

A Topic-Drop Analysis of Null Subjects In Korean EFL Learners' Interlanguage

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This paper investigates whether there is a correlation between the development of agreement and the unlearning of null subjects and also how the null subjects of Korean EFL learners' interlanguage are represented in topic-bound positions. The results of this study show that the unlearning of null subjects does not necessarily help the development of the third person singular morpheme like previously put forth by pro-drop analysis, which disconfirms the long-lived belief, MUH (Morphological Uniformity Hypothesis). On the contrary, the results also show that the positions of null arguments actually conform to the positions of topic-bound positions, which leads to the suggestion of the topic-drop analysis of null subjects.

Key Words: null subject, pro-drop analysis, MUH (Morphological Uniformity Hypothesis), topic-drop analysis

I . INTRODUCTION

“Null Subject” is one of the keenest interests in second language acquisition research and one of the most important parameters in explaining the aspects of early language acquisition. The previous analyses of the null subject phenomenon were mostly focused on the correlation between learners' morphological development or morphological system and the null subject.

Early research (White, 1985; Hilles, 1986) was based on the Government and Binding framework¹ and on Hyam's (1986) work on L1 acquisition. Hyams (1986) postulated that the key difference between languages that admit null subjects and those that do not is whether or not main verbs rise to receive inflection or have inflection lowered onto them. In her so-called AGR/PRO theory of null subjects, rich verbal inflection is the key determinant in licensing and identifying null subjects.

¹ *Pro*, one of empty categories, was postulated for fulfilling the theta-criterion and binding principle.

However, completely ignored was the fact that "inflection-poor" languages such as Korean, Chinese, and Japanese also allow null subjects. To supplement this problem, MUH (Morphological Uniformity Hypothesis) was proposed by Jaeggli and Safir (1989). Only morphologically uniform languages — either fully derived inflectional paradigm or underived one — permit null subjects according to this assertion.

Although the MUH is a good trial, it still has some problems. First, it is arbitrary to choose present tense alone as morphological determinant. Second, morphological frame of present tense can be extended variously across other languages (Cook & Newson, 1996, p. 289). Third, morphologically mixed languages such as Persian and Wichita permit null subjects contrary to Jaeggli and Safir's expectation (Kil Ja Byun, 1997, p. 92). Finally, null subject stage can be found after the acquisition of morphological inflection, and the acquisition of morphological inflection can be delayed to be after the unlearning of null subjects.

Huang (1984) suggests that in languages, such as Chinese, null subjects may be identified by coindexation with a c-commanding antecedent NP, or with an empty discourse topic operator. Recently there have been researches taking on topic-drop analysis instead of pro-drop analysis (Haegemann et al., 2001; Bavin, 2000).

Since MUH is insufficient for licensing null subjects, this study taps the possibility of substituting small *pro* for *topic* which is governed by a discourse topic operator. Therefore, this study aims to disconfirm MUH and propose Topic-drop analysis of null subjects using evidence from Korean L2 learners of English.

II. LITERATURE REVIEW

1. Pro-drop Analysis of Null Subjects

The generative linguistics literature on null subjects is traced back to observations that languages such as Spanish and Italian do not require overt pronominal subjects in tensed clauses. Hyams (1986) focused on richly inflected languages such as the Romance languages and attributed the possibility of a null subject to rich verbal inflection, as in the Spanish and Italian examples in (1), in which first person singular specification is included in the tensed verbs *voy* and *vado* ("I go"). Accordingly, Spanish (1a) and Italian (1b) do not require overt pronominal subjects in tensed clauses.

- (1) a. e *Voy* al cine.
 b. e *Vado* al cinema.
 "I go to the movies."

According to Hyams, [+pro-drop] is the unmarked setting of this parameter. As one consequence of this parameter-setting, children in all languages hypothesize that subjects with definite reference can be optionally omitted in tensed clauses. Thus, Hyams proposed that children initially hold a false hypothesis in a language like English, which is [-pro-drop]. Hyams also suggested that the child's noticing the existence of expletive elements in English eventually triggers English speaking children to restructure their initial grammar by resetting the 'pro-drop' parameter.

However, with the exception of Lakshmanan's study (1991), no attempt was made to include learners whose L1 is "inflection poor." Although it is clear that inflection-poor null subject languages do not share certain crucial properties with richly inflected null subject languages, there have been attempts to unify these two types of null subject languages. The attempt to unify the condition licensing null subjects in all languages is Jaeggli and Safir's (1989) Morphological Uniformity Hypothesis.

2. Morphological Uniformity Hypothesis (MUH)

Jaeggli and Safir (1989) proposed a single principle responsible for licensing null subjects in both types of null subject languages, the Null Subject Parameter as a principle of UG.

(2) The Null Subject Parameter

Null subjects are permitted in all and only languages with morphologically uniform inflectional paradigms.

(Jaeggli & Safir, 1989, P. 29)

The notion of morphological uniformity is defined in (3):

(3) Morphological Uniformity Hypothesis (MUH)

An inflectional paradigm P in a language L is morphologically uniform iff P has either only underived inflectional forms or only derived inflectional forms.

For example, the Italian inflectional paradigm consists entirely of morphologically complex forms, hence null subjects are allowed; in Chinese, no forms are morphologically complex, hence null subjects are allowed here, too. In the case of English, however, English is a "mixed" system and null subjects are prohibited. Meanwhile, a morphologically mixed language such as English does not allow null subjects. The pro-drop analysis made it possible to categorize Chinese into the same

class to which Romance languages belong.

The question of interest is the relationship of MUH and the grammar development of learners of a second language. Hilles (1991) investigated the developmental relationship between verbal inflection and the use of pronominal subjects in six Spanish-speaking L2 learners of English. She found statistically significant correlations between the use of inflectional suffixes (tense and/or agreement markings) and the increase of overt pronominal subjects, only for the two children and one adolescent. However, for one of the adolescents and the two adult learners, there was no indication of improvement with respect to either phenomenon, and therefore no evidence of any developmental correlation between verbal inflection and the use of overt pronominal subjects.

3. Language Acquisition Researches Disconfirming MUH

Investigations in language acquisition (Mazuka et al., 1986; Register, 1988) show the inadequacy of the notion 'null-subject parameter'. This notion is inadequate because it predicts that languages should be grouped into two subsets according to the value of the parameter chosen. However, whereas languages of [+ *pro*-drop] can be easily found, languages of [- *pro*-drop] are more elusive; thus, alleged non-null-subject languages allow certain particular contexts where a lexical subject is not obligatory (e.g., in note taking, diaries or casual speech) (Roebuck et al., 1999). These arguments are based on performance or pragmatic accounts.

Weverink (1990) also argued against the *pro*-drop analysis. Weverink noted that the missing subjects in finite structures in Dutch cannot be explained by a *pro*-drop theory. Instead, a "topic-drop" theory can explain missing subjects, and Dutch developmental facts contradict the hypothesis that Dutch children have no sense of verbal inflection of subject-verb agreement. In fact, they appear to have attained this at a very early age. This explanation for the phenomenon of missing subjects in Dutch is along the lines of Huang (1984).

Some researchers experimentally disconfirmed MUH by showing developmental data of L2 English (Meisel, 1991; Clahsen & Hong, 1995; Kim, 1999; Davies, 1996). Meisel (1991) analyzed the longitudinal corpora of four adult learners with respect to agreement inflections and the use of lexical subjects. He argued that there are no developmental connections. He concluded that the emergence of subjects in the speech of L2 learners is a phenomenon totally independent of the development of agreement markings on the verb.

Clahsen, and Hong (1995) investigated subject-verb agreement and null subjects in 33 Korean learners of German and a control group of 20 German native speakers. They

insisted that Korean is a topic-prominent language which allows empty subjects and objects in main and embedded clauses. These empty arguments are identified by topic chains or by a c-commanding nominal (cf. Huang, 1984). Their main finding is that the two phenomena do not covary in the Korean learners indicating that properties of agreement and null subjects are acquired separately from one another, rather than through parameter resetting.

Kim (1999) examined the resetting process of pro-drop parameter of Korean into 'non-pro drop' parameter. He found that L2 learners follow the parameter of L1, and then reset the parameter of L2 regardless of the parameter of L1 as their abilities advance. And it was also found that 3rd person singular agreement has no connection with the acquisition of the pro-drop parameter. The results indicate that verb agreement is not a trigger for the recognition of the obligatory null subjects.

Davies (1996) disconfirmed MUH by showing that the case [-uniform], [+null subject], which would be ruled out in accordance with MUH, does exist. He conducted grammatical judgement tasks on the 48 subjects enrolled in Iowa Intensive English Program (L1s are Chinese, Italian, Japanese, Korean, and Spanish). Data reported here show that a number of L2 learner exhibit knowledge that English is morphologically non-uniform yet accept English null subject sentences. This is inconsistent with the predictions of the MUH and renders its applicability to SLA uncertain.

4. Topic-Drop Analysis of Null Subjects

Huang (1984) raised the question of whether all the empty categories are instances of *pro* (like in Spanish). Huang showed that the answer is not straightforward; he examined the following sentences.

(4) a. Zhangsan shuo [e bu renshi Lisi].
 Zhangsan say not know Lisi
 'Zhangsan said that [he] did not know Lisi.'

b. Zhangsan shuo [Lisi bu renshi e].
 Zhangsan say Lisi not know
 'Zhangsan said that Lisi did not know [him].'

In (4a), the empty category can be used to refer either to some salient entity in context, or can be referentially dependent on the main subject; it may therefore be considered a *pro*. In (4b), nevertheless, the null object cannot be referentially dependent

on the main subject; it may refer only to someone whose reference is fixed outside of the entire sentence (Huang, 1984, p. 538).

This idea is true of the Korean language which does not have the syntactic property of subject-verb agreement as well.

(5) A: Peter-ka nukwu-lul sarangha-ni?

P.-nom. who-acc. love-interrog.

'Who does Peter love?'

B: e Inge-lul sarangha-n-ta

(=Peter) I.-acc. love-pres.-declarative.

'(Peter) loves Inge'

(Clahsen & Hong, 1995, p. 61)

In Korean subjects and objects can only be left out if an appropriate context is given, such as in (5), in which the empty argument is bound by the subject element in speaker A's question.

There also have been other researches following topic-drop analysis (Haegemann et al., 2001; Bavin, 2000). Haegemann et al. (2001) used written diaries as data and concluded that subject-drop can be explained in terms of pronoun-drop. Bavin (2000) insisted that ellipsis of lexical subjects is influenced by 'topic continuity' by examining Warlpiri children's narrative.

Johannes and Navarro (2003), and Allen (2000) have paid much attention to discourse-pragmatic context. For example, in languages where subject or object arguments can be omitted, the criteria determining their realization is largely based on shared knowledge between the speaker and hearer. Allen (2000) found that the omission of subject and object arguments in Basque-learning children was determined by discourse-pragmatic conditions.

At this point, one ideal would be to propose that there is one parameter, the topic-drop parameter which is a discourse-oriented parameter. The term 'topic' here can be applied not only to the pronominal elements in the subject position but also to the referential elements in the subject and object position as well.

III. METHOD

1. Participants

Since the first purpose of this study is to investigate the correlation between the unlearning of null subjects and agreement features (Agr) of Korean EFL learners, the

sample of this study was divided into three groups. The first group was made up of 50 first-year middle school students around the age of adolescence (at the age of 13 to 14), the second group of 50 second-year middle school students (14 to 15), and the third group of 50 second-year high school students (16 to 17).

In this study, it was assumed that the proficiency level of each group is presumably consistent with its age bracket because the period of formal schooling is generally equated to the amount of linguistic input in Korean EFL context. The writing samples of the students who have been in English speaking countries for more than 3 years were excluded, considering the fact that they could have acquired almost perfect English including the morphological system such as subject-verb agreement and unlearning of null subjects.

Only 30 writing samples from each group were selected and analyzed as supposed to the possible 50. The rest 20 samples from each group were assumed as a 'safety margin' from the beginning: the samples of participants who dropped out of tasks were excluded because they were nearly unanswered, hence invalid for analysis.

2. Tasks

Before main writing tasks, a pre-writing task was conducted which required students to describe four given pictures. The purpose of this pre-writing task was to stimulate the students' writing skills and prepare them for main writing tasks. Therefore, the samples from the pre-writing task were collected but not analyzed. However, it seemed that the achievement level of morphological agreement and unlearning of null subjects from these pre-writing samples was nearly similar to those of the main writing tasks.

This pre-writing task was specified to stimulate predetermined answers. It required the students to produce sentences which describe "what John does every evening," and "what Jessica did yesterday", etc. The five questions of the pre-writing task were not restricted to simple present tense but intended to answer using past tense as well. This design was for distracting student's attention from focusing on subject-verb agreement which is usually paid attention to if asked to use only simple present tense.

Mainly Two writing tasks were employed. The first picture-cued focus shifting elicitation task was designed mainly to examine the correlation between the development of agreement and the unlearning of null subjects. The second task was a focus-fixed task in which discourse is given as a form of soccer pictures aimed mainly at underpinning a topic-drop analysis of null subjects.

The first focus-shifting elicitation task (Task 1) required students to describe the daily routines of a family. Task 1 provided pictures illustrating the daily routines of a family sentence by sentence. Directions were targeted at drawing out sentences which

include as many 3rd person singular verb forms as possible to investigate the relationship between the acquisition of agreement and unlearning of null subjects: "Describe what does each member of Tom's family do now?" Directions were provided in Korean language to avoid misinterpretations by students and to foster a relaxing atmosphere. At the end of Task 1 above, the students were asked to reconstruct the daily routine as a full text referring to the completed time table. The data from this follow-up reconstruction task were compared with those of the explanation task below since the former is featured by discourse-reduced production while the latter is discourse-given production.

The second focus-fixed task (Task 2) asked students to explain the process of a soccer game by given picture strips. Eight picture cuts described the process of a soccer game in which several players control the ball. This design was aimed at providing discourse and topic. The probable topics were expected to be each player or the ball itself. Right before Task 2, a taped soccer reporting example was played to the students to help their understanding of the given writing task and provide the liveliness of a soccer game.

3. Data Analysis Procedures

Quantitative analysis was conducted to examine the agreement acquisition and the unlearning of null subjects. Firstly, the percent use of 3rd person singular morpheme *-s*, and incomplete or non-use was investigated from the ninety writing samples of task 1 (describing a daily routine). Secondly, the percent use of null subjects out of all possible subject positions in context was calculated. The data were drawn from the ninety writing samples of task 2 (reporting a soccer game).

Statistically, a simple linear regression and an ANOVA were conducted. The simple linear regression was to test the causality between the token frequency of third person singular agreement and those of null subjects. The ANOVA was conducted to examine the influence of difference of age brackets on the following three factors: agreement, token frequency of null subjects and token frequency of null objects.

Concerning the suggestion of a topic-drop analysis, it was examined whether null subjects actually appeared in the topic-bound positions quantitatively and qualitatively. Quantitatively, the writing samples from task 1 and those from task 2 were compared. For statistical verification, One-Way ANOVA was conducted to test the validity of the difference between the null subject (NS) token frequency of Task 1 and that of Task 2. All statistical analyses were conducted using the SPSS program version 12.0.

Qualitatively, all instances of null subjects in topic-bound positions were examined. Interestingly, null objects and even null verbs were found in addition to the null subjects

in topic-bound positions during the process of analyzing the writing samples. So, these null arguments were examined in depth along with null subjects. Also, several topic chains for null arguments were traced individually in the following qualitative data analysis procedure.

IV. RESULTS & DISCUSSION

1. Results Disconfirming MUH

In terms of theoretical implications, this study aimed at providing an alternative view to MUH: Unlearning of null subjects does not guarantee the complete acquisition of inflectional morpheme 3rd person singular *-s*. Statistically, A simple linear regression was conducted to test the causality between the token frequency of the third person singular agreement and those of null subjects. The ANOVA was conducted to examine influence of age difference on the following three factors: agreement and token frequency of null subjects and null objects.

Table 1 shows the correlation between the token frequency of null subjects and third person singular agreement. Only third person singular agreement morphemes *-s* were counted as valid representation of awareness of subject-verb agreement. Null subjects were counted only in the writing samples from Task 2 because a context of Task 1 does not trigger null subjects to appear.

TABLE 1

Correlation between Null Subject and Agreement

| | | tokens of agreement | null subject in Task 2 |
|------------------------|---------------------|---------------------|------------------------|
| tokens of agreement | Pearson Correlation | 1 | -.095 |
| | Sig. (2-tailed) | . | .375 |
| | <i>N</i> | 90 | 90 |
| null subject in Task 2 | Pearson Correlation | -.095 | 1 |
| | Sig. (2-tailed) | .375 | . |
| | <i>N</i> | 90 | 90 |

** Correlation is significant at the 0.01 level (2-tailed).

Table 1 above shows that null subjects and agreement are not correlated with each other ($p = .375$). In other words, the development of agreement does not affect the

unlearning of NS. This means that we cannot say that null subjects will be licensed in child grammars that are morphologically uniform but not in those that are not morphologically uniform as MUH has asserted. This is because null subjects were frequently found even though the students' language was richly inflected. Also, even when the students' language was poorly inflected — showing low level of agreement —, null subjects were not necessarily frequently found.

Table 2 below shows the influence of age difference on the following three factors: agreement, token frequency of NS in Task 1, and that in Task 2. It was conducted by One Way ANOVA.

TABLE 2
The Difference from Three Age Groups:
Agreement and Null Subjects

| | | Sum of Squares | df | Mean Square | F | Sig. |
|-------------------------------|-----------------------|----------------|----|-------------|-------|------|
| Tokens of agreement | Between Groups | 248.156 | 2 | 124.078 | 3.909 | .024 |
| | Within Groups | 2761.633 | 87 | 31.743 | | |
| | Total | 3009.789 | 89 | | | |
| Null subject in Task 1 | Between Groups | .022 | 2 | .011 | 1.000 | .372 |
| | Within Groups | .967 | 87 | .011 | | |
| | Total | .989 | 89 | | | |
| Null subject in Task 2 | Between Groups | 14.467 | 2 | 7.233 | 4.357 | .016 |
| | Within Groups | 144.433 | 87 | 1.660 | | |
| | Total | 158.900 | 89 | | | |

* The mean difference is significant at the 0.05 level.

Generally, the mean difference between groups from tokens of agreement and subject in Task 2 was significant at the level of the .05 level (agreement: $p = .024$, NS in Task 2: $p = .016$). However, Spearman's rank order correlations were examined again because the age group was rank variance. Significant correlation was found between the age group and the token frequency of NS in Task 2 ($p = .019$) but not between the age group and the agreement level ($p = .127$). Higher age groups produced more tokens of null subjects in Task 2. Moreover, the age bracket did not affect the development of agreement, which is contrary to the common belief that older children are more aware of agreement. Of course, students' background variance could be a fact but it is not considered to be significant enough to affect this result.

We have another noticeable result from the writing samples which shows that even an informed speaker/writer of English of agreement can produce a lot of null subjects and null objects. An excerpt from Task 2 is presented in (1).

- (1) *Kim Byung-Ji sends off the ball to the middle. Cha Du-ri heads the ball. Hong Myung-bo dribbles the ball. Myung-bo is intercepted. Kaka catches the ball. NS(Kaka) dribbles. Kaka shoots. Kim Byung-ji puches NO(the ball). Bekam catches the ball. Bekam shoot~goal~. NS(The ball) NV(goes)into the box. Great!*

* from student coding number 79 (Group 3)

* NS: null subject / NO: null object / NV: null verb

In sum, MUH is not appropriate for explanation of null subject phenomenon of Korean EFL learners. Even the learners who were aware of agreement produced the null subject/object/verb sentences, and vice versa. There was no correlation between the agreement development and the unlearning of null subjects. In other words, Korean learners who have unlearned null subjects will have not necessarily acquired singular third person morpheme.

2. Null Subjects in Topic-bound Positions

Possible subject positions and the realization of null subjects among the possible subject positions of each task were examined using descriptive statistics. The result of this analysis shows that null subjects were found much more frequently in Task 2, a discourse-given task than in a discourse-reduced Task 1 as expected before. The following Table 3 shows the descriptive evidence.

TABLE 3
Descriptive Analysis of Possible Subject Positions and Null Subjects

| | <i>N</i> | Minimum | Maximum | Mean | Std. Deviation |
|--------------------------------------|----------|---------|---------|-------|-------------------|
| possible subject positions in Task 1 | 90 | 8 | 20 | 12.70 | 2.085 |
| null subject in Task 1 | 90 | 0 | 1 | .01 | .105 |
| Valid N (listwise) | 90 | | | | |
| possible subject positions in Task 2 | 90 | 6 | 19 | 10.98 | 2.895 |
| null subject in Task 2 | 90 | 0 | 6 | 1.03 | 1.336 |
| Valid N (listwise) | 90 | | | | |

Possible subject positions in each task showed almost same mean values (Task 1 = 12.70, Task 2 = 10.98). However, distinctive difference was found in the realization of null subject. The null subjects were hardly found in Task 1. The significantly low occurrence (token of null subject = 1) of null subject in Task 1 implies that learners produce subjects in nearly every single sentence in the context of discourse-reduced task. That is because they had to make reference to each subject in each sentence for the discourse does not guarantee the references of null arguments. Therefore, discourse-given context is considered as a decisive factor in triggering null subjects.

Frequent production of null subjects was found in Task 2 which features discourse-given context reporting a soccer game. Actually, students produced many null subjects (NS) in the positions of possible topics such as *the ball*, a specific player, and null objects (NO) and null verbs such as *goes* (NV) as well. This kind of pattern appeared in the students' writing samples from Task 2 as shown in (2) and (3).

(2) *Kim Byung-Ji kick the ball. And NS(he) is send off the ball to the middle. Hong Myung-bo heads the ball and dribble. Hong Myung-bo runs toward. He is intercepted and catches the ball. He dribbles. He kicks the ball. NS(The ball) go to Kim Byung-Ji. Now Kim Byung-Ji punches the ball. NS(The ball) go to Cha Du-ri. NS(Cha Du-ri) take the ball. Myung-bo shoots. NS (The ball) go beyond Kim Byung-Ji. Oh~ NS(The ball) NV (goes) into the box.*

* from student coding number 71 (Group 3)

(3) *Kim Byung-Ji kicks off the ball to the middle. And Hong Myung-bo heads the ball. Hong Myung-bo dribbles. NS(He) runs toward but Hong Myung-bo is intercepted. But Hong Myung-bo catches the ball and he kicks. NS(The ball) go to the box. But Kim Byung-Ji punches. NS(Cha Du-ri) go to the ball. But Hong Myung-bo shoots. NS(The ball) go beyond and the ball NV(goes) into the box.*

* from student coding number 42 (Group 2)

In conclusion, null subjects appeared in the topic-bound positions. That is because much more null subjects were discovered in Task 2 featuring discourse-given context than in Task 1. Therefore, we can propose that the default setting of Korean learners is not [+pro-drop], but [+topic-drop]. In other words, Korean learners seem to produce null subjects not because they are not aware of agreement, but because they have a tendency not to produce subjects, objects and verbs if the reference can be discovered in the given context connected to the discourse topic. A more concrete description of null arguments discovered in the analyzing process of students' writings will be discussed in the

following section.

3. Null Arguments in Topic-bound Positions

An analysis of null arguments² and several topic chains³ would be introduced as the extra evidence for topic-drop analysis of this study.

As for the null subjects, the main focus of this study, six kinds of null subjects were produced by students in total. Four of them were the soccer players' names, the ball was another, and the sixth one was the situational *it*. Most of the null subjects were *Hong Myung-bo*, who plays a main role in the given soccer pictures, and *the ball* which can be easily considered as a topic for reporting a soccer game.

The most frequent token among null subjects was *the ball* (token frequency = 42) due to the fact that the ball is an indispensable topic in reporting a soccer game. *Hong Myung-bo* was the second most frequent token. As the *Hong Myung-bo* plays a central role, he was the second most frequent reference among the 40 null subjects.

It should be noted here that situational *it* was produced referring to a certain game situation. The use of *it* is presented in the following excerpt (4).

(4)... *But Hong Myung-bo runs toward Kaka. NS(It: situation; "running toward Kaka") is dangerous! Oh~ Kaka is intercepted by Hong Myung-bo...*

* from student coding number 19

The use of situational *it* implies that topicality is a decisive factor in producing null subjects. That is because it is not referred previously in the given context and the use of *it* represents the utmost topicality in itself.

The second null argument, null objects, were frequent as well. However, only two null objects were discovered. The two were *the ball* and *Hong Myung-bo*. The balls were used as objectives of the verbs, kick, shoot, get, pass, and shoot, etc. And *Hong Myung-bo* was used only once as an objective of a preposition.

The third null argument, null verbs were discovered in a more variety of forms than null objects. The four null verbs were *goes*, *kicks*, *gets*, and *shoots*. Mostly, *the balls* were followed by these null verbs. The most frequently discovered null verb was *goes* which is supposed to be the verbs of the subject the balls. The other three frequently found null verbs were assumed to follow the specific players who have high topicality.

One of the outstanding results was that there were null subject-null verb (NS-NV)

² Null arguments are null subjects, null objects, and null verbs which were discovered in the analyzing process.

³ Topic chains refer to NS-NV(null subject-null verb) serials and NV-NO serials which make up each speech chunk.

serial and null verb-null object (NV-NO) serial. That is, the tokens of sequenced null arguments acted like a pair of meaning, a meaning chunk. This kind of chunk is partially due to the fact that the task was designed to report a soccer game but it still implies a possibility that not only word-units but also chunks can be produced as null arguments. This seems to be a promising research question for future studies.

Only one kind of NS-NV serial was found, the serial was *the ball-goes*. The token frequency of this NS-NV chunk was 17. There were also two kinds of NV-NO serials: One is *kick-the ball* and the other was *shoot-the ball*. The token frequency of the former chunk was 7 and that of the latter chunk was 1. Here one example excerpt of NV-NO serial is presented in (5). The reference of the serial can be recovered as *kick-the ball*.

(5)... *Kim Byung-ji takes the ball. Cha Du-ri NV-NO (kick the ball). But Hong Myung-bo shoots~...*

* student coding number 2

Several topic chains were tracked to find out the "persistence" of the topics which were the references of null arguments. The seven sample topic chains below are considered to be enough to represent the general sequence of topic chains produced by the students.

Topic Chains

- 1) The ball (NS) * 3
- 2) Hong Myung-bo (NS) * 3 / The ball (NS) * 1
- 3) Hong Myung-bo (NS) * 3 / shoot (NV) - the ball (NO)
- 4) The ball (NS) - The ball (NO)
- 5) Hong Myung-bo (NS) * 3 / the ball (NO) - The ball (NS)* 2
/ Hong Myung-bo (NO) - Hong Myung-bo (NS)
- 6) Hong Myung-bo (NS) * 2 or * 3
- 7) Cha Du-ri (NS) / The ball (NS) - the ball (NO)

The most persistent topic chain showed three-time-repeated NSs such as *the ball* and *Hong Myung-bo*. These two null arguments were also the most frequent tokens of null arguments. This result again emphasizes the importance of topicality in producing null arguments. This is attributed to the fact that the more topicality one argument has, the more persistently it can appear in a form of null argument. The following excerpt (6) shows an example of topic chain 5) which displayed the most diverse and persistent null arguments.

(6)... *Hong Myung-bo dribbles. NS (Hong Myung-bo) runs forward. NS (Hong*

Myung-bo) *be intercepted. The number 11 catches the ball.* NS (The number 11, Hong Myung-bo) *dribbles. Number 11 and 10 kick* NO (the ball). NS (the ball) *go to number 10. Number 3 punch* NO (the ball). NS (the ball) *go to* NO (Hong Myung-bo). NS (Hong Myung-bo) *take the ball. Number 11 shoot the ball into the box.*

* student coding number 66

V. CONCLUSION

The results show that the unlearning of null subjects does not necessarily guarantee the development of the third person singular morpheme like previously put forth by MUH has believed, and vice versa. There was no correlation between the development of agreement and the unlearning of null subjects. Unexpected quick unlearning of null subjects in spite of the inability to insert appropriate inflectional morphemes would be due to the perception of the salient difference between the learners' L1 and L2 (Toribio, et al, 1992): English represents a novel grammatical feature for Korean EFL learners.

Therefore, this study has implications for teaching English in that we need to be keenly aware of the difference between the way in which native speakers acquire their mother tongues and the way in which nonnative speakers learn second languages. It cannot easily asserted that Korean learners of English who drop subjects while producing sentences in English have not yet learned how to mark the subject-verb agreement. Instead, we need to acknowledge the fact that the two languages have different properties, sentence-oriented (English) and topic-oriented property (Korean), and the fact that null subject of Korean learners' English is due to the topic prominent feature of their first language.

Moreover, the topicality of a given discourse was a key determinant of producing null subjects. The null arguments even including null objects and null verbs were in topic positions such as the ball, specific player, and the situational *it*, et al. The higher topicality the argument had, the more frequently it was represented as a null argument. Moreover, null argument chains, NS-NV and NV-NO, were found which showed the possibility that not only word-units but also meaning chunks can be produced as null arguments only if they have topicality.

Likewise, although pro-drop analysis primarily relying on MUH provided an understandable explanation on the different realization of null subjects from different languages, it still lacks completeness as it cannot explain why inflection-poor languages such as Korean, Chinese, and Japanese also drop subjects. Therefore, if we acknowledge topic-drop analysis, we can give a more reasonable explanation of null subjects. In conclusion, null subjects appear in the topic-bound positions, proving that it is irrelevant to the undeveloped level of subject-verb agreement.

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