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# Examining Syntactic Complexity in EFL Learners' IELTS Writing Performance

**Komara Suhendar**
Universitas LIA, Jakarta, Indonesia
komara.suhendar@universitaslia.ac.id

**Abstract**

This study investigated IELTS writing performance among EFL learners with advanced proficiency in terms of syntactic complexity. Following Lu's proposal (2011) on the indices of syntactic complexity, which includes Length of Production, Sentence Complexity, Subordination, Coordination, and Particular Structures (e.g. complex nominals and verb phrases), the writings were analysed. The findings revealed that learners construct sentences primarily through clausal structures, with a mean sentence length of 16.55 words and an average of 2.26 clauses per sentence. At the same time, they also demonstrated more frequent form of complex nominals and coordinate phrases, which accounted for 4.49/T-unit and 5.85/T-unit, respectively. While these findings partially support the view that growth in one domain can lead to a reduction in another, they also present a more nuanced perspective. Specifically, the results suggest that advanced learners tend to employ clausal complexity to achieve cohesion and phrasal complexity to ensure conciseness in their writing. These findings extend the existing literature on syntactic complexity by emphasizing the interplay between clausal and phrasal constructions in advanced learners' writing.

**Keywords:** *syntactic complexity, EFL Learners, IELTS Writing Performance*

## Introduction

Syntactic complexity, which has been the central area of investigation in writing research, is the construct that indicates to what extent one's writing skill has developed over time (Ortega, 2003; Norris & Ortega, 2009; Lu, 2010). Grounded in Hunt's work (1970) on analyzing T-unit in first language development, this area has traditionally been portrayed in terms of clause-level complexity, where proficiency development was manifested through how long one can produce T-units, subordination, and more complex embedded clause (Gaies, 1980; Wolfe-Quintero, Inagaki, & Kim, 1998). This work was later developed and informed indices employed to evaluate proficiency in L2 writing research, including the Mean Length of T-unit (MLT), Clauses per T-unit (C/T), and subordination ratios (Ortega, 2003; Lu, 2011).

However, the attention has shifted toward phrase-level complexity as a defining construct of advanced written discourse (Biber & Gray, 2010, 2016; Biber, Gray, & Poonpon, 2011). This view sees writing proficiency level—particularly in academic contexts—involves less clausal subordination, but placed more emphasis on phrasal complexity, including phrasal modifiers and noun phrases. This complexity allows English learners to produce compact information that aligns with the style found in expert academic registers (Halliday, 1994; Biber & Gray, 2010). Accordingly, phrase complexity, rather than clause complexity, is often regarded as a hallmark of advanced writing.

These two views has resulted in an ongoing debate regarding the extent to which advanced English learners manifest their writing proficiency at the level of clausal

complexity or phrasal complexity. Some studies found that at the outset, learners acquire clausal complexity and later shift towards phrasal density as their proficiency level increases (Ortega, 2003; Seo, 2024). Meanwhile, other studies suggested that advanced academic writing is visualized more by elaborating phrasal complexity than by clausal subordination (Biber & Gray, 2016). In addition, it was discovered that when English learners placed greater emphasis on one domain (e.g. phrasal complexity), it may reduce development in another (e.g. clause complexity).

In spite of these views, there has been no consensus on this debate, particularly in IELTS writing performance. While types of task, cohesion, and lexical sophistication are often foregrounded in IELTS writing research (Moore & Morton, 2005; Yu, 2010), there are very few studies investigating the interaction of clause and phrase complexity in this domain. As IELTS writing band score is important to determine learners' academic and professional proficency, understanding the salience of syntactic complexity in learners' performance can provide insights for both theoretical and pedagogical aspects.

Therefore, this research addresses the gap by examining the interaction of clausal and phrasal complexity in EFL learners' IELTS writing performance. More specifically, it investigates which views (greater clause-level elaboration, denser phrase-level constructions, or a combination of both) are more salient in learners' IELTS writing.

## Literature Review

Syntactic complexity has frequently been used as a construct to assess learners' writing development in terms of the use of T-units, clauses, and phrases in writing production (Lu, 2011; Ortega, 2015; Norris & Ortega, 2009). It means that how learners employ syntactic complexity during their writing reflects the advancement of one's skills, as learners can adapt to the complexity commonly found in academic registers (Biber, Gray, & Poonpon, 2011).

Early studies of syntactic development primarily emphasized clause-level elaboration as the key indicator of complexity. To measure complexity, indices such as Mean Length of T-unit (MLT), Mean Length of Clause (MLC), Clauses per T-unit, and dependent clauses per clause were developed to capture learners' use of subordination (Hunt, 1965; Wolfe-Quintero, Inagaki, & Kim, 1998). The research findings revealed that the incorporation of clausal complexity is more preferrable among advanced learners in their writing (Ortega, 2003; Norris & Ortega, 2009).

Phrasal complexity, however, has gained much attention as the alternatives that characterized advanced academic writing aside from clausal complexity (Biber, Gray, & Poonpon, 2011; Lu & Ai, 2015). It was proposed that indices in phrasal complexity such as coordinate phrase, verb phrase, and complex nominals were found that represent academic style (Kyle & Crossley, 2018). It was found that students working on academic discourse tend to prefer using phrases such as verb phrase, noun phrase, and complex nominals in their writing in order to be concise and precise (Biber & Gray, 2016).

Another perspective also gives contribution to the research of syntactic complexity. Although a preference for either phrasal or clausal complexity has been observed in advanced learners' writing, some studies have uncovered a different view. It has been suggested that there is a tendency in the reduction of one of domains when the other domain is more dominant (Kyle & Crossley, 2018; Uzun, 2021). For example, students may find themselves rely on independent and dependent clauses during the writing. This results in the reduction of the phrasal use in their writing. This perspective challenge the view that advanced learners use either clausal or phrasal complexity.

The terms "performance" stems from Chomsky's proposal (Chomsky, 2014) where he introduced the crucial difference between competence and performance. According to Chomsky (2014), competence is defined as how individuals possess their mother tongue and how it is innated within the individuals, where they are able to produce and understand inherently the grammar of their language. Using their competence, they are also able to distinguish between correct and incorrect sentences. They may not be able to explain why a sentence is correct or incorrect; they just rely on their innate knowledge. However, performance indicates the practical skill individuals use when they produce spoken utterance during conversation or written expressions when they write sentences or essays.

Writing performance is often associated with the application of linguistic features, which serve as the tangible manifestations of an individual's skill. Looking at the context of research writing, especially in language assessment, lexical diversity, syntactic complexity, and cohesion, employed in written texts provide insights into the extent to which a person can write well. Thus, writing performance can be reflected through the manifestation of syntactic complexity that exists in students' IELTS writing.

In light of the issue in how to measure syntactic complexity in learners' writing, Lu's proposal (2011) suggested measures in syntactic complexity, which comprises how long and how complex learners produce sentences, techniques in using subordinating conjunction, coordinating conjunction, and particular structures.

**Syntactic Complexity Indices**

This section elaborates on how to conceptualize syntactic complexity indices and how to derive their values from a piece of writing. Let's have a look at the following paragraph!

"*A number of students prefer taking online classes as it is considered more flexible and minimizes the time required. However, some students think that offline classes are more effective since they can actively involve themselves in discussion with their teachers. Even though online classes are convenient, students may experience solitary.*"

Before stepping into four types of indices, we need to identify the number of clauses and T-unit in the short paragraph above. The identified clauses and T-unit can be seen as follows:

Table 1. The number of clauses and T-unit

| Sentence | Clauses (numbered) | Details | T-unit |
|---|---|---|---|
| 1 | A number of students prefer taking online classes **as it is considered more flexible and minimizes the time required.** | Contains 3 clauses: 1 main + 1 dependent | T1 |
| 2 | However, some students think **that offline classes are more effective since they can actively involve themselves in discussion with their teachers.** | Contains 3 clauses: 1 main + 2 dependent | T2 |
| 3 | **Even though online classes are convenient**, students may experience solitary. | Contains 2 clauses: 1 dependent + 1 main | T3 |

From the analysis above, we can see that the paragraph has three sentences with **3 independent clauses** and **4 dependent clauses**. It is also known that each sentence also serves the same function as T-unit, so there are **3 T-units** in the paragraph. As for the number of words, the paragraph has **56 words** in total.

Now, let's analyse the first measure, which is *Length of Production*. First of all, Mean Length of Clause (MLC) is required by dividing the number of words (56) and the number of clauses (7). Next, we need to calculate Mean Length of Sentence (MLS) by dividing the total words (56) and sentences (3). The last step to figure out the length of production is by calculating Mean Length of T-Unit (MLT) by dividing the number of words (56) and the number of T-units (3). After being calculated, the results are 8.0 (MLC), 18.7 (MLS), and 18.7 (MLS) respectively. From these numbers, we know that clauses in the paragraph above average 8 words, while the T-units contain nearly 19 words.

The second type is *Sentence Complexity*. Basically, it can be obtained by dividing total clauses (7) and total sentences (3), which accounts for 2.67. It means that each sentence consists of approximately 2 – 3 clauses.

The third type is *Subordination*. To calculate this measure, it involves clauses (C), T-units (T), complex T-units (CT), dependent clauses (DC). Firstly, total clauses (8) should be divided by total T-units (3), resulting in 2.67. Meanwhile, the ratio between complex T-units (1) and T-units (3) is required, yielding 0.3. Dependent clause (4) should also be divided by clause (7) and T-units (3), and it accounts for 0.5 and 1.3 respectively.

The fourth type is *Coordination*. The paragraph sample shows only 1 Coordinate Phrase (CP) as in *is considered more flexible and minimizes the time required.* If divided by total clauses, it results in 0.125 (CP/C). Furthermore, the value of CP/T is 0.33, which divides the coordinate phrase with the total T-units. Lastly, the ratio of total T-units (3) and sentences (3) is 1.0 (T/S).

The fifth type of measure is called *Particular Structure*. The existence of complex nominals within clause, T-unit is the indicator to determine value of this measure. Also, Verb phrases in the T-unit is counted. In this context, 5 examples of complex nominals can be found such as *number of students, online classes, offline classes, the time required, discussion with their teachers*. Therefore, the value of complex nominals (5) divided by the total clause (8) is 0.63 (CN/C). In terms of Complex nominal with T-units, we can see that there are more complex nominals (5) than the total of T-Units (3), indicating that CN > T, with a CN/T ratio of 1.67. As for Verb Phrase (VP), the paragraph contains 8 VPs, including *prefer, is considered, minimizes, think, are, can actively involve, may experience.* Thus, the value of VP/T is 2.67, deriving from 8/3.

The following table provides the summary of indices to measure syntactic complexity (Lu, 2011).

Table 2. The summary of indices to measure syntactic complexity

| ***Measure*** | **Code** |
|---|---|
| ***Type 1: Length of production*** | |
| *Mean length of clause* | MLC |
| *Mean length of sentence* | MLS |
| *Mean length of T-unit* | MLT |
| ***Type 2: Sentence Complexity*** | |
| *Clauses per sentence* | C/S |
| ***Type 3: Subordination*** | |
| *Clauses per T-unit* | C/T |
| *Complex T-units per T-unit* | CT/T |
| *Dependent clauses per clause* | DC/C |
| *Dependent Clauses per T-unit* | DC/T |
| ***Type 4: Coordination*** | |

| | |
|---|---|
| *Coordinate phrases per clause* | CP/C |
| *Coordinate phrases per T-unit* | CP/T |
| *T-units per sentence* | T/S |
| ***Type 5: Particular Structures*** | |
| *Complex nominals per clause* | CN/C |
| *Complex nominals per T-unit* | CN/T |
| *Verb Phrases per T-unit* | VP/T |

**Sentence, Clause, and Dependent Clause**

This part elaborates how sentence, clause, and dependent clause are defined according to Hunt (1965). A sentence means a string of words that has punctuation in the end of its part, including period, question mark, or exclamation mark, even sentence fragments in a piece of writing are considered as sentences, too. Furthermore, (independent) clause should have at least one subject and one verb. Dependent clause, however, refers to clause that cannot stand on its own due to the existence of subordinating conjunction.

**T-Unit and Complex T-unit**

A main clause followed by a dependent clause is defined as T-unit (Hunt, 1970). This is also similar to sentence, but excluding sentence fragments in the definition. However, T-unit may contain more complex clauses and do not match the existing definition of T-unit, which lead to ambiguity determining whether it is classified as coordinated or subordinated (Lieko, 1992) as in the following example:

"*If he studies hard, he will pass the exam and will be able to study abroad as he has been dreaming of it since he was a child*."

In this case, it is essential to identify the dependency in the application of T-unit to measure syntactic complexity.

**Coordinate Phrase, Complex Nominal, and Verb Phrase**

According to Lu (2011), coordinate phrase refers to phrase formed through the coordination of adjectives, adverbs, nouns, or verbs; meanwhile, complex nominals is considered as nouns modified with adjective, relative clause, participle, prepositional phrase, or appositive; noun clauses; and gerunds and infinitives as a subject.

## Method

This research involved 12 students as participants who are currently in their fourth year in the university level. The reason why these 12 students were selected is because they are attending IELTS preparation course as part of the University's curriculum to enhance students' English proficiency. Before taking the course, the students also passed the advanced grammar course, which may contribute to their overall writing skill.

Aside from research participants, this research also used the students' writing samples as a part of data for further analysis. The students were given two types of writing task as in IELTS writing test, which are writing task 1 and 2. The writing questions were adapted from Cambridge IELTS book, which provides similar types of question such as describing and comparing line graph, and opinion question (agree or disagree). During the writing test, the participants were given 60 minutes to complete those two tasks.

This research is carried out through descriptive qualitative approach, which allows researcher to obtain detailed understanding of the syntactic complexity produced by the participants during the writing test. The data were collected from records generated during the midterm test in IELTS preparation class. First of all, a number of writing samples in IELTS writing task 1 and 2 were collected. After that, they were identified and analyzed according to the syntactic complexity metric in Lu (2011).

## Results

The finding of this research can be elaborated in four types of measure as in Lu (2011). The result can be seen in the following table:

Table 3. Types of measure

| No | Types of measure | Code | Mean |
|---|---|---|---|
| 1 | **Length of production** | | |
| | *Mean length of clause* | MLC | 5,46 |
| | *Mean length of sentence* | MLS | 16,55 |
| | *Mean length of T-unit* | MLT | 16,55 |
| 2 | **Sentence Complexity** | | |
| | *Clauses per sentence* | C/S | 2,26 |
| 3 | **Subordination** | | |
| | *Clauses per T-unit* | C/T | 2,26 |
| | *Complex T-units per T-unit* | CT/T | 0,33 |
| | *Dependent clauses per clause* | DC/C | 0,32 |
| | *Dependent Clauses per T-unit* | DC/T | 0,74 |
| 4 | **Coordination** | | |
| | *Coordinate phrases per clause* | CP/C | 2,68 |
| | *Coordinate phrases per T-unit* | CP/T | 5,85 |
| | *T-units per sentence* | T/S | 1 |
| 5 | **Particular Structures** | | |
| | *Complex nominals per clause* | CN/C | 2,08 |
| | *Complex nominals per T-unit* | CN/T | 4,49 |
| | *Verb Phrases per T-unit* | VP/T | 2,26 |

### Length of Production

*Mean length of clause (MLC)* indicates the average number of words divided by clause. According to the table, the mean length of clause is 5.46 words, which means that, each clause contains approximately 5.46 words on average. Looking at *Mean length of sentence (MLS),* it shows the average number of words in one sentence. In this case, the mean length of sentence is 16.55 words, which suggests that each sentence consists of approximately 16.55 words on average. In addition, *Mean length of T-unit (MLT)* means the average number of words per T-unit (which usually corresponds to a sentence). Here, the mean length of T-unit is 16.55 words, implying that, each T-unit accounts for 16.55 words on average.

**Sentence Complexity**

According to the table, the value of the average number of clauses per sentence is 2.26, which indicates that each sentence contains approximately 2.26 clauses on average.

**Subordination**

*Clauses per T-unit* means the number of clauses in T-unit (sentence). This value, 2.26, implies that, sentence includes around 2.26 clauses. Meanwhile, *Complex T-units per T-unit* indicates the number of complex T-units (sentences) per T-unit. With a value of 0.33, it means that approximately 33% of the sentences have complex structures.

*Dependent clauses per clause* emphasizes on the number of dependent clauses per clause. The value in the table (0.32) shows that each clause contains around 0.32 clauses. Furthermore, *Dependent clauses per T-unit* demonstrates the average number of dependent clauses in one single T-unit (sentence). A value of 0.74 indicates that each sentence consists of approximately 0.74 dependent clauses on average.

**Coordination**

*Coordinate phrases per clause* measures the average number of coordinate phrases per clause with a value of 2.68. Therefore, it can be concluded, on average, each clause contains around 2.68 coordinate phrases. Moreover, *Coordinate phrases per T-unit* present a value of 5.85, which indicates that each sentence includes approximately 5.85 coordinate phrases on average. *T-units per sentence* shows the average number of T-units (sentences) per sentence. As the value accounts for 1, it suggests that there is exactly 1 T-unit (sentence) per sentence.

**Particular Structures**

*Complex nominals per clause* shows a value of 2.08, suggesting that, on average, each clause contains approximately 2.08 complex nominals. *Complex nominals per T-unit* accounts for 4.49, which refers to the average number of complex nominals per T-unit (sentence), which means, on average, each sentence includes around 4.49 complex nominals. With a value of 2.26, *Verb Phrases per T-unit* indicates that each sentence comprises approximately 2.26 verb phrases on average.

## Discussion

The present study investigated syntactic complexity in EFL learners' IELTS writing by analyzing measures of length of production, sentence complexity, subordination, coordination, and nominal structures. The results provide a more nuanced picture of syntactic development, one that both engages with existing claims and extends beyond them.

In line with prior studies (Norris & Ortega, 2009; Ortega, 2015), the results indicate that learners are able to produce long sentences consisting of multiple clauses (MLS = 16.55; 2.26 clauses per sentence) and display an average use of subordinating conjunctions (0.74 dependent clauses per T-unit). In this regard, the incorporation of clausal-level complexity emerges as the dominant feature of advanced learners' writing. Meanwhile, in terms of pharasal complexity, the findings reveal that there is a tendency to employ high density of phrasal structures, specifically complex nominals (2.08 per clause; 4.49 per T-unit) and coordinate phrases (2.68 per clause; 5.85 per T-unit). This

number is consistent with the view that writing produced by advanced learners is increasingly manifested in phrasal structures (Biber et al., 2011; Kyle & Crossley, 2018).

Considering these views, the research findings shed a light on the balanced preference on both clausal and phrasal complexity. They suggest that the selection of clausal and phrasal elaboration may not be in each isolation; rather, both combination is preferred in their writing.

While phrasal density often contributes to conciseness, clausal complexity allows for more informative embedding. Both repertoires appear in learners' writing as a response to the differing demands of IELTS writing task types (Task 1 and Task 2). The perspective gained from this study offers new insights into the existing literature of syntactic complexity research beyond the existing views that place clausal/phrasal elaboration and reduction in one of domains.

## Conclusion

This study examined syntactic complexity in EFL learners' IELTS writing performance by analyzing indices of clausal elaboration and phrasal density. The results indicate that while learners continue to employ clause-level elaboration through subordination and complex T-units, they also display a strong preference for phrasal elaboration, particularly via complex nominals and coordinate structures. These preferences suggests that syntactic development of advanced students cannot be accounted for solely by clause or phrase complexity alone. Furthermore, despite the existence of the view that sees the dominance in one domain (Kyle & Crossley, 2018; Uzun, 2021), the results support it partially it. They pinpoint the integration both clausal and phrasal complexity according to the delivery goal in writing.

The findings of this research broaden the insights into syntactic complexity by suggesting that advanced learners' writing should be viewed as an interplay between phrasal-level and clausal-level complexity, rather than being confined to the three existing views. Future research could investigate this tendency across different writing genres and proficiency levels.

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