A Contrastive Analysis of Empty Category Learning in Chinese Students' Oral English Based on TEM4 Data

Chenjiao Yang

Department of Foreign Languages, Beihang University, Beijing, 100191, China

Abstract: Based on Chomsky's GB theory from Universal Grammar, this study sets out to investigate features of Empty Category (EC) in Chinese English Majors (CEMs)' oral English and relations between EC using and CEMs' oral proficiency. Taking TEM4 and SPSS 19.0, this study conducts the qualitative analysis based on the quantitative data. Findings from the qualitative study indicate: for EC competence, both students with the high and low level oral proficiency tend to make the same kind of grammatical errors, though high level students made much less errors than the low levels.

1. Introduction

1.1 Research Background

The Government and Binding Theory (the GB Theory) proposed by Chomsky (1981) in his book Lectures on Government and Binding is the major theory of the present syntactic study [1]. Since it has a strong interpretive function, most linguists have employed the GB Theory as a tool to analyze the syntactic problems and have made great achievements. Accordingly, as a crucial segment of GB Theory, EC has become a focal topic for linguistic study. Empty Categories (EC) was first put forward by Chomsky in1980s which holds that syntactic structures are comprised of overt and covert constituents. Covert constituents refer to those inaudible parts that do not have overt phonetic form but play an important role in syntax, and these constituents are named "Empty Categories".

(1) John is too stubborn to talk to e.

(2) John is stubborn to talk to him (Chomsky, 1981) [1].

It is seen that they differ from each other not for the omission of him but for the interpretation. Sentence 1 can be interpreted as John is stubborn and others don't want to talk to him (John), and sentence 2 as John is stubborn and unwilling to talk to others.

1.2 Research Purpose

Although many researchers have studied on EC in both English and Chinese languages, the results mainly focused on theoretical development such as classification and grammatical principles rather than empirical study. The present study aims to investigate out CMEs' oral proficiency concerning the effects of their EC competence.

In order to find out whether EC using is correlated with students' English language proficiency,

three general research questions are proposed:
    (1) What are the features of EC in CEMs' oral English?
    (2) Are there any correlations between the frequencies of EC using and CEMs' oral proficiency?
    (3) What are the similarities and differences of EC competence among CEMs with high and low level oral proficiency?

1.3 Research significance

The study is of both theoretical and pedagogical significance. From the theoretical perspective, previous researches on EC are more likely to classify EC in different languages or PRO parameter reconstruction process in a second language (L2). Thus, the author intends to examine CEM's oral proficiency from the perspective of their EC acquisition in their oral English, applying the Government and Binding theory of Chomsky and Language Transfer, expecting to furnish more empirical evidence for the depth-of-processing theory, L2 oral development framework and the EC acquisition hypothesis, making the future researching area in second language acquisition (SLA) from the perspective of EC promising. Pedagogically, this study throws light on the oral English learning and teaching. L2 learners may draw implications from this study that they can enhance their oral English proficiency through extensive training of EC knowledge given the correlation between EC using and learner's oral performance is positive. As for L2 teachers, this study is helpful for them to carry out a reasonable and effective teaching methodology of oral English teaching. Increase of EC words exposures in conversation is a good way to facilitate learners' oral performance [2].

2. Literature Review

2.1 Definitions of EC

EC is an important part of Second Language Acquisition (SLA). Chomsky in1980s holds that syntactic structures are comprised of overt and covert constituents. Covert constituents refer to those inaudible parts that do not have overt phonetic form but play important role in syntax, and these constituents are named "Empty Categories". Radford agrees with Chomsky's theory and defined EC as follows: EC refers to an element that lacks of phonological input and establishes a relationship to an antecedent. They have no overt phonetic form, and hence are inaudible or silent (Radford, 1997) [3]. In his book Syntax: A Minimalist Introduction, he uses a whole chapter to discuss ECs.

2.2 Classifications of EC

Chomsky classified EC into four types, NP trace, Wh-trace, PRO and pro, and he holds that PRO and trace are distinguished by their internal constitution. PRO has the features person, number and gender, while trace lacks these features though it may have others, specifically, Case, and perhaps the feature [-wh] that signals movement-to-COMP (Chomsky, 1981) [1]. He argues "the empty categories trace and PRO are distinct…and EC involves the pronominal element PRO and three types of antecedent-trace, which can be identified by the descriptive terms in (i)(ii) and (iii)" (Chomsky, 1981) [1].
    (1) Johnny seems (to us) [ti to like ice cream]. (NP-movement)
    (2) John knows [what ti we like ti]. (movement-to-COMP)
    (3) [NP a man ti] was here [i who John knows]. (extra position)
    (4) It is unclear [what PRO to do t].

According to these examples, Chomsky summarized the properties of trace:

(1) Trace is governed

(2) The antecedent of trace is not a theta position

(3) The antecedent-trace relation satisfies the subjacency condition

What is more, Chomsky argues that PRO lacks all of these properties: it is ungoverned; its antecedent (if there is one) has an independent theta role, as does PRO; the antecedent-PRO relation (where PRO has an antecedent) need not satisfy the subjacency condition. Furthermore, PRO need have no antecedent, as in (iv), while trace always has an antecedent.

2.3 EC in Chinese, Korean and Japanese

Xu (1986) firstly explains the idea that there is no wh-movement or variables being involved in the topic structure in Chinese, Japanese, and Korean [4]. Hu (1997) favors the view that there is distinction between finite clause and nonfinite clause in Chinese [5]. Hu backs the view that PRO does exist in Chinese. Hu believes that the flexibility of the syntactic structures in Chinese is related with the phenomenon of the existence of ECs in the sentences. There is no morphological marker to show the distinction between finite clause and nonfinite clause. Hu (1997) reaches a conclusion that there are the nonfinite clauses in Chinese in terms of EPP, PRO Theorem and Case Theory. EPP requires that all clauses should have subjects [5]. PRO cannot occur in the governed position according to PRO Theorem. The lexical NPs should be case-marked, otherwise, they will be ruled out by Case Filter which stipulates that overt NPs must carry case. Therefore, Hu puts forward the criteria to distinguish the nonfinite clauses from the finite clauses in Chinese.

A clause can be regarded as a nonfinite clause if and only if its subject position satisfies two requirements: (1) that is a theta position; (2) that is a non-lexicalized position. His analysis can be illustrated by presenting the following sentences:

(1) I decide study Japanese

(2) I decide to study Japanese.'

(3) I decide I study Japanese

(4) I decide I to study Japanese.'

In (1-4), the clause in the square bracket is an infinite clause. The position PRO occupies cannot be replaced by the lexical NP. Otherwise, the sentence is ungrammatical, as shown in (1-4). Since the subject position of the nonfinite clause is ungoverned position, if an NP occurs in this position, it cannot be case-marked. It will be ruled out by Case Filter. PRO occurs in the ungoverned position. Therefore nonfinite clauses do exist in Chinese.

3. Research Data and Findings

Table 1 reported that 105 pairs of CEMs used 618 times of EC in total, including 124 times of NP TRACE, 199 times of PRO and 295 times of VARIABLE. Moreover, mean number indicated that every pair of students used 5.98 times EC, to be specific, 1.18 times of NP TRACE, 1.90 times of PRO and 2.81 times of VARIABLE. It can be more clearly presented that VARIABLE is most favored by students when communication occurs, and it doubles the times of using NP TRACE and PRO. One thing to be noted, it is not essential for students to use EC in their conversation from figures in the table1. However, it is also observable from the sum column that a distinctive gap occurred between pairs of students: one pair of students used 15 times of EC, meanwhile one used only one time. Another important finding the research has got is that in the percentile column, students used 8times of EC are ranked over 80 percent, which meant one fifth of students used EC significantly above average level.

Table 1: Overall Distribution of EC in CEMs' Oral English

		NP TRACE	PRO	VARIABLE	Sum
N	Valid	105	105	105	105
Mean		1.18	1.90	2.81	5.89
Std. Deviation		1.505	1.664	1.693	2.917
Minimum		0	0	0	1
Maximum		8	9	8	15
Sum		124	199	295	618
Percentiles	20	.00	.20	1.00	3.00
	50	1.00	2.00	3.00	6.00
	75	2.00	3.00	4.00	7.00
	80	2.00	3.00	4.00	8.00

Note. N= number of samples; Mean= mean of using EC; Maximum= maximum times of using EC; Minimum= minimum times of using EC; Percentile=percentile of EC using frequency; Sum= sum of EC using

From figure 1, it is clearly known that VARIABLE occupied the biggest pie area for it covered 47.7 percent of the total number, followed by PRO and NP TRACE. Interestingly, EC distribution in each group demonstrated exactly the same results as in the following figure.
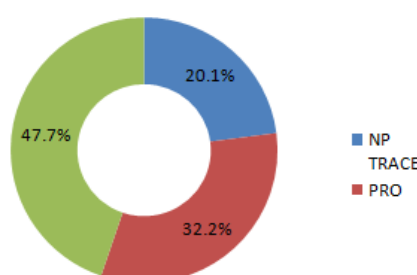

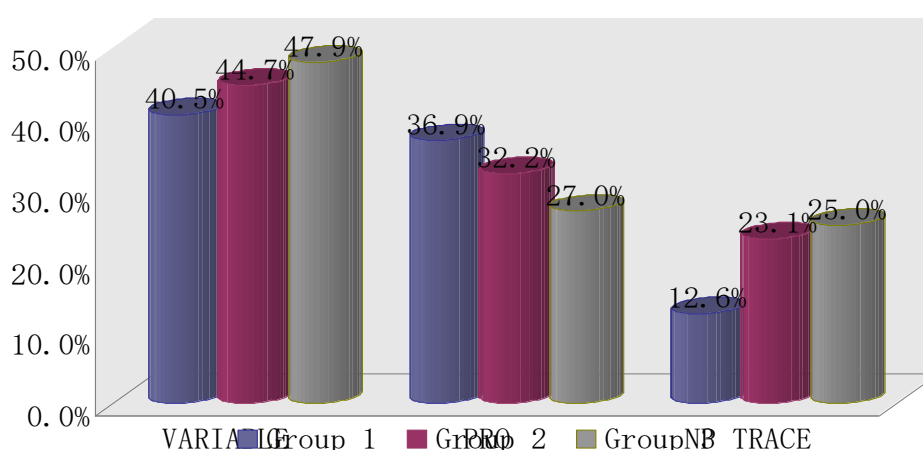Figure 1: Percentage of Each EC Type in CEMs' Oral English

Figure 2: Distributions of EC in Three Groups of CEMs

Figure 2 showed that all three groups of CHMs used VARIABLE most frequently, following PRO and NP TRACE. Among EC words used by three groups, over 40 percent were VARIABLE words, around 30 percent were PRO words and about 20 percent were NP TRACE words. Despite

the similarity, they were distinguished from each to a certain extent. Group 1 outweighed group 2 and group 3 when considering PRO using; group 2 was in a middle position considering three types of EC using; group 3 outweighed group 2 and group 3 considering both NP TRACE and VARIABLE using.

4. Conclusions and Implications

Statistical analyses of the present study demonstrate that increasing using of EC words is effective for obtaining higher scores in oral English test. Thus supplemented by explicit instruction in classroom, teachers may take advantage of using EC, such as passive voice, infinitive and question mark, to improve students' oral performance. To state it in a more direct way, teachers may furnish students with opportunities and natural practicing environment to meet passive voice, infinitives and question marks repeatedly in oral conversation. As for EFL learners, self training of EC knowledge would also be conducive for effective oral communication.

References

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