces of writing tasks from intensive science-math program. Each student was assigned to write two 100-150-word paragraphs on the topic of "My dream house" and "How can we reduce air pollution levels in our cities?" respectively.

Secondly, all writing assignments were uploaded into a laptop and initially analyzed by the researcher to identify the three types of errors: run-on sentences, comma splices and sentence fragments. The number of students' writings were coded in three-digit numbers (001-080). The first and second writing tasks of the science-math program students were indicated as 001-020 and 021-040, respectively. Also, the first and second writing tasks of the intensive science-math program students were indicated as 041-060 and 061-080, respectively.

In identifying errors, the three categories, namely run-on sentences, comma splices and sentence fragments, were selected to analyze. The criteria for judging the participants' expressions as run-on sentences, comma-splices, and sentence fragments were as follows:

To be a run-on sentence, two sentences are connected without any proper conjunction or punctuation to make a sentence; the sample run-on sentence was presented in (57), and a run-on sentence can be revised by adding a semicolon (;) between two independent clauses as shown in (58), adding a coordinating conjunction *and* with a comma as shown in (59), or separating two independent clauses into two sentences as shown in (60).

(57) *My house is a semi-detached house the location is located in a small alley.

(58) My house is a semi-detached house; the location is located in a small alley.

(59) My house is a semi-detached house, **and** the location is located in a small alley.

(60) My house is a semi-detached house. The location is located in a small alley.

To be a comma-splice, two sentences are incorrectly joined by a comma instead of a period to make a sentence as shown in (61); correcting a comma-splice can be done by using a coordinating conjunction with a comma as shown in (62), using a semicolon alone as shown in (63) or with a transitional expression as shown in (64), making the clauses into separate sentences as shown in (65) and making one clause dependent as shown in (66).

(61) *Solving the air pollution problem may be a little difficult, it is wise to do.

(62) Solving the air pollution problem may be a little difficult, **but** it is wise to do.

(63) Solving the air pollution problem may be a little difficult; it is wise to do.

(64) Solving the air pollution problem may be a little difficult; **however**, it is

wise to do.

(65) Solving the air pollution problem may be a little difficult. **It** is wise to do.

(66) **Although solving the air pollution problem may be a little difficult,** it is wise to do.

In terms of sentence fragments, this study employed the conventional missing subjects, main verbs or complete thoughts, as criteria, as presented in Chapter 2. In addition, to accommodate the other errors found in the data, the study extended the notion of missing subject to *it*, *I*, *there*, and nouns or pronouns unidentified in the contexts (as noted in 1.5.6). Fragments were also generalized to instances lacking the main verb *be* and the combination of a subject and the main verb *be*. Instances with coordinating conjunctions, particularly, *and* at the beginning of a sentence, were not considered fragments. Sentence fragment examples are shown with the discussions below.

A fragment with the lack of a complete subject (“It” missing):

(67) *The advantage is that is quiet and midst by nature.

(68) The advantage is that **it** is quiet and midst by nature.

The sentence in (67) is a sentence fragment because the subject “it” which refers to the preceding noun “advantage” is missing. Hence, “*it*” is added as a subject in order to change the sentence fragment to be a complete sentence as shown in (68).

A fragment with the lack of a complete subject (“There” missing):

(69) * In bedrooms have bed, desk, chair and sofa.

(70) In bedrooms, **there are** bed, desk, chair and sofa.

The sentence in (69) is a sentence fragment because “have” cannot serve as a complete subject. Hence, to be grammatical “*there are*” is added as a subject instead in order to change the sentence fragment to be a complete sentence as shown in (70).

A fragment with the lack of a complete subject (either a lexical noun phrase or a pronoun):

(71) * Must have a car for travel.

(72) **People/They** must have a car for travel.

In (71), the subject is absent. In (72), either *people*, a lexical noun phrase, or *they*, a pronoun, can serve as the subject, resulting in grammaticality. It is noteworthy that adding people as the subject is assumed on a logical basis, not readily available in the context.

A fragment with the lack of a complete subject (pronoun “I” missing):

(73) * I would like to live in the houseboat because can go anywhere.

(74) I would like to live in the houseboat because **I** can go anywhere.

The sentence in (73) is a sentence fragment because the subject “I” is missing after the subordinate conjunction “because”. Hence, “I” is added after “because” as a subject in order to change the sentence fragment to be a complete sentence as shown in (74).

A fragment with the lack of the verb “be”:

(75) *It very comfortable.

(76) It **is** very comfortable.

The sentence in (75) is a sentence fragment because it lacks an auxiliary ‘be’; therefore, adding *is* between *it* and *very comfortable* can turn the sentence fragment into a complete sentence as shown in (76).

A fragment with the lack of a combination of a complete subject and a complete verb “be”:

(77) *Too much garbage in the river.

(78) **There is** too much garbage in the river.

The sentence in (77) is a sentence fragment owing to the lack of a subject and a verb. Therefore, to revise this, adding *there is* as a subject and a verb can change the sentence fragment to be a complete sentence as shown in (78).

A fragment with the lack of a complete thought:

(79) *Although this house may cause seasickness.

(80) Although this house may cause seasickness, **I would like to live in.**

The sentence in (79) is a sentence fragment because the lack of a complete thought makes it an incomplete sentence, a dependent clause. Thus, to revise this sentence fragment to become a complete sentence, a comma is added after the word *seasickness* in the first clause and an independent clause *I would like to live in* is added after the comma as shown in (80).

In describing errors, an error occurs when the appearance of learners' L2 differs from that of native speakers of the target language in the same situation (Ellis & Barkhuizen, 2005, as cited in Phoocharoensil, 2016). In this stage, each type of error, run-on sentences, comma splices and sentence fragments found in each student's writing tasks was analyzed and categorized under each table header classified by different colors, and the writing errors were judged based on the criteria that had been set. The numbers of occurrences of each type of error were also counted to present the frequency of the errors.

In explaining errors, there was an attempt to explain why an error was made. In this stage, the characteristics of each Thai structure were analyzed in order to compare with those in English and find out the differences between Thai and English; the data were used to explain the errors resulting from the dissimilarities between the two languages. To put it another way, this was done to explain the negative transfer from the mother tongue, or interlingual errors.

In evaluating errors, all errors were investigated to determine the seriousness. As presented in 2.2.3.2, global or local error types, in line with Corder's (1974) paradigm, were determined.

3.5 Summary

To summarize this chapter, this research study was conducted based on a mixed-methods approach and Corder's model (1974) in order to analyze students' writing errors, namely run-on sentences, comma splices and sentence fragments, in terms of both frequency and characteristics of the errors. The researcher also customized missing subjects to include certain pronouns and lexical nouns that were absent in the data; additionally, fragments were generalized to instances involving the lack of verb *be* and the combination of both the subject and verb. Finally, Corder's (1974) stages in error analysis were adopted to describe, explain, and evaluate the data.



CHAPTER 4

RESULTS AND DISCUSSION

This chapter presents the results of the study in line with the research objectives and research questions. The data obtained from the twelfth-grade students in the second semester of the academic year 2020 at a public school in Bangkok were analyzed and shown in detail in tables. Both frequencies and percentages of errors in students' writings are revealed as the results of the study. This chapter is divided into two parts: (4.1) results of the study and (4.2) discussion of the results.

4.1 Results of the Study

There were 208 cases of sentence errors in total in run-on sentences, comma splices and sentence fragments from 80 pieces of students' writings from science-math program and intensive science-math program in two types of paragraphs: A descriptive paragraph on the topic "My dream house" and a paragraph providing solutions to the problem on the topic of "How can we reduce air pollution levels in our cities?".

Sentence errors that did not fall into one of the three types as earlier discussed in the previous chapter were excluded from the analysis. In this respect, there were five error types requiring additional contexts to determine their status, as shown in (81)-(85) below.

- (81) Planting more trees.
- (82) To prevent unnecessary energy consumption.
- (83) Cause of pollution motor vehicle engines.
- (84) With the roof of the house.
- (85) For example, industrial fumes, traffic jams and too much burned rubbish.

The contexts in (81)-(82) were not sufficient for one to determine the participants' purposes and consequently the relevant error types. For instance, (81) can be thought of as a lack of the entire predicate, or a lack of the subject and verb to *be*, or

a lack of the subject and a predicate associated with a preposition, as shown in (86), (87), and (88), respectively. Such ambiguity can be generalized to (82) to (85) as well.

- (86) *Planting more trees* should help reduce the acceleration in global warming.
- (87) People are *planting more trees*.
- (88) Young generation should be concerned about *planting more trees*.

Hence, sentence fragments containing these five ambiguous characteristics, accounting for 39 tokens, were not included in the analysis.

4.1.1 Science-Math Students' Data

This section reports the results from the science-math students including the number of fragment, run-on, and comma-splice instances in 4.1.1.1, and the number of the sub-types of fragment errors in 4.1.1.2.

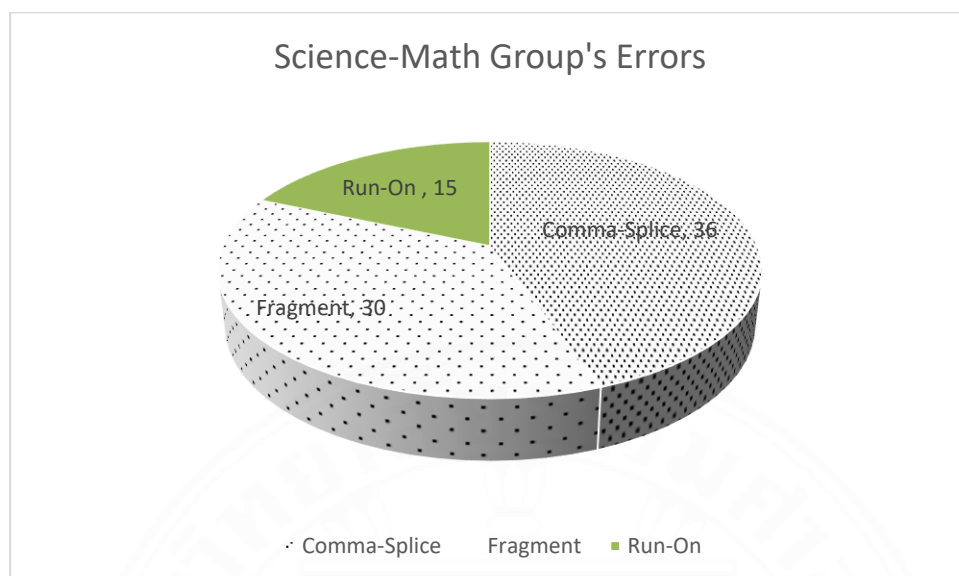
4.1.1.1 Fragment, Run-On and Comma-Splice Instances

Table 1: Number of science-math students' fragments, run-ons and comma splices

Error type	Frequency counts	Percentages
Comma splices	36	44.44%
Fragments	30	37.04%
Run-Ons	15	18.52%
Total	81	100%

Table 1 demonstrates the total number of science-math students' comma splices, sentence fragments, and run-on sentences arranged from the high to low frequency. Figure 1, corresponding to Table 1, shows the distribution of errors.

Figure 1: Science-Math Group's Error Distribution



As shown in Table 1 and Figure 1, there were 81 tokens of sentence errors found in their writings in total. The most frequent type of the errors was comma splices, accounting for 44.44% (36 tokens) of all types of errors. The rest of the errors were sentence fragments and run-on sentences, respectively. Sentence fragments involved 30 tokens accounting for 37.04%, whereas there was a smaller number of run-on sentences, involving 15 tokens, accounting for 18.52%. All the comma-splice and run-on tokens presented in Table 1 appear in Appendix A.

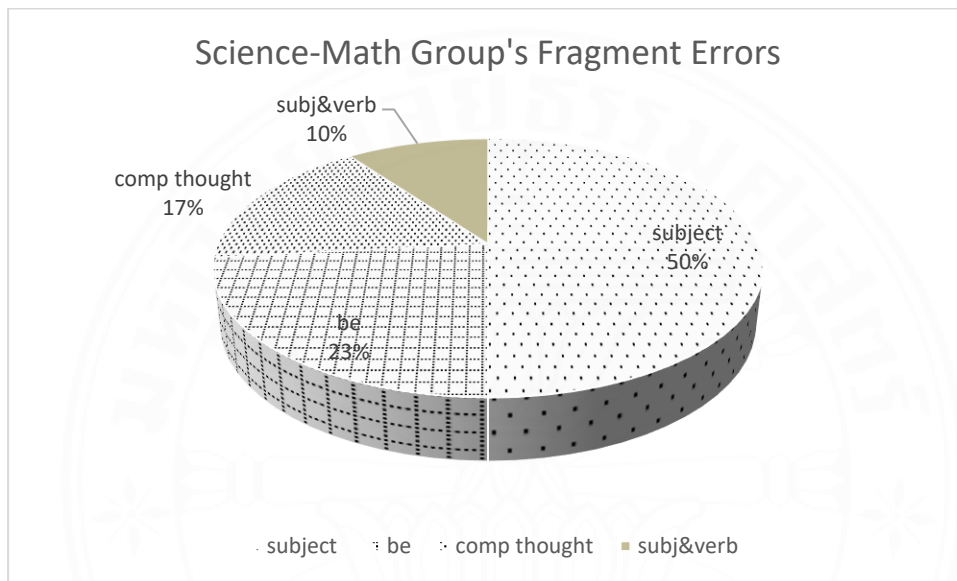
4.1.1.2 Subtypes of Fragments

Table 2: Numbers of fragments by type

		Frequency counts	Percentages
Error type	Lack of subjects	15	50%
	Lack of verbs (be)	7	23.34%
	Lack of complete thoughts	5	16.66%
	Lack of subjects and verbs (be)	3	10%
	Total	30	100%

Table 2 presents the summary of all types of sentence fragment errors found in the science-math students' writings. There were 30 tokens of sentence fragment errors found in the science-math students' writings in total. Figure 2 below, corresponding to Table 2, illustrates the absence of subjects, *be*, complete thoughts, and subjects and verbs, respectively.

Figure 2: Science-Math Group's Fragment Errors



The most frequently occurring errors involved missing subjects (15 tokens); the remaining 15 errors included the absence of *be* (7), complete thought (5), and subjects and *be*'s (3).

4.1.2 Intensive Science-Math Students' Data

This section reports results from the intensive science-math students including the number of fragment, run-on, and comma-splice instances in 4.1.2.1 and the number of the sub-types of fragment errors in 4.1.2.2.

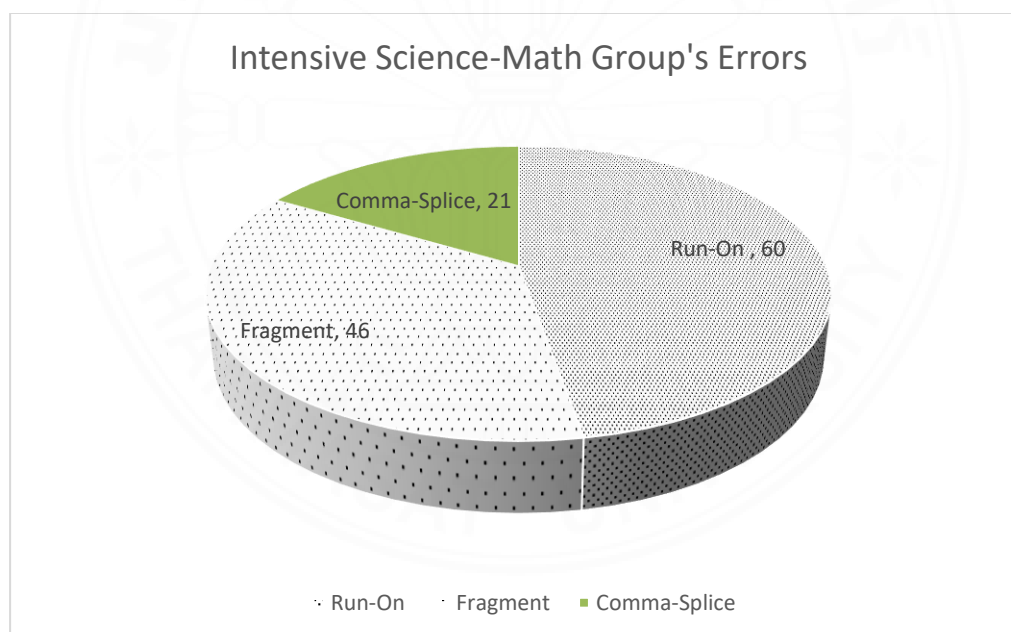
4.1.2.1 Fragment, Run-On and Comma-Splice Instances

Table 3: Number of intensive science-math students' fragment, run-on and comma-splice instances

Error type	Frequency counts	Percentages
Run-Ons	60	47.24%
Fragments	46	36.22%
Comma splices	21	16.54%
Total	127	100%

Table 3 shows the total number of intensive science-math students' run-on sentences, sentence fragments, and comma splices arranged from the high to low frequency. There were 127 tokens of sentence errors found in their writings in total. Compared to the science-math group, there were 46 more errors. Figure 3, corresponding to Table 3, illustrates the distribution of the three error types.

Figure 3: Intensive Science-Math Group's Error Distribution



As shown in Table 3 and Figure 3, the most frequent type of the errors was run-on sentences involving 60 tokens, accounting for 47.24% of all types of errors. Sentence fragments and comma splices were less frequent, accounting for 36.22% (46 tokens), and 16.54% (21 tokens), respectively.

Compared to the science-math group's errors, with respect to comma-splices and run-ons, those of the science-math group showed the reverse pattern. In the science-

math group, there were more comma-splice tokens than run-on tokens, while in the intensive science-math group, there were more run-on than comma-splice tokens. Particularly, the run-on errors occurred four times more often than the comma-splice tokens did.

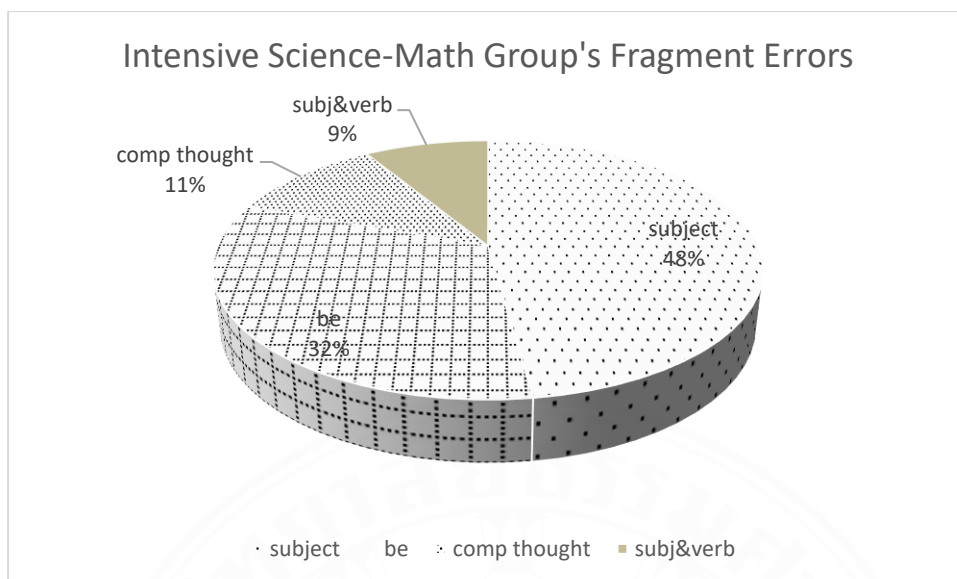
4.1.2.2 Subtypes of Fragments

Table 4: Numbers of fragments by type

		Frequency counts	Percentages
Error type	Lack of subjects	22	47.83%
	Lack of verbs (be)	15	32.61%
	Lack of complete thoughts	5	10.87%
	Lack of subjects and verbs (be)	4	8.69%
Total		46	100%

Table 4 demonstrates the summary of all types of sentence fragment errors found in the intensive science-math students' writings. There were 46 tokens of sentence fragment errors found in science-math students' writings in total, resulting in 16 more errors, compared to the science-math students' total number. Figure 4, corresponding to Table 4, illustrates the distribution of the four error types in terms of fragments.

Figure 4: Intensive Science-Math Group's Fragment Errors



According to Figure 4, the most frequent fragment subtype found in the intensive science-math group's data was fragments that lacked a subject. To compare the data between the science-math group and that of the intensive science-math group, the data as shown in Figure 2 and Figure 4 revealed that in both groups the absence of subjects and 'be' accounted for the majority of the errors (73-80%). The remaining ones involved the lack of complete thoughts and subjects and verbs (27-20%).

4.2 Discussion

This section discusses the research findings on the occurrences and the characteristics of sentence errors in the writings produced by science-math students and intensive science-math students. The discussion is based on three research questions as follows:

4.2.1 Research Question 1: Which type of error among run-on sentences, comma splices, and sentence fragments, occurred most frequently in the science-math students' data?

As shown in 4.1.1, the results of the study showed that the most frequent type of error in the science-math students' data was comma splices, occurring 44.44% among all of the writing errors. The second type of the writing errors was sentence

fragments at 37.04%, and the least frequent writing errors were run-on sentences accounting for 18.52%. The findings are inconsistent with those of Pongwatcharapakron (2014) and Sermsook et al. (2017), both of whom found fragments to be the most frequently occurring type. The different findings might be attributed to the current study's omission of a substantial number of ambiguous instances of errors from the analysis. There were 25 instances, as shown in (81)-(85), which did not meet the criteria applied for fragments that this study employed. (See Appendix C for the full list of excluded error tokens.) If these tokens were considered fragments and included, sentence fragment errors would be the most frequently occurring type with 55 tokens, which would be higher than that of comma splices (36 tokens) and in line with the data of the previous studies.

Additionally, when taking into account each writing assignment, more errors were found in the first topic (My dream house) than the second topic (How can we reduce air pollution levels in our cities). Also, the former covered a wider range of error types than the latter. The differences could possibly be due to the two following reasons. Firstly, the teacher provided feedback about the errors occurring in the first writing task to the students. Therefore, the students could understand the characteristics of errors they produce; this could have decreased the numbers of errors in the second writing task. Secondly, the errors with *have* or *has* in the initial sentence position, where *there are* or *there is* was required, occurred in the first topic more often than they did in the second topic. This is understandable because the former involved a description of a place, while the latter did not. This could partly account for the differences in the number of errors between the first and second topics.

4.2.2 Research Question 2: Which type of error among run-on sentences, comma splices, and sentence fragments, occurred most frequently in the intensive science-math students' data?

As shown in 4.1.2, the results of the study showed that the most frequent type of error in the intensive science-math students' data was run-on sentences (47.24%). The second and the least frequent types of errors were sentence fragments (36.22%) and comma splices (16.54%), respectively. The results above differed from those of the

previous studies of Pongwatcharapakron (2014) and Sermsook et al. (2017). The variance, which is similar to the section 4.2.1, likely resulted from the deletion of five vague characteristics of sentence fragments as aforementioned in (79) – (83) and shown in Appendix D. The excluded sentence fragments were 14 tokens. If these occurrences were included, the number of sentence fragments would be 60 tokens, which is equal to that of run-on sentences, the most frequently occurring type of error. Thus, in this case, the data would be consistent with the previous studies.

4.2.3 Research Question 3: What are the significant similarities and differences of types of errors found in Thai EFL students' writings between science-math program and intensive science-math program?

In terms of the comparison between science-math and intensive science-math group's errors, the data revealed both similarities and differences between the two groups. Regarding the similarities, the second most frequent type of writing errors in both groups was sentence fragments, which accounted for 37.04% of the science-math group's errors and 36.22% of the intensive science-math group's errors. Also, when considering the subtypes of sentence fragments and rearranging the data from high to low frequency, the findings showed that the most frequently occurring subtypes of sentence fragments in both science-math and intensive science-math group's errors were the same: fragments that lack subjects, fragments that lack verbs (be), fragments that lack a complete thought and fragments that lack subjects and verbs (be), respectively.

While the data in terms of fragments were similar across the two groups, they differed in the following respects. First of all, the most frequently occurring error type in science-math group's errors was comma splices, and the least frequently occurring error type was run-on sentences. Nonetheless, in the intensive science-math group's errors, run-on sentences occurred the most, whereas comma splices occurred the least. This is partly due to different patterns of error distribution, which affected the overall results.

In the science-math group, there were 15 run-on sentences. Only one student made two errors of this type, while the rest were one token per person. (See Table 9, Appendix A, for detailed information.) In contrast, in the intensive science-math group,

a few students made a lot of run-on errors. For instance, subjects 057, 050, and 002 produced 11, 9, and 8 run-on sentences, respectively. (See Table 15, Appendix B, for detailed information.) In total, 16 students committed 60 run-on errors. It is obvious that in the intensive group a large number of errors were concentrated in quite a small group of students, while in the non-intensive group the errors were evenly distributed. Therefore, the different patterns of error distribution explain the contrast in the number of run-ons produced by the intensive and non-intensive science-math groups.

Likewise, the higher overall occurrences of comma splices in the science-math group's errors are likely to have occurred for the aforementioned reason. In the science-math group's errors, seven students produced comma splices more than one comma splice, and the first three highest frequencies of comma splices in this group of students were 7 tokens (subject 024), 5 tokens (subject 011) and 5 tokens (subject 004), respectively. (See Table 10, Appendix A, for detailed information.). The overall occurrence of comma splices in science-math group's errors was 36 tokens. Compared to the science-math group, the total occurrence of comma splices in the intensive science-math group's errors was slightly lower, with 21 overall tokens. Five students produced more than one comma splice, and the first three highest frequencies of comma splices in this group of students were 4 tokens (subject 049), 3 tokens (Subject 054 and 061) and 2 tokens (Subject 055), respectively. (See Table 16, Appendix B, for detailed information.)

Apart from the aforementioned similarities and differences between science-math and intensive science-math group's errors (run-on sentences, comma splices, and sentence fragments), there are certain points that require further discussion.

The first type of writing errors to discuss is run-on sentences, which occurred in the data of both science-math and intensive science-math groups. Both groups produced run-on sentences. L1 Thai might play a role. As presented in Chapter 2, there is no use of a period at the end of sentences in the Thai language. Therefore, when the students wrote two sentences, some of them tended to omit a period at the end of the first sentence, which could result in a run-on sentence. Regarding the similar characteristics of errors among both groups, there were two main types. The first type

was a run-on sentence in which the second sentence was started with a lower case letter. The sample is shown in (89), where the lower case *t* in *there* starts the second sentence.

- (89) * My house has a disadvantage **there** may be wildlife or insects that damage the house.
- (90) My house has a disadvantage; **there** may be wildlife or insects that damage the house.
- (91) My house has a disadvantage, **and** there may be wildlife or insects that damage the house.
- (92) My house has a disadvantage. **There** may be wildlife or insects that damage the house.

In (90)-(92), the run-on sentence (89) is corrected.

The second type was a run-on sentence in which the second sentence was started with a capital letter. The sample is shown in (93), where the capital letter *I* in *It* starts the second sentence.

- (93) * My house is not fancy **It** doesn't look rich.
- (94) My house is not fancy; **it** doesn't look rich.
- (95) My house is not fancy, **and** it doesn't look rich.
- (96) My house is not fancy. **It** doesn't look rich.

In (94)-(96), the run-on sentence (93) is corrected.

The second type of writing errors to discuss is comma splices, which occurred in the data of both science-math and intensive science-math groups. According to the data, comma splices were found in science-math group's errors more often than in the intensive science-math group's data. Concerning the characteristics of errors of both groups, there were also two types of comma splices which were the same as those in run-on sentences.

The first type was comma splices, where two sentences were incorrectly joined by a comma, and the second sentence was started with a lower case letter. The sample is shown in (97), where the lower case letter *t* in *the* starts the second sentence.

- (97) * My modern house will have 2 floors, **the** roof is made of brick and plaster to be smooth.
- (98) My modern house will have 2 floors, **and** the roof is made of brick and plaster to be smooth.
- (99) My modern house will have 2 floors; the roof is made of brick and plaster to be smooth.
- (100) My modern house will have 2 floors; **moreover**, the roof is made of brick and plaster to be smooth.
- (101) My modern house will have 2 floors. **The** roof is made of brick and plaster to be smooth.

In (98)-(101), the comma splice (97) is corrected.

The second type was comma splices, where two sentences were incorrectly joined by a comma, and the second sentence was started with a capital letter. The sample is shown in (102), where the capital letter *T* in *There* starts the second sentence.

- (102) * There is a TV attached to the wall, **There** is an end table.
- (103) There is a TV attached to the wall, **and there** is an end table.
- (104) There is a TV attached to the wall; **there** is an end table.
- (105) There is a TV attached to the wall; **furthermore, there** is an end table.
- (106) There is a TV attached to the wall. **There** is an end table.

In (103)-(106), the comma splice (102) is corrected.

The last type of writing errors to discuss is sentence fragments. In terms of the absence of subjects, as shown in Figures 2 and 4, the same pattern of error distributions appeared across the two groups of students. That is, a missing subject occurred most frequently; a missing *be* occurred with moderate frequency, and the instances of the lack of a complete thought and subjects and verbs were fairly minimal. Based on the data from both groups, the data in the missing subject type can be divided further into four types: it, there, unidentified pronoun, and I.

The number of subject missing instances was slightly higher in the intensive science-math group (22 tokens) than in the science-math group (15 tokens). The sample sentences are sequentially provided in (107) - (111).

(107) * My type of House is a Villa at on the top of the mountain because
has shady landscape and pretty place.

(108) My type of House is a Villa at on the top of the mountain because *it*
has shady landscape and pretty place.

In (107), obtained from subject 002, the subject “it” was missing from the context, so “it” was added as a subject in the revised version (108).

In Thai language, *it* might be omitted (107). In Thai, a subject can be omitted when the context is sufficient for a listener to understand what the speaker means. Nonetheless, in English the omission of the subject is considered as grammatically wrong, so the subject “it” cannot be deleted.

(109) * Has a crystal dome.

(110) ***There is*** a crystal dome

In (109), obtained from subject 018, *has* appearing at the beginning of the sentence, resulting in ungrammaticality. In (110), when *has* is replaced by *there is*, the sentence becomes grammatical.

It is noteworthy that Thai introduces existential elements, corresponding to English *there is/are*, by means of the word *mii*, which literally means *has/have*. It is likely that those committing this type of error overextended the Thai *mii* strategy to the relevant English constructions by adding *has/have* at the beginning of existing elements. In other words, they were unaware that in English the existential elements are introduced by *there* and a certain form of *be*. Consequently, when the students tried to form English sentences like those in Thai, the sentences are considered as grammatically wrong sentences due to being fragments with the lack of subjects. To correct those sentences, “there is” or “there are” is required instead.

Additionally, when investigating the data, “there” missing tended to be found in the first task (My dream house) more than the second task (How can we reduce air pollution levels in our cities?), since the first task is a descriptive paragraph that required the students to describe the characteristics of their dream house. Therefore, the use of the pattern “there is” or “there are” was more likely to occur in this kind of paragraph than in the second task, which is a paragraph providing solutions to problems.

(111) * Affects the human body severely.

(112) *Air pollution* affects the human body severely.

In (111), obtained from subject 075, there is the lack of subject. In this context, “air pollution” can be implied and serve as the subject in this sentence. Therefore, the revised sentence is presented in (112).

(113) * I would like to live in the houseboat because can go anywhere.

(114) I would like to live in the houseboat because *I* can go anywhere.

In (113), obtained from subject 012, the subject “I” is missing from the context, so “I” is added as a subject shown as the revised version in (114).

To discuss more, in Thai, sometimes, a subject can be omitted when the listeners understand what the speaker means as discussed in Chapter 2. However, in English, a subject cannot be omitted; when learners tried to apply this concept of Thai to the L2 English, the sentences they produce were fragments that lacked a subject instead of a complete sentence as shown in (111) and (113). Therefore, to revise those fragments, a subject is required as presented in (112) and (114).

Next, the second subtype of fragments is the fragments that lack verbs (be). This subtype also occurred twice as often as in the intensive science-math group’s errors (15 tokens) than in the science-math group’s errors (7 tokens). The sample sentences are provided in (115)-(116).

(115) * The first room the living room.

(116) The first room *is* the living room.

In (115), obtained from subject 057, there is the lack of verb (be) in this sentence fragment. Thus, verb (be) “is” is added to this sentence to be a complete sentence.

The possible reason for this subtype of fragments occurring in students’ writings is because in Thai an adjective can serve as a verb, whereas in English the verb to *be* is required with an adjective as mentioned earlier with regard to (39) in Chapter 2. When there is negative interference between Thai and English, students tended to produce an English sentence where an adjective was used without verb to be. Therefore, this resulted in an incomplete sentence called a sentence fragment that lacks a verb (be).

Thirdly, fragments that lack a complete thought were found in both the science-math and intensive science-math group’s errors. This subtype occurred equally in both intensive science-math group’s errors and in science-math group’s errors (5 tokens). The similarity between the data in these two groups was that the fragments were introduced by subordinate conjunctions, i.e., *because* and *if*. “Although and After” were only found in science-math group’s errors, and “When” was only found in intensive science-math group’s errors. The sample sentences of this subtype fragment are shown in (117)-(118).

(117) * If we can reduce the air pollution.

(118) If we can reduce the air pollution, ***it will be good for our health.***

Sentence (117), obtained from subject 064, is a fragment that lacks a complete thought. Hence, “*it will be good for our health*” is added to change the fragment to be a complete sentence as presented in (118).

Lastly, the last subtype of fragments was those that lack subjects and verbs (be), specifically in the pattern of “*it+is*”. This subtype of fragments was found in both science-math and intensive science-math group’s errors, and it occurred minimally (3-4 tokens in both groups). The sample sentences of this subtype of fragment are shown in (119)-(120).

(119) * Different from living outside the city.

(120) ***It is*** different from living outside the city.

In (119), the fragment lacks both a subject and verb, so “*It is*” is added in order to change the fragment into a complete sentence as presented in (120).

In English, the expletive *it* is required as the subject of the sentence (119). In contrast, in Thai, as presented in Chapter 2, the subject of the sentence may be omitted without being considered grammatically wrong. Thus, the lack of “*It is*” in (119) were considered as the fragment that lacks both a subject and verb.

As discussed earlier, when considering the effect of native English-speaking teachers (NESTs) and non-native English-speaking teachers (NNESTs) on writing achievement, Al-Shewaiter (2019) — who examined how NESTs and NNESTs affect L2 learners’ skill development — found a significant correlation between listening and speaking skills in favor of NESTs, whereas there was a significant correlation between writing and grammar skills in favor of NNESTs. Nevertheless, there was no difference in reading skill between the students taught by NESTs or NNESTs. According to the current study’s findings, the total occurrences of every type of error in the intensive science-math group taught by NESTs were higher than those in science-math group, whom NNESTs taught. This is in line with the study of Al-Shewaiter (2019); in particular, the findings confirm that instructions delivered by non-native speakers enhance L2 grammatical accuracy.

Additionally, when taking into account the writing errors occurring in both the science-math students’ data and the intensive science-math students’ data with respect to Corder’s local and global error types, all of the errors found in the study were local errors. This is based on the concept of local errors in Ellis (1994); Burt (1975) and Ellis (2008), as cited in Phoocharoensil (2016); Touchie, (1986), defined as errors affecting trivial elements in sentences. The examples are shown in (121)-(124).

- (121) * It very comfortable.
It is very comfortable.
- (122) * Although this house may cause seasickness.
This house may cause seasickness.
- (123) * My castle is an undersea castle it is located at the sea.

- My castle is an undersea castle. **It** is located at the sea.
- (124) * There is a TV attached to the wall, There is an end table.
- There is a TV attached to the wall. **There** is an end table.

Sentences (121) and (122) are fragments that lack a verb to be (is), and lack a complete thought, respectively. In (123), it is a run-on sentence where two sentences run together without proper punctuation, and (124) is a comma splice where a comma is used to combine the two sentences in lieu of a period. All of these errors are local errors as they do not affect the organization of sentence and do not impact the meaning of utterance or hinder communication, despite being considered as grammatically wrong (Ellis, 1994; Burt (1975) and Ellis (2008), as cited in Phoocharoensil, 2016; Touchie, 1986). In addition, in terms of intralingual and interlingual errors, all the errors — English fragments, run-ons, and comma splices — found in this study stemmed from the impact of negative transfer from the mother tongue, not the target language itself. As earlier mentioned in 2.2.3.2 Zobl (1980), as cited in Al-Khresheh (2016), the study revealed that interlingual errors occur when L2 learners have a low level of proficiency in the target language, forcing them to depend on L1 habits to form hypotheses and make generalizations in L2. Therefore, it can be concluded that all of the errors are interlingual errors.

With respect to the role of L1 Thai on the writing errors in both science-math students' data and intensive science-math students' data, the results demonstrate that the L1 interference tended to result in L2 writing errors in several aspects. All in all, the writing errors found in this study (run-on sentences, comma splices and sentence fragments) were likely to have resulted from the negative interference of the mother tongue, which is Thai. This is in line with a number of previous studies, namely Pongwatcharakron (2014), Iamsiu (2014), and Gini (2018).

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

This chapter presents the conclusion and the recommendations for further study. It is organized into four parts: (5.1) a summary of the study, (5.2) a summary of the findings, (5.3) the conclusion, (5.4) recommendations for further research, and (5.5) pedagogical implications.

5.1 Summary of the Study

The research study aimed to investigate three types of errors, i.e., run-on sentences, comma splices, and sentence fragments, and determine the type that occurs most frequently in the science-math students' data and the intensive science-math students' data. Furthermore, the writing errors from both groups were compared and contrasted to ascertain the significant similarities and differences with regard to the types of errors in their writings.

The participants of this study were 40 Thai EFL students, consisting of 20 students from a science-math program and 20 students from an intensive science-math program. They were studying in the twelfth grade in the academic year 2020 at a public school in Bangkok. The data were collected from 80 pieces of students' writings: 40 pieces from the science-math program and the other 40 pieces from the intensive science-math program. The writings were assigned two times in two types of paragraphs: A descriptive paragraph on the topic "My dream house" and a paragraph providing solutions to problem on the topic of "How can we reduce air pollution levels in our cities?".

Corder's model (1974) was used to analyze students' writing errors, namely run-on sentences, comma splices and sentence fragments, with regard to frequency and the characteristics of the errors.

5.2 Summary of the Findings

There were 208 sentence errors in total in terms of run-on sentences, comma splices and sentence fragments from 80 pieces of students' writings from the science-math and intensive science-math programs. Based on the research questions in this research study, the results of the study are summarized as follows:

For the first research question, there were 81 tokens of sentence errors found in the science-math students' writings in total. The type of the error that occurred most frequently was comma splices, accounting for 44.44% of all types of errors (36 tokens). The rest of the errors were sentence fragments, accounting for 37.04% (30 tokens), and run-on sentences, accounting for 18.52% (15 tokens), respectively.

In respect of the second research question, there were 127 tokens of sentence errors found in the intensive science-math students' writings in total. The most frequent type of error was run-on sentences, accounting for 47.24% of all types of errors (60 tokens). Sentence fragments and comma splices were less frequent, accounting for 36.22% (46 tokens), and 16.54% (21 tokens), respectively.

It is noteworthy that the number of comma-splice errors in the science-math group and that of run-on errors in the intensive science-math group were concentrated in a small group of students. Thus, individual differences should be taken into account when interpreting the results.

Regarding the last research question, in the science-math group the most frequently occurring error type was comma splices, and the least frequently occurring error type was run-on sentences. In the intensive science-math group's errors, run-on sentences occurred the most, whereas comma splices occurred the least. In terms of the similarity, the second most frequent type of writing error in both groups was sentence fragments. In terms of the characteristics of errors, all of the errors found in the data of both groups were local errors since the errors did not disrupt the organization of the sentence or the whole meaning (Ellis, 1994; Burt (1975) and Ellis (2008), as cited in Phoocharoensil, 2016; Touchie, 1986). Furthermore, according to Zobl (1980), as cited in Al-Khresheh (2016), all of the errors were interlingual errors resulting from L1, not

the target language itself. The findings of this study, moreover, are different from those of Pongwacharapakorn (2014) and Sermsook et al. (2017), who found that fragments occurred most frequently. This disparity could be attributed to the difference in identifying fragments; the current study omitted a substantial number of ambiguous instances, which could have been identified as fragments by Pongwacharapakorn and Sermsook's criteria.

5.3 Conclusion

A total of 208 cases of all types of sentence errors were collected from 80 pieces of students' writings from science-math group and intensive science-math group in two kinds of paragraphs: a descriptive paragraph and a paragraph providing solutions to problems. Corder's model (1974) was used to analyze the data obtained from the students' writings to identify the most frequently occurring types of errors in each group as well as to compare the similarities and differences between the two groups.

The study found that comma splices occurred the most in the science-math students' data, whereas run-on sentences occurred the most in the intensive science-math students' data. The second most frequently occurring type of the writing errors in both groups was sentence fragments. Individual differences in committing errors were commonly found in both groups. The findings differ from those of Pongwacharapakorn (2014) and Sermsook et al. (2017), who found that sentence fragments occurred most frequently. The variation may be owed to the study's omission of a number of ambiguous errors, which could have been identified as fragments using Pongwacharapakorn and Sermsook's criteria.

The study also found that the science-math students, who were taught by non-native English speaking teachers (NNEST), made slightly fewer errors than the intensive science-math students, who were taught by native English speaking teachers (NEST). The variation in terms of accuracy between the science-math and the intensive science-math groups could be attributed to the different methods their teachers used to deliver lessons and give feedback. This finding is consistent with Al-Shewaiter (2019), suggesting the enhancement of L2 grammatical accuracy by NNESTs. The role of L1

Thai, not the target language itself, moreover, seems to have negative interference, causing the L2 writing errors in both groups of students in various aspects. This results in interlingual errors (Zobl, 1980, as cited in Al-Khresheh, 2016). Furthermore, all errors investigated in this study had an effect on trivial elements in sentences, not the organization of sentence or the whole meaning. Therefore, they are local errors (Ellis, 1994; Burt (1975) and Ellis (2008), as cited in Phoocharoensil, 2016; Touchie, 1986).

The results of this study may be beneficial to Thai EFL learners as well as English instructors, enabling them to understand the common characteristics of errors in writings and be more aware of how the differences between the Thai and English languages can lead to errors.

5.4 Recommendations for Further Research

This study makes a contribution to the field of error analysis (EA), similar to the previous research studies of Pongwatcharapakron (2014) and Sermsook et al. (2017). Based on the findings and conclusions of this research study, there are certain recommendations which should be considered for further research.

Firstly, additional studies could be conducted to investigate other sources of errors in writing. In this study, the source of errors taken into account was negative interference of L1 Thai with L2 English. In particular, the study found that a missing subject, e.g., mistaking *has/have* for *there is/there are* and pronouns, occurred quite frequently. This issue deserves further investigation, as it has been addressed as a problem in the data of L2 learners with other L1 backgrounds as well. Although this study attributes a missing subject to L1 interference (interlingual errors in Zobl's (1980) sense), the researcher is aware that there could be other accounts. Thus, further research is needed to gain insight into this phenomenon.

Secondly, in this research study, only students' writings were analyzed; therefore, to gain more insight into errors, another method of data collection, e.g., interviews or questionnaires, should be added.

Thirdly, the number of participants in this study was small, comprised of only 40 Thai EFL students; data from only two types of writing paragraphs were collected to analyze; and only three types of grammar errors, i.e., run-on sentences, comma splices, and sentence fragments, were selected for investigation. Thus, further research could employ a larger sample size and include different levels or different schools. Additionally, researchers may conduct research with EFL students whose L1s are different from Thai to compare the results with Thai EFL students. With regard to the writing tasks, a greater variety of writings, e.g., emails and essays, should be selected for analysis. Concerning the types of grammar problems, researchers could explore other types of errors stemming from negative interference of L1 Thai with L2 English.

Lastly, future researchers could replicate this study with a focus on other productive skills, such as speaking. As this study focused merely on one productive skill, i.e., writing, a comparison of Thai EFL learners' errors between groups taught the speaking skill by NESTs and NNESTs should be conducted to explore whether there are differences between the two groups of students and negative interference from L1 Thai.

5.5 Pedagogical Implications

This research study could be utilized for teaching errors to EFL students on run-on sentences, comma splices and sentence fragments. Additionally, teachers could raise students' awareness of the differences between Thai and English in the lessons so that they will avoid producing interlingual errors, specifically those caused by wrongly applying the knowledge from L1 to L2. Lastly, the results in this study could serve as guidelines for instructors to redesign their writing lessons in a way that can reduce students' common errors and enhance their grammatical accuracy.

REFERENCES

- A Contrastive Study of English and Thai. (1974). Defense Language Inst., Monterey, Calif. Retrieved 23 January, 2021, from <https://files.eric.ed.gov/fulltext/ED105775.pdf>
- Abushihab, I. (2014). An Analysis of Grammatical Errors in Writing Made by Turkish Learners of English as a Foreign Language. *International Journal of Linguistics*, 6(4), 213-223. Retrieved 11 April, 2020, from https://www.researchgate.net/publication/272663356_An_Analysis_of_Grammatical_Errors_in_Writing_Made_by_Turkish_Learners_of_English_as_a_Foreign_Language
- Academic Guides at Walden University (2021). Grammar: Sentence Structure and Types of Sentences. Retrieved 14 April, 2020, from <https://academicguides.waldenu.edu/writingcenter/grammar/sentencestructure>
- Ahmed, A. (2010). Contextual Challenges to Egyptian Students' Writing Development. Retrieved 10 April, 2020, from https://www.researchgate.net/publication/267736348_Contextual_Challenges_to_Egyptian_Students'_Writing_Development/citation/download
- Al-Khresheh, H (2016). A Review Study of Error Analysis Theory. *International Journal of Humanities and Social Science Research*, 2, 49-59. Retrieved 17 April, 2020, from <https://www.lifescienceglobal.com/pms/index.php/ijhssr/article/view/3722/0>
- Al-Shewaiter, K. (2019). Native and Non Native Teachers' Impact on the Preparatory Year Students' Achievement in English Courses at the University of Tabuk. *Modern Journal of Language Teaching Methods*, 9(4), 1-10. Retrieved 23 January, 2021, from <https://mjltm.org/article-1-517-en.html>

- Altay, I. (2007). Run-on and Stringy Sentences in Writing. Retrieved 10 April, 2020, from https://www.researchgate.net/publication/242408563_Runon_and_Stringy_Sentences_in_Writing
- Arcaya, M. (2020). Differences Between Native English-Speaking Teachers and Their Non-Native Counterparts When Evaluating Pronunciation. *PROFILE Issues in Teachers' Professional Development Journal*, 22(1), 29-41. Retrieved 23 January, 2021, from http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S1657-079020200001000029
- Brown, D. H. (2000). *Principles of language learning & teaching*. (4th ed.). New York: Longman. (pp. 49-58)
- Cambridge Dictionary (2021). Available online at <https://dictionary.cambridge.org/dictionary/english/sentence>
- Cambridge Dictionary (2021). Available online at <https://dictionary.cambridge.org/grammar/british-grammar/sentences>
- Common Core English Grammar & Mechanics 8. (1953). Retrieved 17 April, 2020, from <https://simplesolutions.org/pdf/eng/help%20g8.pdf>
- Corder, S.P. (1967). The significance of learners' errors. *International review of applied linguistics*.
- Corder, S.P. (1973). *Introducing applied linguistics*. Middlesex. Penguin.
- Corder, S.P. (1974). Error analysis, In Allen, J.L.P. and Corder, S.P. (1974). *Technique in applied linguistics*. Oxford: Oxford University Press.
- Ellis, R. (1994). *The Study of Second Language Acquisition*. Oxford, University Press.

- Ellis, R. (1997). *Second language acquisition*. Oxford, Oxford University Press.
- Gini, Gini and Muttaqien, Muhammad Zainal (2018). *An Errors analysis of students in writing of narrative text at the tenth Grade of MAN 2 Gondangrejo, Karanganyar in the academic year of 2016/2017. (A Thesis)*. IAIN Surakarta. Retrieved 10 April, 2020, from <http://eprints.iain-surakarta.ac.id/2478/>
- Hacker, D., & Sommers, N. (2011). *A Writer's Reference* (7th ed.). Bedford/St. Martin's
- Iamsiu, C. (2014). *An analysis of grammatical errors in Srinakharinwirot University students' writing (A Master's project)*. Srinakharinwirot University, Bangkok, Thailand. Retrieved 17 April, 2020, from http://ir.swu.ac.th/xmlui/bitstream/handle/123456789/3671/Chada_I.pdf?sequence=1
- Ismail, N. (2017). *Native and Non-native English Speaking Teachers' Teaching Styles and Their Effect on Their EFL Saudi Students' Achievement and Enjoyment of Learning English at Taif University*. *International Journal of English Linguistics*, 6(7), 148-163. Retrieved 24 January, 2021, from https://www.researchgate.net/publication/320082167_Native_and_Non-native_English_Speaking_Teachers'_Teaching_Styles_and_Their_Effect_on_Their_EFL_Saudi_Students'_Achievement_and_Enjoyment_of_Learning_English_at_Taif_University
- Khansir, A. A. (2012). *Error Analysis and Second Language Acquisition*. *Theory and Practice in Language Studies*, 2(5), 1027-1032. Retrieved 7 April, 2020, from https://www.researchgate.net/publication/266585916_Error_Analysis_and_Second_Language_Acquisition
- Lado, R. (1957). *Linguistic across Culture*. Ann Arbor: University of Michigan Press.

Lennon, P. (2008). Contrastive analysis, Error analysis, Interlanguage. In Stephan, G. & Vivian, G. (2008). Bielefeld Introduction to Applied Linguistics. Bielefeld: Aisthesis, pp.51-60

Merriam-Webster Dictionary (2021). Available online at <https://www.macmillan-dictionary.com/dictionary/british/non-restrictive-relative-clause?q=non-restrictive+clause>

Merriam-webster Dictionary (2021). Available online at <https://www.macmillan-dictionary.com/dictionary/british/restrictive-relative-clause?q=restrictive+clauses>

Merriam-webster Dictionary (2021). Available online at <https://www.merriamwebster.com/dictionary/comma%20splice>

Merriam-Webster Dictionary (2021). Available online at <https://www.merriamwebster.com/dictionary/run-on%20sentence>

Merriam-webster Dictionary (2021). Available online at <https://www.merriamwebster.com/dictionary/sentence%20fragment>

Ministry of Education. (2008). The Basic Education Core Curriculum B.E. 2551 (A.D. 2008). Bangkok: KurusapaLadprao Publishing.

Munro, J. (2010). Common Faults in English syntax and grammar. Retrieved 10 April, 2020, from <https://www.economics.utoronto.ca/munro5/syntax.htm>

Murray and Anna C. Rockowitz. (2020). Grammar and Mechanics Sentence Fragments. Retrieved 10 April, 2020, from <http://www.hunter.Cuny.edu/rwc/repository/files/grammar-and-mechanics/sentence-structure/sentence-fragments.pdf>

- Myles, J. (2012). Second Language Writing and Research: The Writing Process and Error Analysis in Student Texts. *The Electronic Journal for English as a Second Language*, 6(2), 1-20. Retrieved 12 April, 2020, from https://pdfs.semantic scholar.org/1d29/2e04f42bb716e878412da163d1c94c1ec740.pdf?_ga=2.234409565.274102208.1587125260-1186960401.1586109172
- Nordquist, R. (2020). English as a Lingua Franca (ELF). Retrieved 14 April, 2020, from <https://www.thoughtco.com/english-as-a-lingua-franca-elf-1690578>
- Oxford Learner's Dictionary (2021). Available online at <https://www.oxfordlearnersdictionaries.com/definition/english/run-on-sentence?q=Run-on+sentence>
- Phoocharoensil, S. (2016). Grammatical and Lexical Errors in Low-Proficiency Thai Graduate Students' Writing. *Language Education and Acquisition Research Network (LEARN) Journal*, 9(1), 11-24. Retrieved 9 April, 2020, from <https://so04.tci-thaijo.org/index.php/LEARN/article/view/102659>
- Pongwatcharakron, S. (2014). An analysis of sentence errors in writings of mattayom 5 students at Horwang school (An independent study of Master of Arts). Thammasart University, Bangkok, Thailand. Retrieved 10 April, 2020, from http://digital.library.tu.ac.th/tu_dc/frontend/Info/item/dc:104172
- Rahma, A. & Thakur, S. & Roscoe, A. (2014). *Methodologies for Effective Writing. Instruction in EFL and ESL Classrooms*. IGI Global.
- Schenck, A. (2020). Examining the influence of native and nonnative English-speaking teachers on Korean EFL writing. *Schenck Asian-Pacific Journal of Second and Foreign Language Education*, 5(2), 1-17. Retrieved 23 January, 2021, from <https://link.springer.com/article/10.1186/s40862-020-00081-3>
- Sermsook et al. (2017). An Analysis of Errors in Written English Sentences: A Case Study of Thai EFL Students. *English Language Teaching*, 10(3). 101-110

Retrieved 27 January, 2021, from https://www.researchgate.net/publication/313460902_An_Analysis_of_Errors_in_Written_English_Sentences_A_Case_Study_of_Thai_EFL_Students

Silalahi, R. (2014). Error Analysis on Information and Technology Students' Sentence Writing Assignments. *Indonesian Journal of English Education*, 2(1), 1-17. Retrieved 11 April, 2020, from https://www.researchgate.net/publication/295100322_ERROR_ANALYSIS_ON_INFORMATION_AND_TECHNOLOGY_STUDENTS'_SENTENCE_WRITING_ASSIGNMENTS

Simargool, N. (2006). What is happening to What was happened? PASAA (39). 49-69. Retrieved 4 February, 2021, from <https://www.culi.chula.ac.th/Publicationonline/files/article/5jzqE9KWyWWed111207.pdf>

The ASEAN Charter. (2015). Retrieved 14 April, 2020, from <https://asean.org/wp-content/uploads/images/archive/publications/ASEAN-Charter.pdf>

Theovan Els, et. al. (1984). *Applied Linguistics and the Learning and Teaching of Foreign Languages*. London, Edward Arnold Publishers

Touchie, Hanna Y. (1986). Second language learning errors their types, causes, and treatment. *JALT Journal*, 8(1), 75-80. Retrieved 9 April, 2020, from https://jalt-publications.org/sites/default/files/pdf-article/art5_8.pdf

Zheng, J. et al. (2018). How do you correct run-on sentences it's not as easy as it seems. *Proceedings of the 2018 EMNLP Workshop W-NUT: The 4th Workshop on Noisy User-generated Text*, 33–38. Retrieved 26 January, 2021, from <https://www.aclweb.org/anthology/W18-6105.pdf>

The seal of Thammasat University is a large, faint, circular watermark in the background. It features a central emblem with a lotus flower and a crown-like structure, surrounded by the university's name in Thai and English.

APPENDICES

APPENDIX A

Errors Produced by the Science-Math Group

Tables 5 to 10 below presents data of sentence fragments which lack subjects, verbs (be), subjects and verbs (be) and a complete thought, respectively.

Table 5: Fragments which lack subject

No	Data Code	Erroneous Sentence
1.	002	My type of House is a Villa at on the top of the mountain because has shady landscape and pretty place.
2.	010	has a swimming pool.
3.	012	I would like to live in the houseboat because can go anywhere.
4.	013	The advantage is that is quiet and midst by nature.
5.	013	The disadvantage is that is away from the well-developed believe.
6.	017	In bedrooms have bed, desk, chair and sofa.
7.	017	In Fitness rooms have many fitness equipment.
8.	017	In game rooms have a lot of game and board game.
9.	017	In Kitchen have many kitchenware.
10.	018	Has a crystal dome
11.	024	Will definitely make everyone's life better than ever
12.	025	Solved by having a campaign for informing farmers.
13.	026	Help support the use of agricultural technology.
14.	026	Has properties comparable to coal.
15.	032	Take multiple people together but have to go in the same direction instead of using multiple cars.

Table 6: Fragments which lack verbs (be)

No	Data Code	Erroneous Sentence
16.	004	It very comfortable.
17.	004	It disadvantages of this house.
18.	015	It good for travelling and easy to eat food.
19.	015	It easy to cleaned the house.
20.	017	It a half in the mountain and the other half out of the mountain.
21.	018	Of course, this my house.
22.	040	The pure air so hard to find in the city.

Table 7: Fragments which lack subjects and verbs (be)

No	Data Code	Erroneous Sentence
23.	005	Even more amazing.
24.	014	Suitable for lover.
25.	015	Different from living outside the city.

Table 8: Fragments which lack a complete thought

No	Data Code	Erroneous Sentence
26.	004	Because I fear that I will not be safe.
27.	012	Although this house may cause seasickness.
28.	034	If we know how to fix the problem properly and not doing things that cause pollution for a better environment in the future.
29.	035	Because we don't live alone in this city.
30.	040	After we fix the problem.

Table 9 below shows samples of run-on sentences.

Table 9: Run-on sentences in students' writings

No	Data Code	Erroneous Sentence
31.	002	My house would have a seven room those rooms is a toilet bedroom for the three bedrooms, kitchen for cooking...
32.	002	Those rooms is a toilet... and spa room for to massage and relaxing that would have a balcony there will be at balcony extending to the view...
33.	004	This house is be narrow It disadvantages of this house.
34.	008	The first floor of this house is the reception floor it has 1 bedroom, 1 bathroom.
35.	009	My house has a disadvantage there may be wildlife or insects that damage the house.
36.	011	In my living room there is a sofa at the center of rooms there is a TV attached to the wall.
37.	013	This is my house is a cottage it is located at the mountain abundance.
38.	015	My dream house is a townhouse in the town the house live near shopping center.
39.	018	My castle is an undersea castle it is located at the sea.
40.	026	Less car use If you can walk, you should walk.
41.	029	We should reduce too much burned rubbish conduce air pollution and greenhouse gas this would help reduce air pollution and global warming
42.	032	If you want to use a real car, take multiple people together but have to go in the same direction instead of using multiple cars, just use one car to travel together.

43.	035	Air pollution is one of the things that should be addressed in solving the problem Air quality in cities is the result of a complex interaction between natural and environment.
44.	036	Natural resources are depleted This is due to the uneconomical use of resources such as destroyed forests.
45.	038	Therefore, knowledge transfer to children... recognize the correct prevention of polluted problem This is the correct and sustainable solution to pollution...

Table 10 below demonstrates samples of comma splices.

Table 10: Comma splices in students' writings

No	Data Code	Erroneous Sentence
46.	001	This house is characterized by its luxury, its architecture all around it, it has a bridge over the river and looks like a Chenonceau palace.
47.	002	And advantages is wide area, disadvantage is difficult to clean.
48.	003	This house have a unique function is auto-light system the light will you turned on when sun goes down and it's don't have any bills.
49.	003	It's house living room you will see this first room when entering a house it's half household object like a big and long sofa.
50.	003	Next is Kitchen room it's have a big oven, a pocket store and rows of drawer, this room has a door that lead to backyard.
51.	003	Next is first rest room, it's a small room only for doing private thing.
52.	004	Features of House is minimal and very simple feel like a stylish, Stories of a House is 2 floors.
53.	004	Stories of a House is 2 floors, The Roof of house is made by white flat rooftop.

54.	006	Happiness is not at home to yourself, Do you enjoy it?
55.	007	I think My tepee must more special than the others, I think it will be built out of gold.
56.	010	My villa has two floors, The first floor has 4 rooms divided into 1 kitchen, 1 game room, 1 living room and 1 game room.
57.	010	The home area is a wide area, it is also suitable for activities such as exercising and holding a party.
58.	011	There is a TV attached to the wall, There is an end table.
59.	011	There is an end table, There is a house telephone on end table.
60.	011	There is a house telephone on end table, there is a clock attached to the wall.
61.	011	There is a clock attached to the wall, There is a curtain at window.
62.	011	There is a curtain at window, there is a carpet and there is at radio, vase on the table.
63.	013	It is located at the mountain abundance, I would like in the cottage.
64.	015	The view around the house has an atmosphere in the city, There is chaos from people.
65.	017	My real house is in the mountain, there are many floors and many room.
66.	020	I want my house set in the forest and close to the river, I wanted a European-style mansion because I like it.
67.	024	Air pollution is near all around us, It's a global problem.
68.	024	It's a global problem, Air pollution worsens the health of all of us because it effects breathing.
69.	024	Air pollution worsens the health of all of us because it effects breathing, Everyone should start to find a way to protect themselves.
70.	024	The problem of air pollution comes from humans, The first thing that come to mind is the exhaust fumes coming from the cars.

71.	024	We should reduce the use of gas and turn to alternative energy, which many countries produce a wide variety of electric cars, Next is the problem from industrial factories.
72.	024	Solving the problem may be a little difficult, but it is wise to do it, Industrial had to change their production processes to reduce the smoke emitted.
73.	024	It's good for us and for the world, If changes happen as the problem solving, Will definitely make everyone's life better than ever?
74.	028	The end result is better weather and fresher air, more people are turning to public transport.
75.	033	First measure we must have to reduce car used, Then turn to public transport such as electric train or bus to reduce the generation of pollution.
76.	035	The best way is everyone should work together to avoid air pollution, that is everyone has to work together using public transport and shouldn't use vehicles with black smoke that affect the air pollution.
77.	035	The solution to the way to reduce pollution in our cities should start with yourself, Now, we are starting to use electric vehicles to reduce air pollution and it also save resources.
78.	036	Our world will become more and more warm, people will have poor health.
79.	036	Use less cars If you can walk or stick to your car, your friends should go together.
80.	039	There are many ways to reduce air pollution, we just need to change somethings
81.	040	In first, you should fix you daily life, when you travel you can choose the vehicle that not make air pollution, or promote about air pollution to the people and the industrial factory.

APPENDIX B

Errors Produced by the Intensive Science-Math Group

Tables 11 to 16 below presents data of sentence fragments which lack subjects, verbs (be), subjects and verbs (be) and a complete thought, respectively.

Table 11: Fragments which lack subjects

No	Data Code	Erroneous Sentence
1.	046	Would like to have a lot of wooden decorations and has a music player.
2.	047	Have the sky train, the subway and buses for travelling.
3.	047	Within 500 meters has a mall, Kerry Express, 7-11 stores and market.
4.	048	Have a balcony every floors.
5.	048	And have a swimming pool to relax and children have fun.
6.	050	When walk out to the balcony, the sunlight will shine on my face.
7.	051	In my house, don't have balcony inside the house.
8.	052	Must have a car for travel.
9.	053	On the 1 floor have 1 sofa, television, storage cabinet.
10.	053	In the kitchen room have 1 table, 8 chairs, have kitchen set as stove, dishwasher, refrigerator, microwave.
11.	053	On the 2 floor have the long sofa, television, air conditioner, table, fan table, speaker and game console.
12.	053	On the 3 floor in bedroom have bed, the lamp, wardrobe, table.
13.	053	On the 4 floor in the big bedroom have bed, The lamp, wardrobe, table as 3 floor.
14.	053	In the living room on the 1 and 2 floor have a Desktop computer.
15.	054	And will make him sleep.
16.	066	May occur naturally, such as dust from the storm.

17.	069	And has the following methods.
18.	070	Will make the fresh air 60%.
19.	072	May reduce the use of cars or campaign to use cloth bags instead of plastic bags.
20.	072	Is to reduce the use of cars and use bicycles instead.
21.	075	Then cause a negative effect on the living environment shared by humans like us.
22.	075	Affects the human body severely.

Table 12: Fragments which lack verbs (be)

No	Data Code	Erroneous Sentence
23.	044	The desk beside the bed.
24.	044	The toilet between the bathroom.
25.	044	It really hard to find the place like this.
26.	046	My home a garage woods.
27.	048	That in my dreams.
28.	050	The advantages of my house 1. Stay comfortable 2. Peaceful 3. large.
29.	052	It very small, suitable for 2-3 people.
30.	057	The first room the living room.
31.	059	It charm and peaceful.
32.	060	It wide and convenient.
33.	060	It on the city center.
34.	060	It modern and beautiful.
35.	060	It very expensive to buy one and sometimes have traffic jam.
36.	079	Next to plastic bag, "foam" another biggest problem because foam isn't decomposed.
37.	080	It dangerous living things.

Table 13: Fragments which lack subjects and verbs (be)

No	Data Code	Erroneous Sentence
38.	049	Definitely not a problem for medium sized families.
39.	052	Easy to travel but far from the city.
40.	052	Difficult to clean because the house is large and has many rooms.
41.	053	I cannot go out and play often because difficult to travel and lonely.

Table 14: Fragments which lack a complete thought

No	Data Code	Erroneous Sentence
42.	050	When entering the city is so difficult.
43.	052	Because it is different from my current home.
44.	064	If we can reduce the air pollution.
45.	066	Because the source is far away and the amount that enters the environment of humans and the animals is small.
46.	072	Because some methods may make your life difficult.

Table 15 below shows samples of run-on sentences.

Table 15: Run-on sentences in students' writings

No	Data Code	Erroneous Sentence
47.	045	For the bathroom it will be covered with solid tiles in the bathroom there will be a shower and toilet bowl.
48.	046	It's a home away from the crowd There is quiet inside my house.
49.	046	There is quiet inside my house There is a soft bed to sleep.
50.	046	The castle has two floors The roof would be made out of bricks, zink.

51.	046	Sometimes I think my castle is too big, so it wastes of money for the bills However, it is perfect for us.
52.	048	On the fifth floor which is the last floor there is my bedroom in the room there is a large mattress, a work desk an en suite bathroom and a bathtub in the bathroom.
53.	048	The good thing about this place is that it has everything I need the downside is that it might be a bit too much, but this is the house that I want.
54.	050	My dreaming house I would type of house villa located at sea In the house there will be furniture such as television, computer, sofa etc.
55.	050	I want to live in the villa because it is beautiful and full of good views There are golf course and swimming pool near the front of the house.
56.	050	There are golf course and swimming pool near the front of the house The villa has 3 floors.
57.	050	The villa has 3 floors the roof of the house is made of fiber cement.
58.	050	The roof of the house is made of fiber cement It would have four bedrooms, three bathrooms, one kitchen, living room.
59.	050	It would have four bedrooms, three bathrooms, one kitchen, living room there will be 9 rooms and balcony.
60.	050	It also has a radio-CD player so that I can listen to music as I do my cooking Another important room is the living room.
61.	050	Another important room is the living room when my friends come to my house, it feels like happy.
62.	050	When my friends come to my house, it feels like happy Someday, I hope it will become reality.
63.	051	My house will be very special there was only a small family but they lived in a warm atmosphere and very happy.
64.	051	My house is not fancy It doesn't look rich.

65.	051	My house is a semi-detached house the location is located in a small alley.
66.	051	The location is located in a small alley there are many houses next to each other.
67.	051	There are many houses next to each other the reason I want to stay here because I am happy and warm.
68.	051	The reason I want to stay here because I am happy and warm when there are thieves, everyone will help each other.
69.	051	The distinctive feature of the house is that it is a house next to each other and there is a road in front of the house the house feature is that it has 2 floors.
70.	051	The roof of the house is made of tiles in the house there are 2 bedrooms, 2 bathrooms, 1 kitchen, 1 living room.
71.	052	My current home is a condo There are 9 stories.
72.	054	This is my house My house is a castle
73.	054	My house is a castle It is located at Mountain in Chiangmai.
74.	054	It is located at Mountain in Chiangmai I want to live in the tree house because it is the weather is good, not much pollution.
75.	054	There are two floors The roof would be made out of wood and marble.
76.	054	In my castle, there are lamps, candle and chandeliers sometimes, I was a bedroom has a television, sofa, air conditioner and a laptop.
77.	054	Sometimes, I was a bedroom has a television, sofa, air conditioner and a laptop My house is not Living room.
78.	055	My house is a modern house location house is next to the river because it makes me feel refreshed when see it.
79.	056	The roof it is shed roof it made out if fiberglass and solar cell.
80.	056	My aquarium has a two hundred and fifty metres there would have three tiger shark, one hammer head shark, fifteen nemos and two jelly fish.

81.	057	There is a basement width of 1 square kilometer there is a 20 meter wide swimming pool and a private onsen.
82.	057	The roof of my house is made of a special tile that is strong and doesn't make noise and does heat up there are 6 rooms in my house.
83.	057	The second room is the kitchen which has a refrigerator for to store fresh meat to cook and an oven to bake the meat third room is a bathroom on the 1st floor.
84.	057	Third room is a bathroom on the 1st floor Room 4 is the second floor bathroom.
85.	057	Room 4 is the second floor bathroom Room 5 is a private fitness room which has a tread mill dumbbell weight.
86.	057	Room 5 is a private fitness room which has a tread mill dumbbell weight Room 6 is the bedroom which has two large windows and a balcony.
87.	057	Room 6 is the bedroom which has two large windows and a balcony The window has a barista for coffee.
88.	057	The window has a barista for coffee The furniture in the house will have a bed sofa with remote control shelf.
89.	057	The furniture in the house will have a bed sofa with remote control shelf In the basement is a place to store car and big bikes.
90.	057	I have my own personal carfield to record and practice it is very suitable to running down the mountains.
91.	057	It is very suitable to running down the mountains the weather is great.
92.	058	I love this place since it is quiet and comfortable There are a chimney and a backyard with a lot of trees.
93.	058	There are a chimney and a backyard with a lot of trees There are three floors.
94.	058	There are three floors The roof would be made out of wood and bricks.

95.	058	The roof would be made out of zink and bricks There are two sides of balcony.
96.	058	There are two sides of balcony at first floor there are store cabinet pan oven fridge in the kitchen.
97.	058	At first floor there are store cabinet pan oven fridge in the kitchen in the living room there are sofa TV stand TV cushion.
98.	059	Maybe I'm having a baby and I told him "This is your future house" One day in the future my kid will have a family
99.	059	One day in the future my kid will have a family he will live in there I wish.
100.	059	The sound flew threw my ears you don't think any things when you singing.
101.	059	My dreaming house is become the truth this'll be my successfully thing in my life.
102.	061	Try to use an engine that is less pollution It will help reduce pollution that will not completely disappear.
103.	065	Help plant trees this will help filter in the exhaust air into good air reduce global warming.
104.	065	This will help filter in the exhaust air into good air reduce global warming planting trees reduces carbon monoxide harmful to breathing.
105.	072	Another big problem is the industry it is certainly the problem that has the greatest impact.
106.	075	Of course we humans drive a car it causes the oil to burn.

Table 16 below demonstrates samples of comma splices.

Table 16: Comma splices in students' writings

No	Data Code	Erroneous Sentence
107.	042	Sometimes, I think my dream house is expensive to make the wooden house under the sea, there don't have oxygen much to survive.
108.	044	This is all my dream house, I hope someday I will live in this house.
109.	049	Anyway the house have 2 floor and this house does not have a roof, it will be simple roof with a walking area on the roof.
110.	049	It will be simple roof with a walking area on the roof, there will be a small garden to take a walk and breathe in the air.
111.	049	There is not like a normal bathroom, it have toilet, shower and face wash and both room have the same.
112.	049	All of this is my dream house, in this life I would like a house like this to live happily with my parents and my family.
113.	050	When walk out to the balcony, the sunlight will shine on my face, The advantages of my house 1. Stay comfortable 2. Peaceful 3. large.
114.	050	The advantages of my house 1. Stay comfortable 2. Peaceful 3. large, The disadvantages of my house 1. Difficult to clean 2. When entering the city is so difficult.
115.	051	There is a little furniture such as wardrobe, sofa, TV, computer desk, the disadvantage of my house is that it is comfortable with neighbors good have a friend to talk to, not lonely.
116.	054	It is the weather is good, not much pollution, There are a lot of attraction.
117.	054	There are two rooms, which are one bedroom one bathroom, one kitchen and three garages, Yes, it would (have a balcony.)

118.	054	Having a car inside the house is like a living room because it is a third car to relax the mind, this is all my dream house.
119.	055	I want to live in a house like this because it looks simple, the house is beautiful, and I really like it.
120.	055	My modern house will have 2 floors, the roof is made of brick and plaster to be smooth.
121.	060	It on the city center, You can see top view all day in skyscraper.
122.	061	Using public transportation, if everyone in the country uses public transportation, it will help reduce pollution a lot and save money.
123.	061	Manage regulations for burning glass or garbage, Helping cars pollute a lot if waste is cut properly.
124.	061	The pollution mentioned above can reduce air pollution, It's time for everyone to start saving the environment.
125.	062	Finally we should protect the forest, they will be reduce carbon dioxide in the air and produce oxygen to make the air clear.
126.	069	One of the more big ones is traffic jams, could the solution be an alternative to the previous one?
127.	076	First we can use hybrid cars or electric cars, this way will avoids pollution from cars.

APPENDIX C

Science-Math Group's Excluded Fragment Errors

Table 17: Science-Math Group's Excluded Fragment Errors

No	Data Code	Erroneous Sentence
1.	006	White old watches old cabinets to keep the house classic.
2.	012	No signal on the phone.
3.	012	Carrying less people.
4.	022	Cause of Air pollution transportations engines such as automobiles power and heat generation.
5.	023	Too many illegal littering in the river.
6.	026	Solving air pollution problems.
7.	026	To prevent unnecessary energy consumption.
8.	026	To reduce the risk of wildfire and help the problem of incorrect incineration that causes high pollution.
9.	026	For example, car exhaust pollution, Volcanic eruption, wildfire, industrial factory etc.
10.	026	By using waste materials to be used for energy.
11.	026	By change agricultural waste to "biochar" with "Pyrolysis Mobile".
12.	027	Carbon monoxide, hydrocarbons, nitrogen oxides and sulfur Hydrocarbon's smoke, fire and toxic gas from industrial factories.
13.	027	Various sources of dust such as the area under construction.
14.	027	Cement plant, stone mill, textile factory, caustic soda factory, mining, charcoal furnace, crematorium.
15.	029	For example, industrial fumes, Traffic jams and too much burned rubbish

16.	030	Solution to the problem.
17.	031	With today's technology to use in the production process and the advancement of modern technology.
18.	031	Carbon monoxide, hydrocarbons, oxide of nitrogen and sulfur Smoke and toxic gases from industrial plants.
19.	031	Cause of pollution motor vehicle engines.
20.	031	The result of the solution.
21.	031	Air in nature no gas impurities, pollution, colorless, odorless tasteless.
22.	034	Diffusion of dust and particles from construction activities, industrial factories producing or processing raw materials.
23.	034	Causing impact on the domestic environment including within the community.
24.	036	Incomplete combustion of fuel and an increasing proportion of pollutants from the exhaust pipe
25.	036	Due to toxic fumes Human-made chemical fog Soil and water contain toxic chemicals that are used in agriculture and industry.

APPENDIX D

Intensive Science-Math Group's Excluded Fragment Errors

Table 18: Intensive Science-Math Group's Excluded Fragment Errors

No	Data Code	Erroneous Sentence
1.	045	With the wall of the house to be transparent for all.
2.	045	With the roof of the house.
3.	046	With bookshelf.
4.	048	Badminton courts and table tennis courts.
5.	052	Cost of expensive furniture because there are many rooms.
6.	057	Lady bugs, beetle bee and many other animals.
7.	059	The unique tile that can keep out of harm such as hurricane.
8.	067	To reduce the risk of spreading toxins and dust from burning in community areas.
9.	068	As a result of air pollution, such as cycling every week.
10.	073	In mitigation which uses trees to cover the tall people where people live.
11.	073	Planting a forest.
12.	073	Planting trees to use forests and big trees.
13.	077	Planting more trees.
14.	077	Finally, planting more trees.
15.	045	With the wall of the house to be transparent for all.

BIOGRAPHY

Name	Miss Prapaipun Pornthanachotanan
Date of Birth	September 2, 1990
Educational Attainment	2014: Bachelor of Education (1st Class Honours) Chulalongkorn University, Thailand 2013: Bachelor of Arts (English) Ramkhamhaeng University, Thailand
Work Position	English teacher Watsuthiwararam School
Work Experiences	2016 – present: English teacher Watsuthiwararam School 2015 – 2016: English teacher Watborwornmongkol School 2014 – 2015: English teacher Sarasas Ektra School