IDEAS

Journal of Language Teaching and Learning, Linguistics and Literature

ISSN 2338-4778 (Print)
ISSN 2548-4192 (Online)

Volume 13, Number 1, June 2025
pp. 2020 - 2037

Issued by English study program of IAIN Palopo

Syntactic Tree Diagram: Students' Error in Constructing Tree Diagram for Phrase and Sentence Level

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Received: 2025-06-18 Accepted: 2025-06-30
DOI: 10.24256/ideas. v13i1.7245

Abstract

This research aims to investigate the common errors made by students when constructing tree diagrams for phrase level and sentence level. The descriptive qualitative approach was implemented with eight English Department students participating as research participants. The participants were the fifth semester students who took the syntax class of English Education Department at Musamus University. Data were collected through written tests in which students were asked to construct tree diagrams for noun phrase, verb phrase, prepositional phrase, and sentence. The result showed that students had difficulty in constructing tree diagram especially for sentence level and prepositional phrase level. The findings show varying levels of student performance. As the result, 0% students had difficulty to construct the tree diagram for a noun phrase, 12.5% students had difficulty to construct tree diagram for verb phrase level, and 62.5% students had difficulty to construct prepositional phrase tree diagram. At the sentence level, 75% of students had difficulty to construct tree diagram for more complex sentences such as *"The beautiful girl cares of her cat"* and *"The smart students in the library are smiling gaily"*, while 87.5% of students had difficulty for a simpler sentence, *"I have one sister"*. These results suggest that while students generally grasp phrase structures, they struggle with full sentence constructions and hierarchical syntactic patterns. The study highlights the need for more focused instruction and practice in sentence-level syntax and tree diagram construction to improve students' analytical skills and grammatical proficiency.

Keywords: *tree diagram, syntax, sentence level, phrase level*

ISSN 2338-4778 (Print)
ISSN 2548-4192 (Online)

Introduction

Learning English is essential, as it helps individuals navigate the challenges of the globalization era. People use English in various situations, both in written and spoken forms. Learning English involves acquiring the language itself, which serves as a communication tool that people use to interact, exchange ideas, and connect with others. English is the greatest common language spoken universally and is crucial for success in life, especially in advanced countries where English is a major requirement for employment (Nishanthi, 2018).

Effective mastery of English is not enough to know basic vocabulary and grammar, understanding the syntactic structure of the language is a crucial aspect that is often overlooked. When people speak or write, the words they use should adhere to established rules. The set of rules that underlie the use of language, or what the use of language guidelines, and what is discussed in syntax. Syntax plays a central role in linguistic theory, focusing on sentence structure and the rules that dictate how words are organized.

It forms the basis for analyzing, interpreting, and modeling language within the wider discipline of linguistics. Syntax is part of linguistics that talks about the pattern of the language and how it forms the correct sentence (Uspayanti, 2022). According to Wang (2008) syntax is the ability to combine words to form phrases and sentences, expressing ideas or thoughts, and is distinct from phonology and semantics. Moreover, syntax is fundamental for both language production and understanding, and plays an imperative role in communicating and helping others comprehend meaning (Aliti, 2024).

Learning syntax helps people construct more complex and effective messages. Analysis of syntax can be used as an alternative way to know the students' ability in grammatical. Examining syntactic structures is crucial for evaluating students' grammatical proficiency. Grammar is a comprehensive system that encompasses rules for word formation, sentence structure, and meaning. According to Radford (2019), grammar provides principles for sentence formation, where syntax specifies how words combine into hierarchical structures.

Learning syntax is essential because it helps us clearly and effectively illustrate the patterns of English, and allows us to systematically and explicitly analyze the structure of English sentences (Leba, et al; 2021). Understanding English syntax improves students' writing skills by enhancing text integration, coherence, variety of sentence structures, and enhancing critical thinking skills (Tanjung, et al; 2024). Analyzing and applying syntactic rules develops critical thinking skills, as students must make thoughtful decisions about how to organize and present their ideas most effectively.

Thus, Explicit syntax instruction significantly improves ESL students' knowledge and application of syntactic structures, leading to increased syntactic complexity in written compositions Ramzan, M., & Alahmadi, A. (2024). In syntactical, the capacity to accurately identify word classes plays a significant role in strengthening their overall command of grammar. A useful way to visualize

sentence structure when studying syntax is by using a tree diagram. Tree diagrams are a visual aid that illustrates the hierarchical structure of sentences in accordance with generative grammar and explain how words form phrases and how those phrases relate to one another inside a sentence.

By studying the tree diagram, students can identify the word class of each part within a sentence. Tree diagrams effectively illustrate grammatical relationships and highlight ambiguity in English sentence structure, supporting the analysis of syntax (Yun-Zhon; 2014). The fundamental structure of language can be visualized and understood with the help of tree diagrams, but students must be taught well and given the necessary support when using them an also reducing confusion and improving confidence in studying syntax (Van Truong, 2022).

Talking about tree diagrams means talking about Immediate constituent analysis. IC Analysis is a method of sentence analysis that was first mentioned by Leonard Bloomfield and developed further by Rulon Wells. Immediate Constituent (IC) analysis is a fundamental approach in syntactic theory that divides sentences into their immediate components to expose the hierarchical organization and distributional patterns of language. IC analysis remains a valuable tool for illustrating the structure of sentences (Krivochen, D.; 2024).

When studying syntax, using a tree diagram is an effective way to visualize sentence structure and one of the important items in learning English syntax. A tree diagram is employed in generative grammar to represent the internal hierarchical structure of sentences and Its advantage lies in illustrating the syntactic relationships among sentence components, and it also clearly depicts functional relationships through this method (Abdullah, 2020). Generative grammar in syntax is a theory of grammar that explains how sentences in a language can be formed through a systematic set of rules.

This diagram helps students grasp abstract grammatical rules more concretely by organizing components into clear, structural layers. However, despite its pedagogical benefits, many students continue to struggle with accurately constructing syntactic trees, often misidentifying phrase types, misplacing constituents, or misunderstanding grammatical functions. Tree diagrams illustrate the hierarchical structure of sentences by breaking them into smaller components, like phrases and sub-phrases, and showing how these elements are organized.

Typically, a sentence is split into a noun phrase (NP) and a verb phrase (VP), both of which can include additional parts. In learning English, the students still face problems in writing, one of them focus to the syntactical part. Writing is the act of converting thoughts into language. It refers to a variety of activities that involve conveying thoughts on paper, primarily emphasizing the rules and structure of language. In writing English text, the students should pay attention on the grammatical form and the syntactical to form good writing.

The problems face by students in writing such as for the mistakes in writing phrase, clause, and sentence. In this research, there are two parts that were

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ISSN 2548-4192 (Online)

discussed namely phrase and sentence. Phrase is a group of word that function in a sentence as a single part of speech (Uspayanti & Bawawa; 2022). The phrase in English consisted of a noun phrase, verb phrase, adjective phrase, adverbial phrase, and prepositional phrase. Moreover, as a part of written text, the sentence is also very important to be analyzed and used in daily life.

Sentence is a group of word consisting of subject and predicate. According to Supriyadi (2014), a sentence is a smallest part of a text which expresses the whole thought grammatically. Knowing various type of sentence in English can convey the message intended. In sentence, can be included phrase. Phrase structure in English included noun phrase, verb phrase, adjective phrase, adverbial phrase, and prepositional phrase. This research aims to fill that gap by systematically identifying and categorizing the errors students make in tree diagram construction, thereby informing more effective teaching strategies in syntactic theory and applied linguistics.

The recurring mistakes in students' syntactic tree constructions suggest deeper issues in their comprehension of sentence structure and syntactic theory. This study aims to analyze the common types of mistakes made by students when analyzing sentence structure using syntactic tree diagrams. The research focused on phrase level including noun phrase, verb phrase, prepositional phrase, and sentence level. By identifying the frequent errors found when constructing tree diagram, the researchers hope to contribute to the enhancement of syntax instruction, helps to illustrate the patterns of English, improves students' writing skills, develops critical thinking skills, and significantly improves ESL students' knowledge of syntactic structures.

Method

The research can be categorized as descriptive qualitative method that focused on students' errors in analyzing phrases and sentences for English written test. Qualitative research involves gathering, analyzing, and interpreting detailed narrative and visual data to better understand a specific phenomenon (Gay, 2006). Descriptive qualitative research is a popular method that relies on qualitative data and does not rely on numerical measurements or metrics for variable measurement (Furidha, 2024).

The subject of the research was eight students of fifth semester who taken the syntax class of English Education Department at Musamus University. The sample was chosen in form of purposive sampling that the participants took the syntax class and had given explanation in how to construct tree diagram of syntax in level of phrase and sentence. This research has been done during 1 month in December 2024, covering the process of data collection, analysis, and validation of findings.

The data were collected through writing test. The students were given writing test and constructed the tree diagram in a sentence and phrase level. Two linguistics specialists with expertise in syntax and pedagogy examined the syntax test to guarantee reliability and the validity. To ensure validity, the syntax test was

constructed using widely accepted phrase structure rules from generative grammar, aligning it with established theoretical linguistic frameworks. Data were collected through writing test, namely a syntax test in the form of a task to build a tree diagram for sentences and phrases level.

There were 5 questions included in writing test. For level of phrase, the students were given test about construct tree diagram of noun phrase *''new student'',* verb phrase *''is teaching,* and prepositional phrase *''in the kitchen''.* The students also were given written test to construct sentence level namely for more complex sentences such as *"The beautiful girl cares of her cat"* and *"The smart students in the library are smiling gaily"*, and a simpler sentence, *"I have one sister"*.

The tree diagram made should be based on the rule of IC analysis of tree diagram in syntax. Since the research focuses on investigating the problematic areas of syntactic errors committed to writing compositions, the researchers postulated a set of syntactic error categories to be analyzed. The classification included identifying part of speech, noun phrase, verb phrase, prepositional phrase, and sentence.For data analysis, a qualitative method was applied to analyze the sentence and phrase.

The technique employed was descriptive analysis, through which the researchers identified, described, and categorized spelling errors within sentences and further examined their sources. Data analysis was carried out by identifying errors in word categories, the way in deciding the word class, the use of suitable pattern for tree diagram, the use of suitable part for tree diagram, the way in break down sentence and phrase into the smaller part. Through this approach, the research seeks to gain deeper insights into the challenges students encounter when constructing tree diagrams and to propose more effective instructional methods for strengthening the understanding of syntax.

Results

Students' Problems in Analyzing and Deciding the Word Class of Phrases using Tree Diagram

This research focused on the error made by students in constructing tree diagram of phrase and sentence level using tree diagram in syntax. Based on the analysis of the syntactical working paper of students, it can be seen that the students had difficulty in constructing the tree diagram focusing on the phrase and the sentence level. For the first part, the students were given questions to construct tree diagram in phrase level consisted of noun phrase, verb phrase, and prepositional phrase.

Noun phrase consisted of determiner and noun as the head, verb phrase consisted of auxiliary and verb as the head, while prepositional phrase included PP → P + NP namely preposition and noun phrase.

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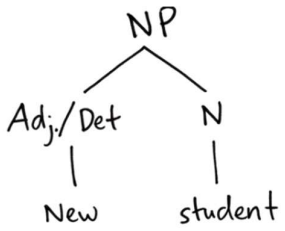
ISSN 2548-4192 (Online)

Table 1. The result of phrases level

Sentence	**Kind of Phrase**	**The Percentage of Errors Answer**	**The Percentage of Correct Answer**
New student	Noun Phrase	0%	100%
Is teaching	Verb Phrase	12.5%	87.5%
In the kitchen	Prepositional phrase	62.5%	37.5%

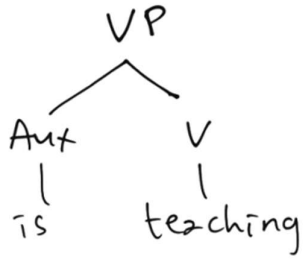
Based on the result of writing test answer about constructed tree diagram and decided the word class of tree diagram. It can be seen in table 1 about the result of error made by 8 students in answering writing test in syntax class. 0% of student gave error answer in constructing noun phrase tree diagram, 12.5% of student gave error answer in constructing verb phrase tree diagram, and 62.5% of students had difficulty in constructing prepositional phrase tree diagram.

As the result, the students were easier to construct syntax tree diagram in noun phrase level, to analyze word class and decided the phrase by using tree diagram. Based on table 1, all the students could construct the tree diagram of noun phrase and decide the word class of noun phrase. The noun phrase consisted of adjective as the determiner and noun as the head. 1 example can be seen below about the classified of noun phrase in tree diagram.



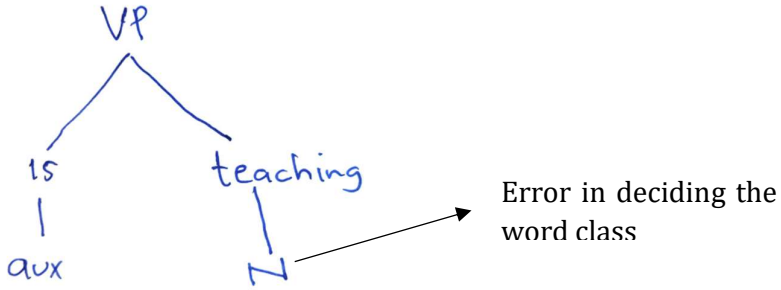
Picture 1. The correct answer of tree diagram of the noun phrase

The second part of phrase, the students were asked to construct tree diagram of verb phrase. In syntax, a **verb phrase (VP)** is a syntactic unit that has a **verb** as its head and may include various complements and modifiers. The VP functions as the **predicate** in a sentence, expressing what the subject is doing, and is a core component of syntactic structure. For the picture 2, the tree diagram was constructed by the students as the part of writing test. The tree diagram can be categorized as the verb phrase. The picture 2 showed the correct answer for the constructing tree diagram of verb phrase.



Picture 2. Tree correct answer of tree diagram of verb phrase

For verb phrase, the students had difficulty in identifying the word class using tree diagram. There was 12.5% of student who gave the incorrect answer. The error answer made by student can be seen for the picture 3 below.



Picture 3. The error of the verb phrase tree diagram

For picture 3, it can be seen tree diagram of VP for the phrase “is teaching”. Based on the result, there were 87,5% of students gave the correct answer and 12.5% of students gave an incorrect answer. The incorrect answer was caused by the student had difficulty in deciding the word class for the verb item. The tree diagram above contains a syntactic error in the labeling of the word "teaching." While the diagram correctly identifies "is" as an auxiliary verb (Aux) within the verb phrase (VP), it inaccurately labels "teaching" as a noun (N).

This labeling is inappropriate in the context of a progressive verb phrase such as "is teaching," where "teaching" functions as the main verb, not a noun. In such constructions, the correct analysis would be to label "teaching" as a verb (V), since it completes the verb phrase initiated by the auxiliary "is." Labeling it as a noun suggests a gerund or nominal use, which does not apply here. Thus, the error result showed that the student was incorrect in choosing the word class for “teaching”. As the picture 3, ‘’teaching’’ is as Head and as the verb.

The next part of phrase was prepositional phrase. By prepositional phrase, the students faced the error in construct tree diagram and identify the word class. In syntax, a Prepositional Phrase (PP) is a phrase that consists of a preposition (P) followed by its complement, typically a noun phrase (NP). A tree diagram visually

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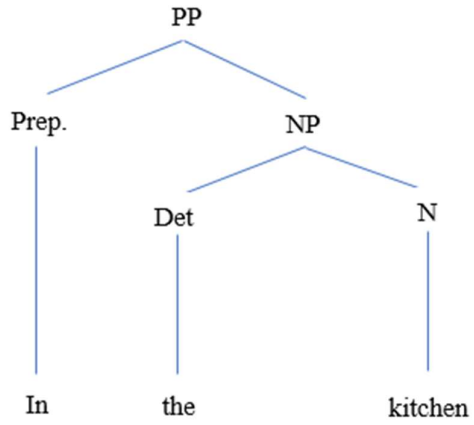
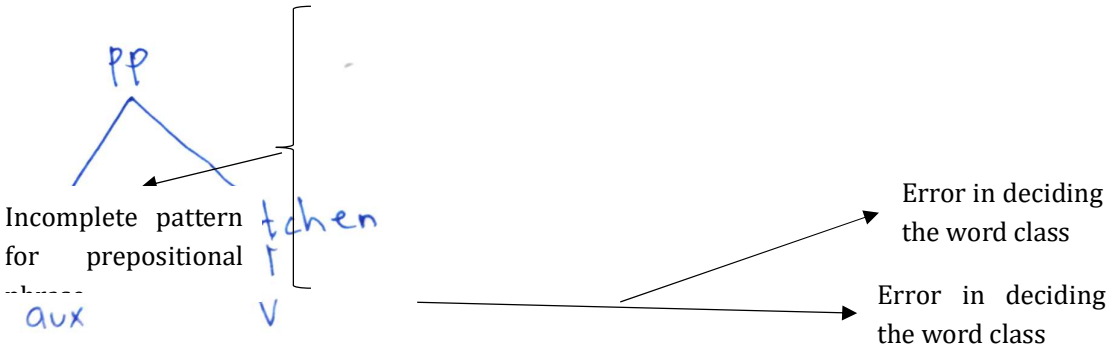
represents the internal hierarchical structure of the prepositional phrase and how its elements are related. The correct answer of prepositional phrase tree diagram can be seen in picture 4.



Picture 4. Tree diagram of Prepositional Phrase.

Based on the result of writing test of students for part prepositional phrase, there were 62.5% students gave incorrect answer. Based on picture 5, the error answer found by student. The general formula for a prepositional phrase (PP) tree diagram is PP → P NP, where P is a preposition and NP is a nominal phrase (Noun Phrase). Nominal phrases can consist of nouns, or they can be more complex phrases.

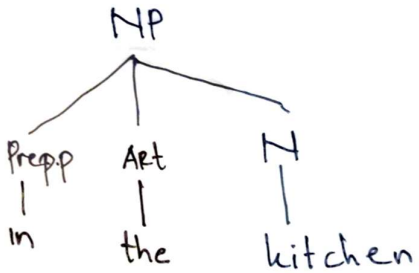


Picture 5. Error form in constructing tree diagram of prepositional phrase

As the case for the error found in constructing prepositional phrase that the students had difficulty in construct tree diagram of prepositional phrase with the right pattern and part, thus the students had difficulty to decide the word class for "kitchen". The word "kitchen" was classified as noun not as a verb. The tree diagram above contains multiple syntactic labeling errors in its analysis of a prepositional phrase (PP). The diagram identifies "in" as an auxiliary (aux) and "kitchen" as a verb

(V), which are both incorrect. In proper syntactic analysis, “in” is a preposition (P), not an auxiliary verb.

Similarly, “kitchen” is a noun (N), not a verb. It refers to a place, a concrete noun, and plays the role of the object of the preposition in the prepositional phrase. Verbs denote actions or states, and “kitchen” does not perform such a function in this context. Therefore, the correct syntactic structure should label “in” as P (preposition) and “kitchen” as N (noun), both forming a prepositional phrase (PP).



Picture 6. Error form in constructing tree diagram of prepositional phrase

There is a structural error in the syntactic analysis of the phrase "in the kitchen" in the tree diagram above. Instead of being classified as a Noun Phrase (NP), the phrase should be classified as a Prepositional Phrase (PP). The phrase “in the kitchen” is headed by the preposition “in,” which makes it a Prepositional Phrase (PP), not a Noun Phrase (NP). A PP generally consists of a Preposition (P) followed by a Noun Phrase (NP) serving as its complement. The tree labels “in” as Prep.P, which is an acceptable variant of P (preposition), but places it under an NP, which is incorrect.

It then shows “the” as an Article (Art) and “kitchen” as a Noun (N), which together to form a correct NP (“the kitchen”). However, placing the preposition “in” together with “the” and “kitchen” within a single NP structure incorrectly suggests that “in” belongs to the noun phrase, which is not the case.

Students’ Problems in Analyzing and Deciding the Word Class of Sentences using Tree Diagram

In giving students success in writing, the researchers also gave a syntax classification in the form sentence level. There are tree sentences that were given to the students to know the ability in construct tree diagram of sentence level. For more complex sentences such as *"The beautiful girl cares of her cat"* and *"The smart students in the library are smiling gaily"* and a simpler sentence, *"I have one sister.*

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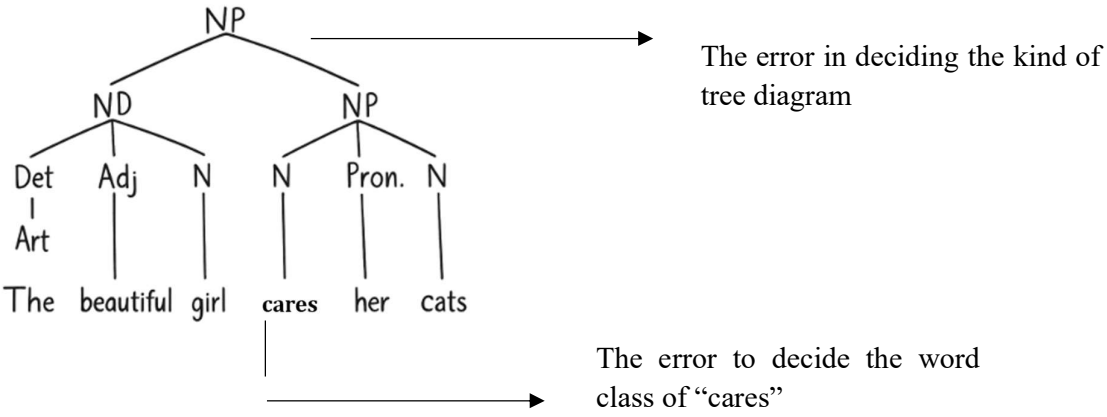
Table 2. The result of tree diagram in form of sentence

Sentence	**The percentage of Error**
Sentence 1 (The beautiful girl cares of her cat)	75%
Sentence 2 (The smart students in the library are smiling gaily)	75%
Sentence 3 (I have one sister)	87.5%

Based on the table 2, it can be seen that most error happened when the students were asked to construct tree diagram of sentence level. For sentence 1 "*The beautiful girl cares of her cat*", 75% of students had difficulty to decide the level of tree diagram and the error in deciding the word class of tree diagram part. It also can be seen for sentence 2 and sentence 3. Sentence 2 "*The smart students in the library are smiling gaily*", 75% of students had difficulty in constructing tree diagram of sentence. Moreover, for sentence 3 "*I have one sister*", 87.5% of students also had difficulty in constructing tree diagram of sentence. As the detail error of students can be showed for the explanation below.



Picture 7. Error in constructing tree diagram of sentence

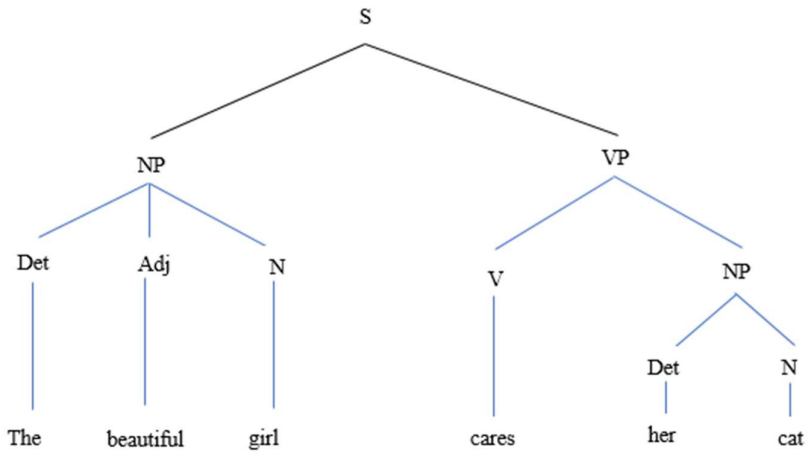
Based on the result of writing test of students, for picture above it can be seen the error found when the student constructed tree diagram. Firstly, the students had difficulty in deciding the form of tree diagram. The result was answered in form of NP or noun phrase, actually it should be sentence. Thus, for the word "cares", it was incorrect for the word class, it should be verb (V). As the complete pattern, it should be S → NP VP, NP → Det Adj N, VP → V NP, NP → Det N. The syntax tree in the image contains a fundamental structural error.

It labels the entire sentence "The beautiful girl cares her cats" as a single Noun Phrase (NP), which is incorrect. This sentence is a complete clause, not just a noun phrase, it includes a subject ("The beautiful girl"), a verb ("cares"), and an object ("her cats"). Therefore, the top node of the tree should be labeled as a Sentence (S) or Tense Phrase (TP), not NP. Additionally, the verb "cares" is wrongly categorized

as a noun and placed under an NP, when it should be the head of a Verb Phrase (VP). Verbs are not part of noun phrases and should be structurally separated.

The tree also incorrectly groups the subject and object together under a single NP structure, ignoring the syntactic roles each part plays in the sentence. The error answers also were found on most of the students in syntax class. Most of the students did know the kind of tree diagram level and felt difficult to decide the word class. Thus, most of them did not know how to constructed tree diagram of sentence level. Most of students only have understood for phrase level. As the correct answer for the tree diagram in sentence level "the beautiful girl cares her cat" can be seen for picture 8.

The syntax tree in the figure represents the sentence structure of "The beautiful girl cares for her cat". This diagram divides the sentence into two main parts under the label S (Sentence), namely NP (Noun Phrase) as the subject and VP (Verb Phrase) as the predicate. The NP part consists of three elements: Det (Determiner) "The", Adj (Adjective) "beautiful", and N (Noun) 'girl', which forms the nominal phrase "The beautiful girl". Meanwhile, the VP part includes the verb "cares" as the core predicate (V) and the direct object in the form of the nominal phrase "her cat". The picture for correct tree diagram can be seen in picture 8.



Picture 8. The correct answer for tree diagram of sentence 1

For the next question, the students were asked to construct tree diagram for sentence "*the smart students in the library are smiling gaily*". There were 75% of students gave incorrect answer with the same error. The sentence "*The smart students in the library are smiling gaily*" is a sentence consisting of two components, namely a noun phrase (NP) serving as the subject, and a verb phrase (VP) acting as the predicate.

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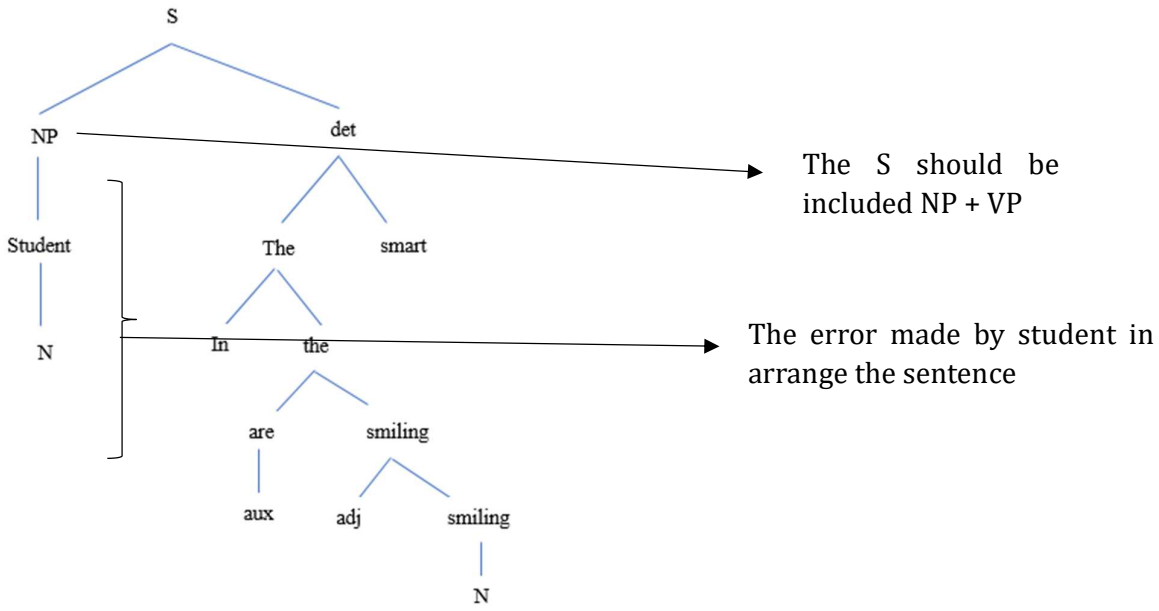


Picture 9. The error made by student in constructing tree diagram of sentence

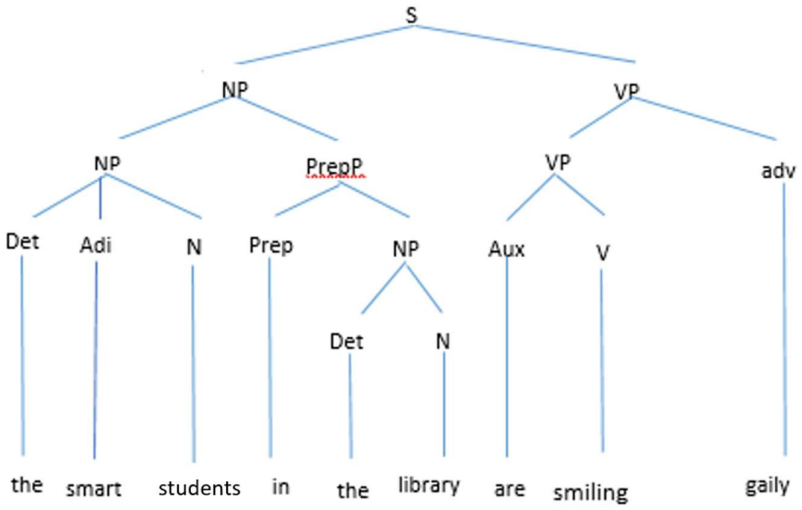
Based on the picture above, the incorrect tree diagram can be seen for the sentence “the smart students in the library are smiling gaily”. The correct part as the result of tree diagram of that sentence namely S – NP VP, NP – Det Adj N PP, PP – P NP, NP – Det N, VP – Aux V Adv. A number of grammatical and structural mistakes in the image's syntax tree diagram. Firstly, the tree labels “Student” as a complete Noun Phrase (NP) on its own, which is acceptable in some contexts, but problematic here because the rest of the sentence is disconnected and ungrammatical in structure.

Secondly, the right branch of the tree is labeled “det” (determiner), but it includes adjectives like “smart”, prepositions like “In”, an auxiliary verb “are”, and the present participle “smiling”, which are not determiners. Grouping these diverse parts of speech under a determiner category is incorrect. Additionally, “are smiling” is a verb phrase, with “are” functioning as an auxiliary and “smiling” as the main verb, but the tree does not label this unit as a Verb Phrase (VP), which is required for a well-formed sentence.

Moreover, the tree lacks proper structure to represent prepositional phrases and embedded clauses. For instance, “In the” suggests the start of a prepositional phrase (e.g., “in the library”), but it is left incomplete and improperly connected. Similarly, “smiling” appears twice—once as an adjective and once as a noun—which is confusing and syntactically incorrect, especially without a clear noun that it modifies or a complete predicate structure. Overall, the tree fails to represent a grammatically sound sentence, with miscategorized elements and a breakdown in hierarchical structure.

For other students also found the same problem, the students had difficulty to decide the part of tree diagram in sentence level. Most of them faced problem on

the pattern and to decide the form of tree diagram. The other problem happened when the students had difficulty in decide the word class in every part of sentence level tree diagram.



Picture 10. The correct answer in constructing tree diagram of sentence

Picture 10 is the example of correct tree diagram for sentence level "*the smart students in the library are smiling gaily"*. This sentence consists of two main parts, the Noun Phrase (NP) as the subject and the Verb Phrase (VP) as the predicate. The subject is the nominal phrase "The smart students in the library", which starts with the determiner "the", followed by the adjective 'smart', and the noun "students". This phrase is then expanded with the prepositional phrase "in the library", which consists of the preposition "in" and the nominal phrase "the library", with 'the' as the determiner and "library" as the noun.

As a whole, this diagram illustrates the grammatical structure of the sentence precisely and systematically. This syntactic breakdown shows the hierarchical phrase structure of the sentence, useful for analyzing how each component functions in grammar. As the analysis of students' working paper, there were 25% students who answer correctly for the tree diagram of the sentence "*The smart students in the library are smiling gaily*". The last question was constructing tree diagram of sentence "I have one sister".

It can be seen the simple question that the students needed to construct the tree diagram. Based on the analysis of students' working paper, it can be seen that there were 75% students gave the incorrect answer.

ISSN 2338-4778 (Print)
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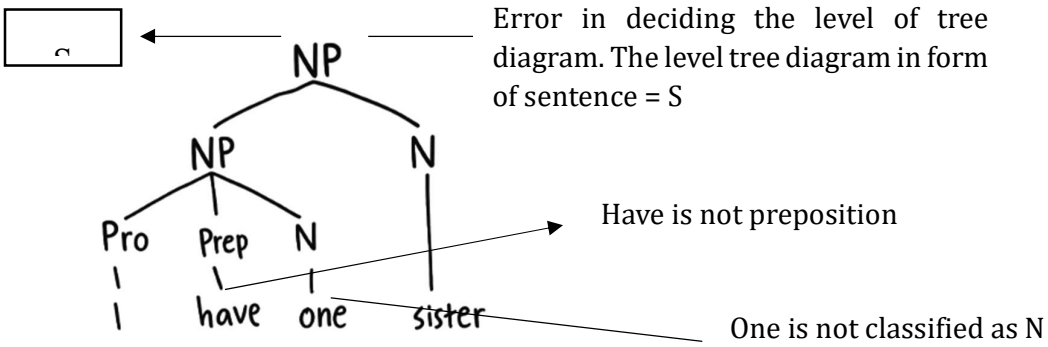
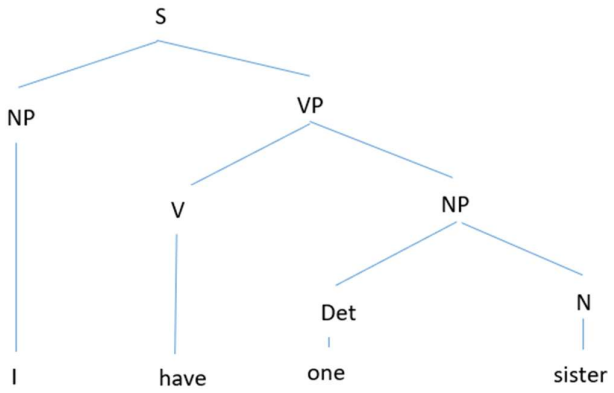


Picture 11. The error in constructing tree diagram of sentence

The grammatical components of the sentence "I have one sister" can be represented by a tree diagram, a hierarchical structure. The sentence consisted of NP + VP. The NP is simply the pronoun "I", which acts as the subject of the sentence. The VP consists of the verb "have" and another Noun Phrase, which functions as the direct object of the verb. This second NP contains the determiner "one" and the noun "sister", forming the object "one sister". For picture 11, the syntax tree diagram in the figure contains some serious errors in structure and labeling that deviate from standard syntax rules in English.

The sentence to be depicted appears to be “I have one sister”, which is a complete declarative sentence and should be analyzed as an S (Sentence), not as an NP (Noun Phrase) as written at the top of the tree. This tree diagram is labeled with NP (Noun Phrase) as the highest category, even though the sentence “I have one sister” is a complete sentence. The highest label should be S (Sentence). Labeling the word “have” as a preposition (Prep) is a critical error. In this sentence, “have” functions as the main verb (V), not a preposition. This mislabeling disrupts the grammatical structure and renders the sentence nonsensical.

The phrase “I have one” is treated as a single Noun Phrase (NP), whereas “have” should be the core of the Verb Phrase (VP). In the correct syntactic structure, “I” is the NP (subject), “have one sister” is the VP (predicate), and “one sister” is the NP (direct object) of the verb “have”. For the picture 12, the correct tree diagram can be seen for sentence “*I have one sister*”.



Picture 12. The correct answer in constructing tree diagram of sentence

Based on the result of analysis about the students' error in constructing tree diagram of syntax, it can be seen that most students had difficulty in constructing tree diagram in form of sentence. Most students had difficulty in deciding the pattern of tree diagram in form of sentence level. For tree diagram in phrase level, most students can construct tree diagram and decided the word class especially for noun phrase and verb phrase.

Discussion

Using tree diagrams, the people can understand how phrase structure rules are applied in sentence formation. Tree diagram in syntax helps to shows how words are combined to form larger phrases and clauses, as well as how sentence structures are formed hierarchically. This research focused on the error made by students in constructing tree diagram for phrase level and sentence level. There were three parts of phrase level that the students had constructed. The phrase level included noun phrase, verb phrase, and prepositional phrase.

As the result most students got minimum error for noun phrase and verb phrase. The error happened for prepositional phrase because most students had difficulty about the pattern and the part of prepositional phrase in syntax tree diagram. Tree diagram is one way to help the students in know every part for every word written and function and position in a sentence. Tree diagrams are essential tools in syntax, offering a visual representation of sentence structures that clarify the relationships between words and phrases.

Syntactic tree diagram is an effective tool for identifying and analyzing the deep structure of a sentence (Ali et al; 2023). As the result showed varying levels of student performance. 0% students had difficulty to construct the tree diagram for a noun phrase, 12.5% students had difficulty to construct tree diagram for verb phrase level, and 62.5% students had difficulty to construct prepositional phrase tree diagram. As the case based on the research before that most students struggle to differentiate between noun phrases and adjective phrases, and have difficulty

ISSN 2338-4778 (Print)
ISSN 2548-4192 (Online)

making tree diagrams in English (Leba, et al; 2021).

The tree diagram also was used for sentence level, the students were asked to constructed tree diagram for sentence level namely for more complex sentences such as *"The beautiful girl cares of her cat"* and *"The smart students in the library are smiling gaily"*, and on a simpler sentence, *"I have one sister"*. As the result, most students were still difficult in constructing tree diagram for sentence level especially in deciding the level for tree diagram. At the sentence level, accuracy dropped further: 75% of students made errors in constructing tree diagrams for more complex sentences such as *"The beautiful girl cares of her cat"* and *"The smart students in the library are smiling gaily"*, while 87.5% made errors on a simpler sentence, *"I have one sister"*.

As the result means making tree diagrams requires a deep understanding not only of syntactic theory, but also its practical application in everyday sentence analysis. The use of tree diagram in syntax can be use as the way to know the students' ability in grammar, know the students' ability in classify the word class. A tree diagram is used not only to break the sentence, but also to break the clauses, phrases into a single word (Uspayanti & Bawawa, 2022). Studying syntax, using a tree diagram is an effective way to visualize sentence structure and in learning English syntax.

The statement also supported by the result study of Fitria, A. (2017) that the tree diagram technique effectively improves seventh grade students' vocabulary mastery. Tree diagrams serve as a reliable and valid assessment method for evaluating students' knowledge structures in statistics education. Experts tend to outperform novices, and their performance shows a significant correlation with achievement test scores (Yin; 2012). Errors in constructing syntactic tree diagrams generally stem from a combination of lack of understanding of syntactic concepts, misclassification of word classes, and lack of practice in identifying constituents hierarchically.

To avoid these errors, learners need to master the basics of word categories, understand the function of each element in the sentence structure. With continuous practice and proper feedback, the ability to build syntax trees can improve significantly. Syntax error analysis is not only useful for improving learner writing, but also provides important pedagogical insights for language teaching. It points out gaps in structural understanding, emphasizes the importance of explicit instruction on syntax, and supports a language awareness-based teaching approach.

Error analysis in English teaching helps both learners and teachers understand the causes and kinds of grammatical errors, increasing their knowledge of English grammar (Hasyim; 2002). Teachers should utilize the results of this analysis to design more targeted, integrative, and reflective teaching strategies-encouraging learners to not only be able to write, but also to understand how their writing is grammatically shaped.

Conclusion

Tree diagram in syntax is one way to break down the sentences into the smaller part and are used in parsing to break down sentences into their components according to grammatical rules. This research focused on the errors made by students when constructing tree diagrams for phrases and sentences. Data were collected through written tests. As the result of the syntax error by students when constructing tree diagram, the students had difficulty especially in constructing sentence level of tree diagram.

As the result, 0% students had difficulty to construct the tree diagram for a noun phrase, 12.5% students had difficulty to construct tree diagram for verb phrase level, and 62.5% students had difficulty to construct prepositional phrase tree diagram. At the sentence level, accuracy dropped further: 75% of students made errors in constructing tree diagrams for more complex sentences while 87.5% of students had difficulty for a simpler sentence. As the suggestion, this research can be used as the references for further researcher.

Thus, the result of this research can be used for readers as the lead to construct tree diagram in syntax and the way to draw the correct tree diagram. English language students often make errors in analyzing sentence structures through tree diagrams due to a lack of understanding of basic word categories and underlying syntactic rules.

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ISSN 2338-4778 (Print)
ISSN 2548-4192 (Online)

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