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GENDER DIFFERENCES IN WRITING COMPLEX SENTENCES OF CLIL-BASED BILINGUAL PRIMARY STUDENTS

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Abstract: This present study investigated the students' ability to produce complex sentences between male and female students who studied in a CLIL Bilingual School in Surabaya. The participants of this study were 50 primary six students. The document analysis was used to obtain data about the students' production of complex sentences. T-unit analysis was employed to investigate the students' proficiency in writing complex sentences. Additionally, to generate the students' lexical richness, this study used Antconc to help generate the TTR (type-tokens ratio) on the essay. The result showed no significant differences between male and female students in their proficiency in writing complex sentences, as the p-value was higher than 0.05. It indicated that the CLIL Bilingual students' proficiency in writing complex sentences was equal, and the input and exposure were similar. However, female students show a higher TTR and more lexical variety in producing complex sentences than male students. These findings significantly impacted the understanding of how gender affects the ability to create complex sentences when writing and using lexical variety.

Keywords: *Bilingual school, CLIL, Complex sentences, Gender differences, Writing*

INTRODUCTION

Language and gender are increasingly important areas in sociolinguistics. Based on Wardhaugh (2006), sociolinguistics is the study of language and its connection to society through comprehending the structure and purpose of a language in communication. Gender plays a role in language, and men and women are different when they communicate. Coates (2016) stated that gender impacts anthropology, dialectology, language, and social roles. Kamiar et al. (2012) state that gender is "one of the sociocultural variables that pupils need in the process of learning a language, including writing." The differences between men and women in communication are varied and can be done orally or in written forms.

Writing is a tool that allows students to communicate and convey their thoughts. It deals with productive ability, and it is crucial in all languages (Brown, 2000). Kamari et al. (2012) claimed that language and gender are connected to identity construction and second-language writing. Several studies have shown a difference in writing abilities between males and females when it comes to students learning a second or foreign language. Fatin (2014) stated that men and women had different communication styles. Regarding word choices, men tend to use more direct sentences than women. Similarly, Fransiska (2017) found that female students tend to be more attentive to word choices and have a stronger tendency to be stylistically flexible than male students. Cornett (2014) noticed disparities in the syntactic development of three male and three female English-speaking teenagers while reading a narrative aloud. The syntactic complexity of the male and female adolescents was assessed using a T-unit analysis to gauge

their syntactic development. According to the mean length T-unit results, female adolescents (9.25) appeared to have a more advanced stage of syntactic development than male adolescents. Additionally, female students are believed to be more imaginative; therefore, they have higher English scores than males in writing (Punter & Burchell, 1996). According to Tse, Kwong, Chan, and Li (2002), women also do better than men on average in terms of utterance length, some phrase kinds and structures, and grammatical complexity. All the previous studies mentioned that females show better writing proficiency than males. Bourke and Adams (2011) found that girls are more likely to perform better in writing than boys except for the grammatical complexity of sentences. However, some factors affect the students' writing skills: teaching and learning media, materials, classroom activities & and management, and the teacher's strategy and approach (Herdi, 2015). Different strategies and approaches used by teachers may result in different proficiency writing they have.

CLIL (Content Language Integrated Learning) is one of the approaches that teachers use in teaching English. It is a combination of language and subject matter. Marsh et al. (2005) mentioned that CLIL is a dual teaching approach that utilizes the language and the subject at the same learning time. The students acquire the language through the subjects. The portion of students who use the target language is higher. Therefore, the students get more chances to acquire the target language. Some studies have shown the effectiveness of using CLIL in teaching English writing. Alnoori (2019) stated that CLIL students made fewer grammatical errors orally or in written tests than mainstream students. Besides, CLIL programs favor students' written production, including grammatical complexity, fluency, accuracy, and lexical complexity (Martinez, 2017). In addition, the students who were taught using CLIL showed a greater improvement in their writing skills.

In a bilingual school, English is used as the main language instruction. Suganob-Nicolau and Sukamto (2016) argued that bilingual/international schools have more English exposure than students in national schools. They assumed that these students had higher English competency. CLIL Bilingual school students acquire the language through the subjects. Jexenflicker and Dalton-Puffer (2010) mentioned that CLIL students have higher morphosyntactic resources to deploy more elaborate and complex sentences. Krashen (1983) stated that students' ability to construct complex sentences can show their writing maturity. Hunt (1965) measured the syntactic maturity of students writing by using T-unit analysis. T-unit analysis has been frequently utilized to gauge the overall syntactic complexity of speech and writing samples, mainly in both first-language learning/teaching and, more recently, for second-language learning and teaching. In first language acquisition, syntactic maturity is reflected by the longitudinal growth of T-unit length (Gaies, 1980). T-unit is defined as "a main clause plus all subordinate clauses noncausal structures attached to or embedded in it" (Hunt, 1970). The growth is linear as the children's speech and writing have longer T-unit lengths as they grow older. Therefore, the T-unit length gives a satisfying and stable index on students' language development. The development of syntactic maturity in second language acquisition proceeds much the same as in first language acquisition (Gaies, 1980). Hunt (1970) demonstrated that as school children grow older, the complexity of their syntax and the mean of T-unit length are also increasing.

Several previous studies have investigated the students' gender differences in writing. Pratama et al. (2020) discovered that female students' writing was longer than male students. The result was indicated by the students' complexity of the sentences. Suganob-Nicolau & Sukamto (2016) investigated the disparities between genders in the ability of Indonesian EFL

students to write complex sentences. The result showed that female students produced more T-units on average and showed greater imagination and inventiveness when constructing complicated sentences. While in terms of lexical variety production, male students outnumbered female students. Saragih & Natalia (2020) investigated the gender differences in journal article abstracts based on the type of sentences used. They concluded that male students had more complex sentences in their abstract than female students. However, no previous study has investigated the gender differences in primary students in CLIL bilingual education. Most previous studies discussing gender differences in writing investigated higher education students. So, there is a need to discuss the primary students' language development between females and males.

Considering this issue, this study aimed to investigate the language development of CLIL bilingual education students between male and female students. Numerous studies have been conducted to determine the effectiveness of using CLIL in writing, but none of them discuss how gender is reflected in the results of their writing. The investigation is conducted under two analyses. First, the researcher analyzes the student's writing proficiency in producing complex sentences between males and females. Second, the researcher examines the gender differences in producing complex sentences. The result of this study is expected to be useful for teachers who consider the students' gender differences as an important role in teaching writing. Hence, they can design an appropriate teaching strategy to help both genders so that the language development between male and female students can be equal.

RESEARCH METHODOLOGY

A descriptive study was chosen to obtain further in-depth information about gender differences in students' writing. According to Calderon (2006), descriptive study is a set of processes of acquiring, analyzing, classifying, and generating data on current phenomena, practices, trends, and cause-and-effect linkages and then forming inferences. The participants of this study were 50 primary six students who learned English using the CLIL approach. They also used English as their first language instruction at school. At the end of the semester, the students must follow a writing test that requires them to be able to write a paragraph based on the topic given. Therefore, the teachers taught them about some components of writing, such as content, language use, vocabulary, and mechanics.

The researcher used document analysis to analyze the students' language development of complex sentences between male and female students. The documents were taken from the students' essays, the topic of which was a personal diary. There were two ways to analyze the data based on the research questions. First, this study used T- writing samples to measure the students' language development of complex sentences (Hunt, 1965). The T-unit analysis is employed to assess the overall syntactic complexity of writing samples in first-language studies and, more recently, in studies of the acquisition and instruction of second languages (Hunt, 1965). Initially, he utilized the T-unit to assess the students' sentence development in the writing of children at schools. "T-unit" refers to "the main clause plus all subordinate clauses and non-clausal structures attached to or embedded in it" (Hunt, 1970). Each unit includes one independent clause and one or more dependent clauses. When independent clauses (with subjects and finite verbs) are connected, a sentence has two (or more) T units. For example (Bardovi-Harlig, 1992):

1) There was a woman next door, and she was a singer.

(S + S) = 2 T units

2) There was a woman next door who was a singer.

[S (S)] = 1 T unit

"T" in "T-unit" can be determined by looking at the simple sentence (a sentence which has subject and verb), with or without a subordinate clause (a clause which has subordinate conjunction such as because, since, as although, before, after, while, if, etc.). A sentence counts as one "T-unit" if it uses a simple sentence with or without a subordinate clause. Furthermore, if a sentence is connected by one coordinate clause (a clause with coordinator conjunction such as and, but, or, and so), it is counted as two T-units.

After analyzing each sentence by deciding the number of T-units, the level of sentence complexity is counted by a formula of "the total number of T-units divided by the number of total sentences" (Kurniawati & Astika, 2011). The average level of sentence complexity is 1. If the total number of T-units is 100, and the overall number of sentences is 100, the sentence complexity is 1 (100:100). The level of sentence complexity is high if there is more than 1. Knowing the sentence analysis from the T-unit analysis can describe the syntactic complexity in students' written production (Bardovi-Harlig, 1992). This sentence analysis enables knowledge of coordination to be conveyed quantitatively. Therefore, it accurately represents the learner's knowledge.

A sentence with a subordinate conjunction cannot stand alone. An independent clause should follow it. According to Solorzano (2015), a few subordinate conjunctions are divided into categories based on the connections they might create between clauses. Below are the categories:

Showing Causal Relationship	As; because; in order to; so that; now that; since
Granting Concessions	Although; as; as though; even though; just as; whereas; while
Specifying Conditions	Even if; if; in case; provided; unless
Telling Place	Where; wherever
Signaling Temporal Relationship	After; as; as soon as; as long as; before; once; still; till; until; when; whenever; while
Setting Up Comparison	As; as though
Setting Up Contrast	Though; whereas; while; although

Table 1. The mean of the students' sentence complexity

In written form, a comma separates two clauses (the subordinate clause and the independent clause), for example, "Eti cannot practice the piano because her piano is broken". Additionally, the added information after the comma informs the information from the previous sentence. For example, the words used include, such as, also, except, and especially. The comma is always put before the word, such as "There are many farm animals, such as chickens, ducks, and cows, that live on a farm."

After determining the students' T-unit levels, the data were generated using SPSS to find the significant difference between female and male students' T-unit levels so that a comparison between the students' writing proficiency could be reported.

Second, to measure the students' production of complex sentences, this study used a software named Antconc developed by Lawrence Anthony. This application counted the total number of words (types) and the overall word count (tokens). The data were computed into the application to get the type-token ratio (TTR) used for the vocabulary richness produced by male and female students. The type-token ratio (TTR) is a metric for vocabulary variety in spoken or written language (Williamson, 2009). The number of types is divided by the number of tokens to obtain the TTR. Then, the resulting number is multiplied by 100.

RESULT AND DISCUSSION

This present study discussed the writing proficiency level between female and male students by analyzing the average number of T-unit levels in the sentences and the differences between genders in the production of complex sentences.

Analysis of Students' Writing Proficiency in Sentence Complexity Level

The first set of questions discussed the students' sentence complexity. The aim of measuring sentence complexity was to determine the production of complex sentences by L2 students, both males and females (Suganob-Nicolau & Sukamto, 2016). Sentence complexity was determined by the number of T-units in the sentences. A simple statistical analysis was used to determine the differences between females' and males' writing proficiency by looking at the average number of T-unit levels in the sentences. The result is shown in Table 2 below.

Group statistics				
Sentence Complexity	Gender	N	Mean	Std. Dev
	Male	25	1.2636	.18221
	Female	25	1.2000	.18989

Table 2. The mean of the students' sentence complexity

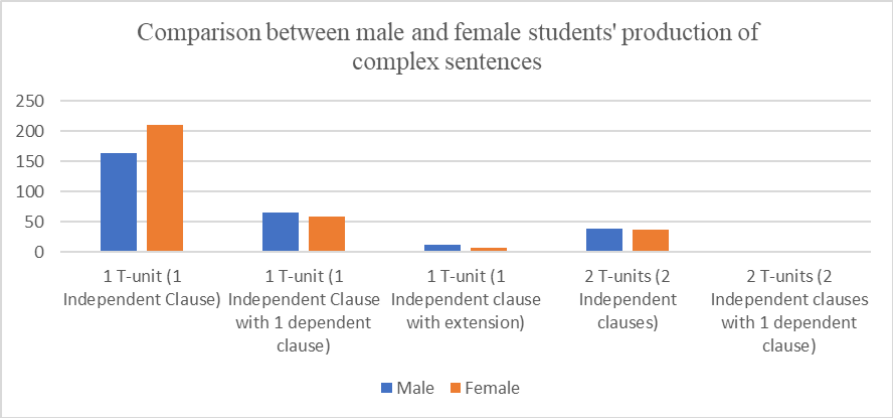
The students' number of T-units in the sentences was analyzed and counted manually. Then, to compare the students' sentence complexity levels of male and female students, an independent-sample t-test was conducted. As Table 2 shows, there was no significant difference (t (48) =1.21, p= 0.283) between the two groups, male (M=1.26, SD=.182) and female students (M=1.20, SD=.189). These results suggested no significant difference between male and female students in their complex sentence level as the p-value was more significant than .05. Dahiru (2008) mentioned that if the p-value was less than .05, it shows that the result is statistically significant. The test's results revealed no discernible differences between male and female students in terms of their writing proficiency or level of sentence complexity. The difference between the male and female students' T-unit levels was slightly different but insignificant. Thus, male and female students could be equally skilled at composing complex sentences.

Nevertheless, this outcome was contrary to that of Pratama et al. (2020), who found a substantial difference in the complexity of the sentences written by male and female students. The participants of their study were junior high school students in Bali. However, there was no further explanation about the background of the school. The result of this study differed from the previous study because the participants of this study were experienced in getting the CLIL

approach at school since the first grade. Nikula (2017) mentioned that CLIL students had more elaborate and more complex structures in their writing. Thus, both male and female students exhibited equal complex structures in their writing. This result was also supported by Martinez (2017), who stated that the CLIL students conveyed better writing production in all aspects, including fluency, accuracy, grammatical complexity, and lexical complexity.

3.2 Analysis of Students' Complex Sentence Production

The second finding revealed a contrast between the complex sentence output of male and female pupils. The comparison is described in the graph below:



Graph 1. Comparison of students' complex sentence production

From graph 1 above, we can see that the overall students mostly used 1 T-unit (1 independent clause) when writing a personal diary. Male students' preferences in producing complex sentences were 1 T-unit (1 independent clause) (163), 1 T-unit (1 independent clause with one dependent clause) (65), 2 T-units (2 independent clauses) (39), 1 T-unit (1 independent clause with extension) (12), and 2 T-units (2 independent clauses with 1 dependent clause) (1).

Comparatively, female students' production of complex sentences from the highest frequency was 1 T-unit (1 independent clause) (210), 1 T-unit (1 independent clause with a dependent clause) (59), 2 T-units (2 independent clauses with 1 dependent clause), 1 T-unit (1 independent clause with extension), and none of them used 2 T-units (2 independent clauses with 1 dependent clause). Noticeably, the T-unit revealed some patterns. Here were some examples of students' writing classified into T-units were presented in this table:

1 T-unit	**2 T-units**
1 independent clause	2 independent clauses
e.g. *Last week, I played with Nabila.* (S1)	e.g. *First, we went to Thailand and there was a lot of traffic on the way to the hotel.* (S13)
1 independent clause with a dependent clause	2 independent clauses with a dependent clause
e.g. *When I had breakfast, the food was very yummy.* (S33)	e.g *When I arrived at school, I went to my classroom and I put my bottle there.* (S22)
1 independent clause with extension	2 independent clauses with extension

e.g *After booking a hotel, I and my parents went to Japan's version of Universal Studio and it was so fun!* (S21)	-

Table 3. Examples of T-units' sentences

Both male and female students used complex sentences with subordinate conjunctions. The subordinate conjunction that they used mostly was "because" to state a causal relationship, "when" to explain a temporal relationship, and "after" to signal a temporal relationship. Based on the analysis, male students tended to use more subordinate conjunctions to signal temporal relationships, such as "when, before, after, and while". They used these conjunctions to inform the readers about their next activities. For examples:

1. After we played, we went to the counseling room. (S22)
2. After I clean my bed, I am getting ready to Jogja. (S46)

On the other hand, female students liked using fewer subordinate conjunctions to show a causal relationship, such as "because, as, and since". They used these conjunctions to explain why they did that activity. For examples:

1. I prefered to go to the Mall because I was so bored at home all day. (S16)
2. We bought a snack and drink because we're so hungry and thirsty. (S6).

Therefore, it could be assumed that there was a difference in the students' writing styles. Furthermore, it was also crucial to examine the total number of sentences (tokens) and the variety of words and word kinds that the students created to determine the students' vocabulary richness. There were 8352 words found in students' writing, consisting of 3995 words from female students and 4357 words from male students. Regarding the number of words, female students created more words than male students.

Students	**Types**	**Tokens**	**TTR**
Female	996	3995	24,93%
Male	926	3988	23,22%

Table 4. Comparison between males and females' production of types of words and number of words

Table 4 summarizes the disparities between male and female students' word production types and word counts in writing. As shown in Table 4, female students produced 996 types of words and 3995 tokens with a TTR (type-token ratio) of 24.93%. On the other hand, male students produced 926 types of words and 3988 tokens with a TTR of 23.22%. The result showed that female students produced more words and types of words when writing a personal diary. This also accorded with the earlier observations of Williamson (2009), which showed that the more tokens were higher, the more vocabulary/ lexical variety was diversified.

Additionally, this finding was also reported by Saragih & Natalia (2020) and Aperocho (2016), who discovered that female students used simpler sentences than males and that male students used more complex sentences when writing. Both male and female students used the same pattern: one independent clause with one dependent clause connected by a subordinate conjunction. However, the difference was the subordinate conjunction that they used in their writing. They used various subordinate conjunctions. Nonetheless, male students used more subordinate conjunctions in their writing than females. This result might be explained by the fact that male students liked to express their ideas more elaborately and used subordinate

conjunctions to connect them. At the same time, female students liked to use fewer subordinate conjunctions because they preferred to deliver their ideas declaratively simply. Additionally, regarding the number of words the students produced, female students penned more words of more diverse types than male students. It indicated that females had a higher lexical variety than males when writing a personal diary. This result differed from the previous work in Suganob-Nicolau & Sukamto (2016), which showed that male students produced more significant lexical variation than female students. This might be because women employed more expressive language, communicative gestures, productive vocabulary, and word combining when writing personal diaries. (Erickson et al., 2012).

CONCLUSION

The present research examined gender differences in writing complex sentences of primary six students in CLIL bilingual education. The results of this investigation showed that there was no significant difference between male and female students in their writing proficiency in complex sentences. The evidence from this study suggested that students who experienced the CLIL approach exhibited similar writing proficiency in using complex sentences. This result confirmed that CLIL students had more elaborate and complex structures in writing. This study's contribution has confirmed that the CLIL approach may be utilized to improve both male and female students' writing, particularly in their complex sentences. An issue that was not addressed in this study was whether the CLIL showed a significant difference between the students before and after experiencing the CLIL approach. Hence, this issue was intriguing and could be usefully explored in further research.

In terms of producing complex sentences, male students outperformed females. Female students used more straightforward sentences when writing a personal diary, while male students used more complex ones. On the other hand, female students had a higher lexical variety than males. The results of this research supported the idea that females used various vocabularies to express their ideas and feelings. Therefore, these findings had significant implications for understanding how gender impacts the ability to produce complex sentences when writing and using lexical variety. Being limited to the number of students and schools, this study lacked exploring the participants with the same characteristics so that the result would be more comprehensive and well-built. Further studies must be conducted to validate the gender differences in students' ability to use complex sentences.

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