

# LINGUISTICS STUDENTS' PERSPECTIVE ON THE ROLE OF THE SYNTACTIC KNOWLEDGE IN DECODING ENGLISH AMBIGUOUS STRUCTURES

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**Abstract:** It is rather challenging for learners to know how to put words in a sentence in a correct grammatical and logical sense but not ambiguous (Smith, 2015). Despite the need to take into consideration the use of syntax in language learning, the study of Linguistics students' perspective on the role of the syntactic knowledge in decoding English ambiguous structures has not been conducted in Vietnamese context. This paper reports on the study that analyzed the type of ambiguous structures which cause the most difficulty to Vietnamese linguistics students to identify whether the learned syntactic knowledge could help them interpret these types. The study was conducted by quantitative method including surveys. Besides, qualitative one involved interviews. The theory of X-bar syntax evolved by Noam Chomsky (1950s) was adopted as the theoretical framework for the investigation. The results revealed that the type of syntactic ambiguity that made the most confusion to English linguistics learners is "transitive or ditransitive verb". Furthermore, although most students acknowledged the essential function of syntax in decoding ambiguous structures, some of them were not accustomed to employing the learned syntax in analyzing sentence structures. Lastly, the application of syntax in teaching grammar and reading skills was recommended by a significant number of students.

*Keywords:* Ambiguity, ambiguous structures, X-bar trees, syntax, Vietnamese EFL

## 1. Introduction

The role of English as a global language has been extensively explored over disparate areas such as science and technology, education, international job market, etc. (Rao, 2019). As a result, mastering English is promoted over the world, and in Vietnam as well. In the process of learning, the complexity of grammatical points might be a challenge for EFL learners because certain linguistic forms seem to be structurally simple but functionally complicated (Kacani & Mangelli, 2013). In other words, a sentence structure may contain more than one meaning. Therefore, decoding structural ambiguity could be a problem for EFL learners. Moreover, lacking the knowledge of interpreting syntactic ambiguity reduces one's language proficiency and comprehension (Guerra & Allende, 2016). By utilizing the syntactic knowledge, students could decode ambiguous structures, which enhances their grammar and reading comprehension.

Although numerous cases of ambiguous structures are addressed, no publications have categorized clearly the types. Notably, the previous findings of Oaks (2010) do cover different types of structural ambiguity; however, these classifications are only based on the researchers'

perspective. Furthermore, no study on this subject matter for English linguistics students has been carried out in Vietnam. Thereby, this study worked on this issue towards Vietnamese students to determine which type of the ambiguous structures causes the most difficulty to linguistics learners and whether the learned syntactic knowledge could help them in interpreting these types. In fact, while most linguistics learners have studied syntax in their bachelor training program, there remains uncertainty about whether or not syntax comprehension is used when students encounter ambiguous structures or if they apply the knowledge of syntax to work out the matter. In other words, it is not clear whether linguistics students find their syntactic knowledge helpful in explaining ambiguous structures. As a result, the research will be conducted to clarify the above gaps. It seeks answers to the following research questions

1. What type(s) of syntactic ambiguity do English linguistics students find the most challenging to decode its/their ambiguous meanings?
2. Do linguistics students find the syntactic knowledge helpful in interpreting the ambiguity hidden under a certain sentence structure?

## **2. Literature review**

### **2.1 Ambiguity**

According to Crystal (1980), Richards, Platt & Weber (1985), “ambiguity” and “ambiguous” allude to a word, phrase, or sentence that is interpreted to more than one meaning. Also, Kennedy (2019) holds that these refer to a phenomenon, which performs at entire linguistic analysis degrees and is described as the affiliation of “a single orthographic or phonological string with more than one meaning” (p.510). Three types of linguistic ambiguity, which are condensed from reliable sources, are phonological ambiguity (Abraham, 1981), grammatical or structural ambiguity (Richards *et al.*, 1985), and lexical ambiguity (Crystal, 1980).

Structural ambiguity is the focus of this paper. Structural ambiguity serves as ambiguity over the distribution of two or more dissimilar syntactic structures to a sequence of words in a sentence (Huang, 2012). A sentence is considered structurally ambiguous because the syntactic associations between the components of a sentence produce two or more potentialities (Lyons, 1977). Typically, a prepositional phrase (PP) adjunct is likely to be a case as it is not clear whether PP modifies a proceeding verb or a noun phrase (Stageberg, 1958). For example, in the following sentence from Carnie (2013, p. 96), the PP “with the knife” can be an adjunct to either the verb “kill” or the noun “the king”:

The man killed the king with the knife.

= The man used a knife (as a weapon) to kill the king. (PP modifies a proceeding verb)

= The man killed the king who was holding a knife. (PP modifies a noun phrase)

Common as it is, structural ambiguity has not been categorized in syntax books. For a systematical generalization, Table 1 presents four types of structural ambiguity compiled from different syntax books.

**Table 1.** List of four structural ambiguity

Types	Examples
1. The Prepositional adjunct placed after a verb and a noun phrase	The man killed the king with the knife. (Carnie, 2013, p. 96)
2. Prenominal noun adjuncts	The modern chemistry student. (Campos & Thuong, 2018, p. 79)
3. Prepositional adjuncts in embedded sentence	I predicted that he would come in the morning. (Stageberg, 1958, p. 141)
4. Ditransitive verbs and Transitive verbs	Thomas baked a cake for his girlfriend. (Campos & Thuong, 2018, p. 59)

**2.2 The effect of syntactic knowledge and research gap**

Even though vocabulary knowledge has been extensively investigated in various reading research of a foreign language, the ability to process structures is still considered as an essential role in contributing a better reading comprehension (Barnett, 1986). According to Paris & Hamilton (2009), a reader needs to operate, store, and incorporate various syntactic and word meaning knowledge to comprehend a sentence. The study of Fatemi (2012) concluded that as students achieve higher scores on structure test, their performances on the reading comprehension test are more superior. Besides, Chen (2009) demonstrated that when L2 readers try to comprehend a text, they utilized grammar structures more than vocabulary. This firmly supports the arguments syntactic knowledge is an important factor in L2 reading.

Oaks (2010) owns multiple publications in relation to English grammar, specifically structural ambiguity and its application. His work on structural ambiguity in English written in the form of an inventory approach develops on a deliberation of English forms and structure classes, organizations of modifiers, and certain syntactic features that take a leading role in making structural ambiguities. He presents an inventory and discussion of how structural ambiguity could be created by various English language features by pointing out certain structural behaviors of particular classes and larger structures. Moreover, it is filled up with authentic examples taken from advertisements and jokes outside the field of linguists. It also demonstrates how the kind of structural information in the text could be employed to intentionally construct structural ambiguity. Oaks (2010) claims that structural ambiguity occurs in the case of compound nouns, adverbials, and various cases. However, these types of ambiguous structures are based on the author’s perspective. In addition, the study of Al-Saidat (2012) asked learners to translate ambiguous English sentences into Arabic to find out how they understand the sentences. The results showed that learners had difficulties in processing given categories of ambiguous sentences such as sentences with coordinated clauses or noun phrases, sentences with adverbial phrases or clauses, etc.

Significantly, there has been no research conducted in Vietnam on the perception of linguistics students on the role of syntactic knowledge in decoding English ambiguous structures. Therefore, the researcher would like to determine the type(s) of structural ambiguity that make(s) the most confusion to linguistics students and whether the learned syntactic knowledge could help them process these types.

### 3. Methodology

#### 3.1 Research approach

A mixed-method approach was employed to investigate the issue under the study. On the quantitative side, a survey would be carried out to discover the structure of syntactic ambiguity that makes the most confusion to English linguistic students when decoding ambiguous meanings. On the qualitative side, the result of the survey and the interview would reveal linguistics students' perspectives on the role of syntactic knowledge in decoding ambiguous structures. As the results were collected, the type of structure was sorted out by the means of Excel tables, and the students' perspectives were assorted by forming an analysis table. Furthermore, the percentage figures would be employed to distribute both the scores of the survey and students' interpretations.

#### 3.2 Participants

The source of data was taken from both the surveys of fifty linguistic students in International University - HCMC, Vietnam (IU), who already completed the Syntax course, and the interview with fifteen random students who joined the survey. To be more specific, Syntax is one of the four compulsory linguistics courses at IU. At the end of the Syntax course, students are well equipped with the syntactic knowledge, as well as being able to analyze sentence structures in order to explain the similarities and differences in meanings.

#### 3.3 Procedure of Data Collection

Data collection was carried out online. After fulfilling the consent form, fifty students were invited to complete a questionnaire in which they were asked to explain ambiguous structures within their ability, and express attitudes towards syntactic knowledge in interpreting structural ambiguity as well as in the reality of teaching grammar and reading for learners in the form of a Likert scale format (1 to 5; *Not useful at all* to *Extremely useful* for the first statement and *Entirely impossible* to *Possible for the rest*). For part one of the survey, in which students had to explain the ambiguous structures, every correct explanation was counted as one point, while the wrong one earned no point. For the second part, they were asked about their attitudes towards syntactic knowledge. Then, the interview was carried out with fifteen random students to get more information related to syntax in their learning process. The interview section was recorded as evidence. The participants agreed to have the interview recorded. The answers, then, were descriptively transcribed, and the result was produced by identical patterns of the response.

**Table2.** Ambiguous structural sentences

Types	Set of sentences
A ditransitive or transitive verb	Daniel cooked dinner for his mom. (1 <sup>st</sup> ) I baked a cake for my boyfriend. (6 <sup>th</sup> )
Prepositional adjunct	The boy saw the girl using binoculars. (2 <sup>nd</sup> ) The man killed the woman with a knife. (5 <sup>th</sup> )
Prenominal adjunct	I want to become a foreign language teacher. (3 <sup>rd</sup> ) Tom dreams of being a modern chemistry professor. (8 <sup>th</sup> )
Prepositional adjunct in embedded clause	Lisa told me that she had an accident yesterday. (4 <sup>th</sup> ) He told me that he did not come to class yesterday. (7 <sup>th</sup> )

## 4. Findings

### 4.1 Findings from questionnaire

The result of the survey was shown in tables 3, 4 and 5 as follows.

**Table 3.** Percentages of students marked with scores (1–8)

Scores (points)	Percentage of the participating students (%)
1	2%
2	0%
3	6%
4	10%
5	14%
6	18%
7	10%
8	40%

There were 8 sentences in total, thereby if all the sentences are decoded correctly, the participant will get 8 points - the highest score (1 point for each). In general, a majority of the participants (60%) were not successful in completely interpreting all eight sentences of the four given ambiguous structures. Additionally, 10% were marked with seven points, 18% with six points, and 14% with five points. Only 18% of the students received scores that are under five points.

**Table 4.** The percentages of students having and not having accepted interpretations of two sentences within each type

Type	The percentage of students having (%)	
	accepted interpretations	not accepted interpretations
<b>A ditransitive or transitive verb</b> Daniel cooked dinner for his mom. (1 <sup>st</sup> ) I baked a cake for my boyfriend. (6 <sup>th</sup> )	65%	35%
<b>Prepositional adjunct</b> The boy saw the girl using binoculars. (2 <sup>nd</sup> ) The man killed the woman with a knife. (5 <sup>th</sup> )	92%	8%
<b>Prenominal adjunct</b> I want to become a foreign language teacher. (3 <sup>rd</sup> ) Tom dreams of being a modern chemistry professor. (8 <sup>th</sup> )	89%	11%
<b>Prepositional adjunct in embedded clause</b> Lisa told me that she had an accident yesterday. (4 <sup>th</sup> ) He told me that he did not come to class yesterday. (7 <sup>th</sup> )	68%	32%

The type of syntactic ambiguity that makes the most confusion to the participating English linguistics students is “the one including a verb, which could be defined as a ditransitive or transitive verb”. In detail, two sentences presenting this type were either wrongly interpreted or identified as having no ambiguous factors. The percent of the students not having accepted interpretations of two sentences within this type is up to 35%. Likewise, the type “adverbial

modifier in embedded clause” also challenged the students as indicated by the percent of students wrongly decoding two sentences within this type (32%). On the other hand, the results of the remaining two types (Prepositional adjunct and Prenominal adjunct) are slightly taken into consideration, since there is a high percentage of students rightly decoding two sentences of the two types, but only 8% of the unaccepted interpretations of the type “Prepositional adjunct” was found, and 11% of the type “Prenominal adjunct” was observed.

**Table 5.** Percentages of Students Expressing Opinion of Syntactic Knowledge (SK)

Statement	Likert scale (from 1 to 5)				
	1 (not useful at all)	2 (not useful)	3 (neutral)	4 (useful)	5 (extremely useful)
The utility of SK	2%	4%	14%	40%	40%
Statement	Likert scale (from 1 to 5)				
	1 (entirely impossible)	2 (impossible)	3 (neutral)	4 (possible)	5 (entirely possible)
The application of SK in explaining ambiguous structures	0%	4%	8%	30%	58%
The application of SK in teaching grammar and reading skills	0%	4%	18%	42%	36%

For the useful scale question, there are up to 80% of the students, who agreed that syntactic knowledge is useful to them. Besides, a small minority (14%) were found to be neutral, and only 6% of students denied the utility of syntax.

For the impossible scales, an insignificant proportion of the students (4%) supposed that it is impossible to apply syntactic knowledge in explaining ambiguous structures and eight percent chose unbiased options. On the contrary, a very large proportion (88%) indicated that utilizing syntactic knowledge in decoding ambiguous structures is practicable. Concerning the operation of the syntactic knowledge in teaching grammar and reading skills, a tiny number (4%), again, thought that it is not feasible, and 18% of the students expressed neutral attitudes. On the other side, more than three-quarters (78%) had positive attitudes towards employing syntactic knowledge in teaching grammar and reading skills.

#### 4.2 Findings from Interview

##### *Student’s reflection on the Syntax course*

A majority of students stated that syntax was a challenging subject, and it was hard to comprehend. Some were overwhelmed by specialized theories, new terminologies, chronological, and logical ways to draw X-bar trees. Consequently, they could not avoid feeling under pressure at the beginning of the course. Despite being confused and afraid at the first class, they gradually became used to syntactic knowledge and recognized the function of syntax. A large number of the students supposed that after taking the course, their English proficiency and comprehension were effectively enhanced as they started analyzing sentence structures, and employing the

syntactic knowledge to organize sentences. Some sketched trees of a sentence. Nevertheless, a student indicated that his English proficiency was not improved, since he has not “applied the knowledge in those kinds of skills (listening, speaking, reading, writing) so far”.

*The role of comprehension of complements/adjuncts in distinguishing ambiguous structures*

Complement and adjunct notations were really useful for most of the participants in distinguishing ambiguous structures. Some gave definitions to support their opinion that comprehending complements and adjuncts help them to “determine the ambiguous factor in a sentence [...] the adjuncts and complements they can combine with other components in a sentence and make different meanings”.

*The application of syntactic knowledge in teaching grammar and reading skills*

Most of the students suggested that syntactic knowledge is applied in teaching grammar and reading skills. One of the reasons they provided was that there is a clear connection between syntax, grammar, and reading skills since they all work with sentence structures. Furthermore, this interesting way was assumed to help students possess a solid basic knowledge to avoid ambiguous situations when forming sentences in grammar lessons, and interpreting meanings behind word orders to better comprehend a reading passage.

*X-bar trees on the board as a technique of teaching grammar and reading skills*

An idea supposed that X-bar trees would not provide any difference because students need to learn a large amount of knowledge at the moment. Besides, X-bar trees might be possible for simple sentences, not complicated ones. Conversely, most of the opinions are consistent with the support of the application of syntactic knowledge in teaching grammar and reading skills. Drawing X-bar trees was recognized as an interesting way to convey grammar and reading lessons and an attractive approach for students to understand profoundly the language structures.

## **5. Discussion**

The results indicate that a number of the participants exhibited difficulty in interpreting uncommon sentence structures including “a verb that could be defined as a ditransitive or transitive verb” and “an adverbial modifier in the embedded clause”. Despite the fact that a large number of students acknowledged the utility of syntax, some still did not employ the learned syntax in processing four given types of structures. Accordingly, they failed to decode correctly all eight sentences which require deep syntactic knowledge. This is consistent with the conclusion of the study of Al-Saidat (2012) that participants who are not native English speakers were also challenged with given categories of ambiguous sentences. On the other hand, a significant number of students supposed that their English proficiency and comprehension were effectively enhanced after the syntax course. They know how to analyze sentence structures, and that is the reason why they could process sixteen accepted interpretations. This study hopefully contributed to the gap in using syntactic knowledge in understanding ambiguous sentence structures. Last but not least, the use of syntax in language learning, especially its application in teaching grammar and reading should be importantly taken into consideration and fully utilized.

## **6. Limitation and Contribution**

This research aims to determine which type(s) of ambiguous structure cause(s) the most difficulty to the participating linguistics students and whether the learned syntactic knowledge could help them interpret these types. Nevertheless, only four types of ambiguous structures were mentioned, while there are other different categories as in the finding of Oaks (2010). Additionally, the participants taking part in the research did not seem to be substantial enough. The study would have been more inclusive and assertive if all students, who passed the syntax course had engaged in the investigation and additional types of syntactic ambiguity had been included. Further, the process of collecting data was done during the online learning period. Hence, the connection, as well as the communication between the researcher and the participants did not achieve the expected effect as compared with a face-to-face meeting.

Through the investigation, the researcher strongly affirms the essential role of syntactic knowledge in interpreting ambiguous structures, as well as its prospective application in teaching grammar and reading skills. It is recommended that English linguistics students should be familiarized with applying the learned syntax whenever it comes to sentence analysis. This is because, being a linguist, one must expose the specialized knowledge through various unfamiliar circumstances, so as to exploit what has been learned and apprehend the situations better. Furthermore, the research paper might be one of the important and necessary premises for linguists, in the future, to investigate more research on methods of applying effectively syntactic knowledge in teaching grammar and reading skills.

## **7. Conclusion**

The utility of syntactic knowledge was proved through eight X-bar tree demonstrations corresponding to four given sentences of four types of ambiguous structures based on X-bar theoretical framework. The type of syntactic ambiguity “a ditransitive or transitive verb” might be unfamiliar and made the most difficulty to the participating English linguistics students. Most of the students supposed that syntactic knowledge was useful to them and believed in the application of it in explaining ambiguous structures. Nevertheless, some did not apply the learned syntax in decoding ambiguous structures and failed to process possible meanings of the two unfamiliar types and other given sentences. Consequently, whenever it comes to ambiguous structures, some of them are not in the habit of unconsciously employing the learned syntax to interpret likely meanings. Particular considerations were provided within the application of syntax knowledge, especially, X-bar trees in teaching grammar and reading skills. Teachers should construct lessons and arrange the time appropriately so that students are able to comprehend the knowledge, but not spend too much time on it. Students are required to possess a sufficient amount of X-bar theory in order to attend those classes. The trees should not be utilized as the main instrument. Furthermore, using brackets was suggested as another way instead of the more difficult X-bar trees. Only one student disagreed with the application. Lastly, a number of the participants expected more investigations in relation to employing syntactic instructions and, drawing X-bar trees in teaching grammar and reading skills.

Emphasis should be placed on the crucial role of syntax not only in decoding ambiguous structures but in the reality of teaching grammar (this is on the part of the teacher) and reading skills (this is on the part of the students) as well. Moreover, with the expectation that more



investigations into the subject matter will be conducted in the future, it is believed that this paper could be insightful for working on effective methods of including syntactic knowledge in teaching grammar and reading skills, or even in English language learning. Additionally, linguistics students should practice employing the learned syntax knowledge to better comprehend English language so as not to waste its beneficial function.

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## QUAN ĐIỂM CỦA SINH VIÊN NGÔN NGỮ VỀ VAI TRÒ CỦA KIẾN THỨC CÚ PHÁP TRONG VIỆC GIẢI MÃ CÁC CẤU TRÚC TỐI NGHĨA TRONG TIẾNG ANH

**Tóm tắt:** Người học ngôn ngữ gặp khó khăn trong việc sắp xếp các từ theo đúng ngữ pháp và lô gích (Smith, 2015), vì vậy việc sử dụng kiến thức cú pháp được chú trọng. Ở Việt Nam, chưa có nghiên cứu nào về kiến thức cú pháp trong việc giải mã các cấu trúc Tiếng Anh tối nghĩa. Bài viết dựa trên thuyết cú pháp của Noam Chomsky (1950s) và phương pháp định lượng và định tính (phần khảo sát và phỏng vấn) để phân tích loại cấu trúc mơ hồ gây khó khăn nhất cho sinh viên ngôn ngữ học và liệu kiến thức đã học có thể giúp họ giải thích các loại này. Kết quả, sinh viên khó diễn giải được loại cấu trúc "ngoại động từ có một hoặc hai tân ngữ". Dù nhận biết chức năng thiết yếu của cú pháp, một số sinh viên không có thói quen dùng nó trong việc phân tích cấu trúc câu. Hầu hết ứng dụng của kiến thức cú pháp trong việc giảng dạy ngữ pháp và kỹ năng đọc được ủng hộ.

**Từ khóa:** Tối nghĩa, cấu trúc tối nghĩa, sơ đồ cây X-bar, cú pháp, người Việt học Tiếng Anh