INTERPRETATION OF STUDENTS ON GARDEN PATH AMBIGUITIES IN ENGLISH SENTENCES

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ABSTRACT

Since it is natural for a language to contain ambiguities, resolution or meaning ascription should also be taken into consideration. Hence, this study sought answers to the following questions: Do the students prefer simple structures in building meaning of sentences under garden path? What are the preferences of the students in attaching constituents? This qualitative research involved 117 student-participants of the Cagayan State University-Tuguegarao City, Cagayan, Philippines. The students use three strategies in interpreting sentences that are under garden path: the plausibility of interpretation, the canonical order of words in a sentence (S-V or S-V-O), and the functions of words in a sentence, though, the most common resort is the use of S-V-O pattern. Hence, they use simple structures in building meaning .The students prefer low attachment in building constituents. That is, they prefer to attach a new expression to the most recent word/expression. However, there is a relatively low tendency that they prefer the high attachment.

KEYWORDS: *Structural Ambiguity, Garden Path, Low Attachment, Attaching Constituents*

INTRODUCTION

Generally, English is the second language of Filipinos. They use this language in many endeavors for them to be able to get along with people around the world. However, as posited by Florez (2008), despite its use for a long period, there are still many cases of misinterpretations due to some factors – the message itself, the sender, the receiver, the channel, the context, the noise, and all the other elements in the transmission of message.

Generally, two types of ambiguity are distinguished, lexical and structural or syntactic ambiguity. Lexical ambiguity indicates that the word itself has more than one meaning. The word 'hard', for example, can mean 'not soft' or 'difficult'. Structural ambiguity, on the other hand, occurs when a phrase or a sentence has more than one

underlying structure, such as the phrases '*English history teacher*', '*short men and women*', '*The girl hit the boy with a book*', to name a few. These ambiguities are said to be structural because each phrase can give a different meaning. An example of this is '[*English history] teacher*' and '*English [history teacher]*'. Indeed, the existence of such ambiguities provides strong evidence for a level of underlying syntactic structure.

With the intent to suggest an explanation to these ambiguities on a psychological perspective, Frazier and Fodor (1978) proposed a processing framework called the Garden Path Model.

The garden path model of sentence processing suggests that, when encountering ambiguous sentences, what is initially processed is only one meaning. Then, upon reaching the end of, or a key point within, the sentence, if the meaning understood does not work, the sentence is reanalyzed/ reparsed until a satisfactory meaning can be taken. Using the sentence "*While the man hunted the deer ran into the woods*" Frazier and Fodor proposed that it was the words '*the deer*' that presented the processing difficulty. When the word '*ran*' is encountered, the initial attachment of 'the deer' as an object of '*hunted*' can be recognized as wrong. Therefore, rather than being attached to the subordinate clause, as would be normal, it is stolen by the verb '*ran*' in order to become the theme of the latter.

From the results of the study of Fereira (1991),he argues that sentence comprehension requires the creation of phrase structure and the assignment of thematic roles to phrases, with the assignment taking place at the phrasal head. Reanalysis is affected by the ease with which thematic roles can be reassigned to mis analyzed phrases.

Parsers generally prefer minimal computational resources. According to the garden path model (Frazier and Fodor, 1978; Frazier 1987), the parser makes immediate decisions about locally ambiguous constituents, always opting for the analysis that requires fewer computational resources. The simplest structures are preferred because of minimal attachment. This is one reason why this study was conducted. It tried to investigate the resolution of students on ambiguous sentences and phrases.

Hence, this study would like to find out answers to the following:

1. Do the students prefer simple structures in building meaning of sentences under garden path?

2. What are the preferences of the students in attaching constituents?

METHODOLOGY

This study involved 117 student-participants of the Cagayan State University, Tuguegarao, Cagayan, Philippines. The data were gathered by letting them give their interpretation of sentences with ambiguities. These sentences were presented through PowerPoint, showing them one sentence at a time. Each sentence, including the possible interpretations, was shown for 15 -30 seconds, depending on its length. After the last second, the researcher would then proceed to the next sentence. Then, the students would have written their answers. The purpose of setting time limit was used to avoid students' tendency to copy answers from their seatmates and/or take too long in building the interpretation. This is based on the reality that sentence parsing is not done at a long period i.e. ordinary conversation, reading.

The questionnaire includes (part 3) 11 sentences under garden path and (part4) 9 sentences that test students' ability to build constituents. This was presented to three experts in the field for content validity.

Results and Discussions

On Garden Path

Item	Choices (interpretation)	F
1. Eye Drops Off Shelf.	a. Describing <u>eye drops</u> that came from a shelf	53
	b. an eye that fell from its location on a shelf	34
	c. an eye that delivered a shelf	4
	d. no meaning	26
2. The British left waffles on Falklands	a. The British leave waffles behind	69
	b. There is waffling *(small talk)*	35

	done by the British	
	c. No meaning	13
3. Stolen Painting Found By Tree	a. A tree found a stolen painting	32
	b. a stolen painting was found placed next to a tree	58
	c. no meaning	24
4. Little Hope Given Brain-Damaged Man	a. A brain-damaged man is unlikely to recover	23
	b. a brain-damaged man is causing another situation to have little hope of resolution	78
	c. Someone gave a brain-damaged man to a small girl named Hope.	16
5. Somali Tied to Militants Held on U.S. Ship for Months.	a. the Somali was held for months	25
	b. the Somali was just now linked to militants who were held for months.	66
	c. No meaning	23
6. The prime number few.	a. There are few prime numbers	81
	b. The prime people become few.	19
	c. No meaning	13
7. Fat people eat accumulates.	a. Accumulates are eaten by fat people.	48
	b. The fat that people eat accumulates in their bodies.	38
	c. No meaning	30
8. The cotton clothing is usually made of grows in Mississippi.	a. The cotton clothing is from grows in Mississippi.	37

	b. The cotton that clothing is made of usually grows in Mississippi.	65
	c. No meaning	13
9. The man who hunts ducks out on weekends.	a. The man who hunts ducks goes out on weekends.	76
	b. The man who hunts animals ducks out on weekends.	29
	c. No meaning	11
10. When Fred eats food gets thrown.	a. When Fred eats food, he gets thrown.	68
	b. When Fred eats, food gets thrown.	39
	c. No meaning	10
<u>*11. Time flies like an arrow; fruit flies like a banana*</u>**.** **What does "fruit flies like a banana" mean?**	*a. The fruit is flying like a banana.*	*32*
	b. Fruit flies (a variety of fly) like to eat banana.	*69*
	c. No meaning	*16*

Based on the responses of most of the students, the factors that influence them in giving such responses are the plausibility of interpretation, the canonical order of words in a sentence (S-V or S-V-O), and the functions of words in a sentence.

For items 1, 3, 8, and 11, the students chose the more plausible meaning of the sentences as evidenced by the responses: 53, 58, 65, and 69 respectively (the interpretations having been chosen most frequently)

For items 2, 7, 9, 10, and 11, the respondents interpreted the ambiguous sentences having in mind the canonical arrangement of words in a sentence which is the S-V-(O) pattern.

Thus, these sentences have the following patterns which are based on the students' responses/interpretation.

The British left waff leson Falk lands.

   S   V   O   PP

Fat people eat accumulates.

   S   V   O

The man (who hunts ducks)out on weekends. (Only the dependent clause is labeled.)

         S   V   O

When Fred eats food gets thrown.

     S   V   O

Time flies like an arrow; fruit flies like a banana.

                  S   V

(Note that the other parts of the last two sentences cannot be labeled accurately because the labeling is based solely on the students' erroneous interpretation.)

In this set of sentences, it is noticed that the pattern used by the students is the S-V-O pattern, which caused their interpretation to be erroneous.

Item number 6 "The prime number few", caused wrong interpretation among the students. This is due to the students' limited knowledge on the functions of words. They consider *number* as the simple subject of the sentence and *prime* as adjective modifying *number,* building an erroneous meaning.

ON ATTACHING CONSTITUENTS

According to Gibson, Pearl mutter, Gonzales, and Hickok (1996), the parser has the preference to attach new material to more recent constituents rather than constituents that are farther away because this is a computationally easier alternative.

The table below shows the responses of the students in attaching constituents.

Item	Choices (interpretation)	f
1. Physicists are thrilled to explain what they are doing to people.	a. Physicists are using humans as subjects in their laboratories.	63
	b. Physicists are explaining it to people.	63
2. Two Sisters Reunited after 18 Years in Checkout Counter	a. The sisters stayed in the counter for 18 years. After that, they reunited.	41
	b. The sisters stayed together again after 18 years.	73
3. John said that he will take out the garbage yesterday.	a. John said yesterday that he will take out the garbage.	58
	b. John took out the garbage yesterday.	59
4. Alma was looking for a gift for a boy in a box. ■ **Who was in a box?**	a. Boy	14
	b. Gift	103
5.Someone shot the maid of the actress who was on the balcony. ■ ***Who was on the balcony?***	a. The one who shot	18
	b. The maid	84
	c. The actress	15

The sentences in items 1, 2, and 3 prove that the students prefer low attachment interpretation because the relative clause attaches to the structurally lower of the two possible attachment sites. Late closure predicts preference for modification of the more recent noun (Fernandez, E. &Cairns, H., 2011).

A number of studies have found that ambiguous relative clause is preferably attached low, as a modifier of the more recent noun (Traxler, Pickering, and Clifton 1998; Fernandez 2003).

To be able to get the accurate interpretation of sentence number 1, one should attach the phrase *to people* to the verb *explain,* but 63 students attached it to the nearer expression, the verb *doing.*

Forty-one students preferred to attach the PP *in the checkout counter* with *18 years* which is nearer; hence, low attachment is preferred. Also, 59 students attached the adverb *yesterday* with the VP *will take out the garbage* because it is the nearer expression.

The preference of the more plausible meaning applies to sentence number 4 where the students set aside the low attachment.

However, in a seminal study, Cuetos and Mitchell (1988) found that Spanish speakers prefer the high attachment interpretation in sentence number 5 in which the relative clause modifies *maid.* This is also true to the Filipino students having interpreted the same sentence. Out of 117 respondents, 103 of them preferred the high attachment, preferring to attach *who was on the balcony* with the *maid.*

Conclusion

Students use three strategies in interpreting sentences that are under garden path: the plausibility of interpretation, the canonical order of words in a sentence (S-V or S-V-O), and the functions of words in a sentence, though, the most common resort is the use of S-V-O pattern. Hence, they use simple structures in building meaning.

The students prefer low attachment in building constituents. That is, they prefer to attach a new expression to the most recent word/expression. However, there is a relatively low tendency that they prefer the high attachment.

RECOMMENDATIONS

The following are the recommendations of the researchers based on the findings of the study.

1. Topics on garden path may be included in the curriculum of the Senior High School students.

2. Further studies on the following may be conducted:

    a. Ambiguities under garden path in teachers' test questions and student essays

    b. Similar study with different variables and wider scope

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