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교육학석사학위논문

**Korean EFL Learners' Production of  
Contrastive Focus and Foreign  
Accentedness**

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2015년 8월

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**Korean EFL Learners' Production of  
Contrastive Focus and Foreign  
Accentedness**

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A Thesis Submitted to  
the Department of Foreign Language Education  
in Partial Fulfillment of the Requirements  
for the Degree of Master of Arts in Education

At the  
Graduate School of Seoul National University

August 2015

## **ABSTRACT**

This study examines the production of Korean learners' placement of contrastive focus on the specific location and the effect of correctly-placed contrastive focus on the perceived foreign accentedness. To explore this issue, three research questions were proposed as follows: (a) to what extent are Korean learners of English able to produce contrastive focus in their speech? (b) do Korean learners' production of well-positioned contrastive focus influences the degree of their perceived foreign accentedness? (c) how does the onset age of L2 have impact on learners' production of contrastive focus and perceived foreign accentedness?

37 Korean learners, who are students of a university in Seoul, were participated in this research. The stimuli sentences consisted of a set of declarative sentences and related alternative questions, each of which would prompt the placement of contrastive focus on the different key words in the sentences. Each answer was elicited from the questions, thus, was identical in their word composition, differing only with respect to the location of the contrastive focus. Raters listened to the randomly ordered speech samples and

were asked to write down the most prominent word in each sentence. Then, they were asked to assess the perceived foreign accentedness of each sample.

The findings of the study suggest that the Korean learners of English seemed to have difficulty placing a meaningful focal accent on the contrastive information. This might be attributed to a difference of indicators for contrastive focus in Korean and English. Korean Learners might not be aware of how to realize the focal accent. Furthermore, it seems that well-positioned contrastive focus does not influence the overall perceived accentedness. It would indicate that prosody might not be a powerful factor for the listeners to perceive foreign accentedness. In onset age of L2, there was a significant group difference between the subjects who learned English before the age of 8 and those who learned it after the age of 8. The effect of starting age of L2 in this study agrees with the results obtained by Flege et al. (2006), showing that this can be applied in EFL situation.

Key Words: Contrastive focus, Sentence stress, Prosody, Foreign accentedness,  
Onset age of L2

Student Number: 2011-23634

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# **CHAPTER 1**

## **INTRODUCTION**

This study aims to investigate the interaction between production of contrastive focus and foreign accentedness of advanced Korean learners of English. This chapter introduces the purpose and rationale of the study and presents research questions.

The first chapter is organized as follows: 1.1 provides a brief introduction on why this study is needed. Section 1.2 proposes research questions of the study. Lastly, Section 1.3 outlines the organization of the thesis.

### **1.1 The Purpose of the Study**

The fundamental goal of English education in the English as a Foreign

Language (EFL) context is to improving the second language learners' ability to communicate in the target language. Learning speaking involves not only the development of subtle and detailed knowledge about why, how, and when to communicate, but also the complex skills for producing and managing interactions. One of the most important aspects of speaking is that it always takes place in the social context. In order to carry out various social activities, it is important to attune to the language appropriately. In this production process, pronunciation acts as a tool for conveying the meaning of speakers' intent and purpose in that context.

Pronunciation research and pedagogy have long been influenced by two contradictory principles: the nativeness principle and the intelligibility principle (Levis, 2005). The nativeness principle holds that it is both possible and desirable to achieve native-like pronunciation in a foreign language. In that sense, foreign accentedness was viewed as being defective and incorrect in L2 speech and thus needs to be repaired (Griffen, 1980). However, this point of view was steadily diminished by researches revealing that nativeness in pronunciation appeared to be biologically conditioned before adulthood (Lenneberg, 1967; Scovel, 1995). The available evidence led to two conclusions: 1) having a foreign accent is common and is a normal aspect of L2 acquisition, 2) aiming for nativeness was an unrealistic burden for both teachers and learners (Munro,

2008). Subsequently, the traditional approach was abandoned, and instead intelligibility has been adopted as an appropriate goal for pronunciation. It holds that learners simply need to be understandable.

Numerous studies have been conducted in order to determine which specific aspects of pronunciation are the most crucial for intelligibility and comprehensibility, which are the key factors that enhance communicative competence. In particular, opinion has been split between segmental features and suprasegmental features. The segmental differences between L1 and L2 are those that are largely confined to individual phones: ranged from the production of vowels and consonants to substitution of phonetic segments. Recently, however, L2 pedagogical theory has seen an increasing emphasis on the suprasegmental features including the prosodic features of stress, intonation, and rhythm (Chun, Hardison & Pennington, 2008; Hahn, 2004; Kang, Rubin & Pickering, 2010; Munro, 1995; Trofimovich & Baker, 2006; Trofimovich & Baker, 2007) .

Some empirical researches on phonological acquisition have demonstrated that since the phonemic system of the mother tongue is developed and fixated in very early age, it is impossible for the learners to achieve the native-like ability in perceiving and producing phonemes of the target language (Ioup, 2008; Mack, Bott & Boronnat, 1995; Pallier, Colome & Sebastian-Galles, 2001). Prosodic

features, on the other hand, have reported that the instruction seems to be effective on improving L2 learners' perception and production of prosodic features (Derwing, Munro and Wiebe, 1998; Levis, 2001; Derwing and Rossister, 2003; Chun, Hardison and Pennington, 2008). In this perspective, a question arises about which features of prosody should be prioritized on the ground so that they enhance a learner's intelligibility and comprehensibility in speech.

Therefore, in an attempt to get deeper understanding about which prosodic features should put first for improving communication, this study aims to focus on contrastive focus, one kind of sentence stress, and investigates whether Korean learners of English are able to produce focal accent on the specific locations and to examine the effect of well-produced contrastive focus on the perceived accentedness.

## 1.2 Research Questions

The present study attempts to examine the production of Korean learners' placement of contrastive focus and the effect of correctly-placed contrastive focus on the perceived accentedness. In addition, it also investigates whether there are any interactional effects of learners' onset age of L2 learning on their production of focal accent. To explore this issue, the present study attempts to answer the following research questions:

- 1) To what extent are Korean learners of English able to produce contrastive focus in their speech?
- 2) Do Korean learners' production of well-positioned contrastive focus influences the degree of their perceived accentedness?
- 3) How does the onset age of L2 have impact on learners' production of contrastive focus and perceived foreign accentedness?

### **1.3 Organization of the Thesis**

The thesis is organized as follows: Chapter 1 introduces the purpose of this study and the three main research questions. Chapter 2 explicates the theoretical and experimental studies of prosody, sentence stress and contrastive focus. Chapter 3 describes details of the experimental design employed in this study including participants, materials, data collection procedures, and analyses. Chapter 4 reports the results of the experiments and discusses the issues pertaining to the research questions. Finally, Chapter 5 summarizes major findings and their implications, which are followed by the limitations and suggestions for future research.

## **CHAPTER 2**

### **LITERATURE REVIEW**

This chapter covers the previous studies regarding the research questions above. First, section 2.1 introduces the role of prosody in communication in the aspects of comprehensibility and intelligibility. The age effect on foreign accentedness is explained as well. Section 2.2 provides a concept of sentence stress in English, and the details of characteristics of contrastive focus, and reviews the empirical researches that investigated Korean learners' production of contrastive focus in their L2 speech.



## **2.1 The Role of Prosody in Communication**

### **2.1.1 The Role of Prosody in Comprehensibility and Intelligibility**

Prosody is defined as suprasegmental features that are not confined to individual vowels and consonants but are usually listed as the set of features consisting of pitch, stress, duration, and intensity whose domain extends to the context of utterance (Lehiste, 1970; Ladd, 2008). The combination of these features creates intonation, tone, stress, and rhythm within an utterance so that they convey meaning beyond the words and phrases in discourse. One way prosodic features carry meaning is to emphasize important information. Consider, for instance, the utterances (1a) and (1b).

(1) (a) The tourists **DID** not fly home.

(b) The tourists did not **FLY** home.

(Akker & Cutler, 2003)

The two prosodic structures of speech consist of the same words and only differ in the position where the accent falls (denoted by upper case). Their implications, however, are quite different. Both imply a contrast with an earlier intention to go back home; but (1a) can be used in a situation within which the tourist extended a visit and is by implication thus still here, while (1b) involves a contrast between a plane and other means of transport, implying that the tourist has used some other means to go home. This example shows that the prosodic prominence is a highly informative communicative device, contributing to carry the speakers' intention. In that sense, the prosodic dimension is an essential component that L2 learners need to acquire to improve their communicative competence.

Numerous studies have claimed that listeners are more sensitive to suprasegmental errors than segmental errors in intelligibility and comprehensibility (Johansson, 1978; Anderson-Hsieh, Johnson and Marslen-Wilson, 1987; Gallego 1990; Morley1991; Anderson-Hsieh, Johnson and Koehler, 1992; Munro, 1995; Derwing, Munro, and Wiebe, 1998). Anderson-Hsieh, Johnson and Marslen-Wilson (1987) reported that the segmental features which were pronounced in a wrong way had little influence on listeners' word recognition, while the suprasegmental played a great role. They found that native English listeners had more trouble in recognizing a word with wrongly assigned

stress rather than a word with wrong phonemes such as *shigarette* (cigarette).

Gallego (1990) presented videotapes of ITAs (International Teaching Assistant) to undergraduates and had them stop the tape when they felt that communication broke down. When ESL experts analyzed these breakdowns, they discovered that most of them occurred when ITAs made pronunciation errors, usually word stress.

Anderson-Hsieh, Johnson and Koehler (1992) compared the relative contributions of segmental, prosody, and syllable structure errors in order to determine a powerful factor that influences nonnative speakers' acceptability. Within 11 different language groups, they found that the score for prosody was most significantly associated with the overall score for pronunciation.

These results signify the importance of prosodic features for intelligibility and comprehensibility in utterance. However, L2 learners have difficulty making use of prosodic features as a key variable differentiating semantic interpretation. Pennington and Ellis (2000) have found that L2 learners easily recognize sentences which were lexically contrastive, but showed poor recognition performance on sentences which were the same lexically but contrasted intonationally from those they originally heard. This pattern of response suggests that the L2 learners' English sentence processing was more focused on lexis than

intonation. It seems that if one has trouble recognizing prosodic difference in listening, it would be harder for him/her to use this features in production. This implies that to improve second language learners' communicative skills prosody related instruction seems to be required.

### **2.1.2 The Role of Prosody in Perceived Foreign Accentedness**

Foreign accentedness is defined as the degree to which the listener believes an utterance differs phonetically from native speaker's utterance (Derwing & Munro, 1997). This phenomenon is exceptionally salient so that listeners are found to be good at detecting outsiders on the basis of their speech patterns. The study that Flege conducted in 1984 shows this clearly. He played shorter speech samples produced by French learners of English to phonetically untrained listeners and found that they could reliably identify the French accent on the basis of only 30ms of speech.

Recently, suprasegmental features were found to be more correlated to the perceived accentedness than segmentals. By using acoustically modified stimuli, several studies have demonstrated suprasegmentals as powerful factors for

detecting foreign accentedness (Johansson, 1978; Van Els and De bot, 1987; Munro, 1995). Ohala and Gilbert (1981) showed that listeners could distinguish languages (English, Japanese, and Cantonese) at above chance levels when conversational utterances were converted to buzz stimuli that preserved fundamental frequency and amplitude but included little segmental information.

Johansson (1978) conducted an experiment in an attempt to weigh the contribution of different error types by rating accentedness scores of English sentences that were intentionally produced with either native intonation and segmental errors, or nonnative (Swedish-like) intonation and no segmental errors. Native English judges assigned higher ratings to the prosodically good but segmentally poor sentences than to those that were prosodically poor but segmentally good.

Munro (1995) used a low filtered sample which included little of segmental information and the listeners showed high level of accuracy in detecting foreign accentedness in the materials. She assumed that the listeners might have employed the prosodic properties of original utterances such as non-native rhythmic or intonation patterns.

These pieces of evidence have well demonstrated that suprasegmental features play an important role in perceived foreign accentedness. Given that,

this assumption might be possible that if L2 learners produce more appropriate prosody, especially appropriate for its pragmatic meaning, the utterance might be heard to have reduced foreign accentedness.

Age is known to be one of the most determining factors in predicting degree of foreign accentedness. It appears that regardless how long they have resided in L2-speaking countries (LOR), perceived accentedness of immigrant children and adults are influenced more by their age of arrival (AOA). Tahta, Woods and Loewenthal (1981) investigated the onset age of L2 that influences phonological acquisition. She found that when L2 acquisition had begun by 6, L2 was invariably accent-free. When acquisition began between 7 and 11, there was an approximately 50-50 chance of an accent-free L2, and when an accent was detectable it was usually judged to be fairly slight. Judges often commented that the foreign sound was a matter of intonation or melody, rather than pronunciation (or articulation). After 12, accents were usually present and usually rather marked. These findings suggest that age-related changes in ability to replicate foreign language sounds may differ for intonation and pronunciation. Based on the study, it seems that the ability to replicate intonation declines earlier than the ability to replicate pronunciation. This study looked at imitations by 5-15 year-old English children of words and short phrases spoken in two foreign languages to examine whether older or younger learners are better at first

exposure in replicating foreign sounds. The figures in this study indicate a striking difference between pronunciation and intonation, in that age relates to the ability to replicate them. For pronunciation, there is a slightly uneven but basically steady linear decline over the whole age-range studied (5-15). For intonation there is a marked and rapid drop from 8-11, with 5-7 year olds showing comparable, good abilities to replicate intonation, and 11-15 showing comparable, poor abilities to do so, though with a slight superiority of the older subjects in this age range. It makes no noticeable difference whether the sounds are of a somewhat familiar foreign language or of a totally unfamiliar foreign language.

## **2.2 Sentence Stress and Contrastive Focus**

### **2.2.1 Sentence Stress**

The present study focuses on sentence-level prosodic features. Halle and Vergnaud (1987) pointed out that, words which are grouped into phrases do not have their individual contour affected. Within each intonational phrase, the

particular word that is important for meaning receives the stress. In English phrases, important information is at the end of phrases and is emphasized with stress. This emphasis is called sentence stress (also known as primary stress, nucleus, or nuclear stress). This is realized in speech by combining prominent pitch accent with increased duration, intensity, and vowel quality.

Many L2 learners, however, have difficulty mastering the sentence stress system in English. Some studies have suggested that the transfer from the learners' L1 interfered with their ability to appropriately produce English-like stress across a sentence. Other studies, on the other hand, have paid attention to NNS(None Native Speaker)s' production and perception of English sentence stress. Wennerstrom (1994) found that NS(Native Speaker)s of Thai, Japanese, and Spanish, failed to use pitch movement to highlight new or contrastive information to the same degree that NS do. Lee, Cho and Moon (2003) also reported that pitch range by Korean learners of English was hardly realized at 50% than NS, regardless the sentence structure. In addition, L2 learners are inclined to put too many sentence stress per message unit. Kim, Kang, Ok and Kim (2002) also found out the problem in their study that Korean learners showed that focus placement on every content words whether it be semantically important or not.



Hahn (2004) demonstrates that misplacement of sentence stress is attributable to comprehensibility. She presented mini-lectures of ITA (International Teaching Assistant)s' to three groups of undergraduate college students. Each groups listened lectures that was identical, except with respect to assignment of sentence stress: correctly maintained, misplaced, absent of sentence stress. She then measured the listeners' comprehension and collected their reactions to the lectures. The group who heard the appropriately assigned primary stress responded more quickly to the tones, and understood and recalled significantly more about the lecture than the other groups who listened to the text with incorrectly placed stress, or no focus at all. The results show that well-placed sentence stress enhances listeners' comprehension.

### **2.2.2 Contrastive Focus**

One deviation from sentence stress involves contrastive stress, which signals some sort of contrast or emphasis on the stressed word. Bolinger (1961) argued that words can be focused or highlighted to signal newness, contrast, or some other special informativeness, where a speaker intends to emphasize by

concentrating attention on the word. This kind of focus is called contrastive focus.

Unlike normal sentence stress, contrastive focus is placed on words that are not at the end of a phrase, but selectively emphasize one part of the information. Speakers can put the focus on any elements, both content word and function word. The use of pitch accent (placing focus) depends on speakers' decision, which is a matter of what they are trying to say on a specific occasion in a specific context. See the examples of contrastive focus in (2) below:

- (2) (a) It wasn't **UNDer** the table, but actually **ON** it.
- (b) I ordered **FIFTY**, not **FIFTEEN** packages!
- (c) He may be **A** doctor, but he's not **THE** doctor I hope to find.
- (d) a. Are you asking **ME**? (or Jimmy?)
- b. Are you **ASKing** me? (or telling me?)

(Levis & Levis, 2012)

Contrastive focus involves a set of two or more immediately relevant alternatives which contrast one from another. Therefore, it assumes an alternative question that consists of immediate alternatives which are a set of contextually salient alternatives. The example of an alternative question and an answer are presented in (3) below:

(3) (a) A: Shall we go to the **MALL** ↗ or the **MARINA** ↘ ?

B: Let's go to the **MARINA** this time.

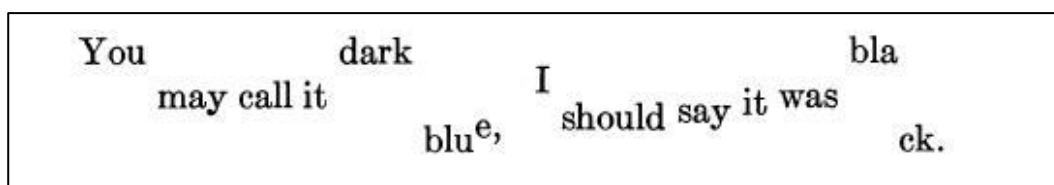
(b) Did **MARY** sue the company ↗ or did the **COMPANY** sue Mary ↘ ?

(Cho & Lee, 2003)

The marking of contrastive focus depends on several acoustic factors, especially a pitch change on the focused words and length of the words. Pierrehumbert & Hirschberg (1990) and Ladd (1996) argued that contrastive focus has its own pitch patterns, which is L + H\* (L for Low, H for High, \* for accentuated) (See Figure 2.1). That signifies that there is a prominent

phonological highlight, such as higher pitch, longer duration, or greater intensity, on the focused word.

**Figure 2.1 L + H\* Pattern for Contrastive Focus**



(Pierrehumbert & Hirschberg, 1990 ; Bolinger, 1961)

Cooper, Eady and Mueller (1985) investigated phonological/phonetic realization of contrastive focus produced by native speakers of English. They measured duration and fundamental frequency (F0) of the focused words to examine the manner in which contrastive focus influences the speakers' F0 patterns and word duration. The results showed highly significant difference in word duration and pitch between the words placed focal accent and not. A contrastive item exhibits a significantly increased duration and F0 value.

Experimental studies have shown that contextually appropriate use of prominent pitch accent can facilitate discourse comprehension (Birch & Clifton, 1995; 2002; Bock & Mazzella, 1983), and speed the detection of a contrastive referent targets, whereas contextually inappropriate use of focal accent may delay or mislead referential solution (Ito & Speer, 2008, 2011; Weber, Braun & Crocker, 2006). For example, in the instructions ‘Hang the blue ball. Now hang the GREEN drum’, the prominent pitch accent on *green* signals that color is the relevant contrastive dimension. Inappropriate use of focal accent led the listeners get lost.

There are some studies explored Korean learners ability to produce contrastive focus. The results revealed that, in general, their ability to produce contrastive focus differ across their proficiency level. Jun, Song, Lee and Kim (2002) compared the pitch patterns of contrastive produced by Korean learners to native speakers. 51% Korean learners showed similar pattern to the NS and their performance was better when focus was located on content words than on function words. In addition, when the sentence structure presented the contrast explicitly, the learners’ production of contrastive focus was better.

Kim and Kim (2012) investigated the realization of advanced Korean learners’ contrastive focus pitch patterns and native speakers’ perception of an

emphasized word from the learners' sentence production. In the production test, 72.5% of advanced Korean learners produced the contrastive pitch accent which is identical to those of NS. Moreover, in perception test, NS recognized 95% of focal accent in Korean learners' sentence speech.

## **CHAPTER 3**

### **METHDODLOGY**

This chapter describes the methodology and data information for the current study. Section 3.1 presents the detailed information of the participants in the study. Section 3.2 elucidates the characteristics of the research design, including materials and procedures of the experiments. Section 3.3 describes data collection procedures and analyses for the study.

#### **3.1 Participants**

The speech samples used in this experiment were elicited from a total of 37 Korean learners of English. These Korean learners are students of a university in Seoul, aged between 20 and 28 years (mean age = 23.7), who applied voluntarily

for participation through an online alumni community. All were advanced English learners who have achieved TEPS scores of 601 and above. TEPS is a test of English proficiency developed by Seoul National University ([www.teps.or.kr](http://www.teps.or.kr)) and adopted as an official English test in Korea. According to the level description form in scoring rubrics provided by the TEPS Council (see Appendix A), those who score between 901~990 and 801~900 are ranked as 1+ and 1 level, respectively, which are the two highest levels. This means that the test taker has a native or near native level of communication competence. Learners who achieved a score of 701~800 are at level 2+, advanced level, and scored between 601~700 are at level 2, a high intermediate level.

This study aims to investigate the interaction between the speech of well-produced contrastive focus and perceived speech accent with only high leveled learners of English. The previous studies which examined the production accuracy of contrastive focus produced by Korean learners revealed that Korean learners with lower proficiency level are not able to differentiate on the emphasized words in speech (Jun, Song, Lee and Kim., 2002; Kim, Kang, Ok and Kim, 2002; Kim & Kim, 2012).

Participants who took other English tests such as TOEFL and TOEIC were given a score which is in equivalent to TEPS score calculated by the TEPS



Conversion Table. The mean score for the participants is 806.13.

Only two of the subjects are studying language related majors, English and French. The other participants vary in their majors. 9 out of 37 (78.3%) reported no experiences living in English speaking countries (Length of Residence = 0), and the other 8 have stayed at least 6 months, maximum 8 years in USA, UK and Canada. 56.6% of them were first exposed to English during elementary school, 26.6% were first exposed in middle school, and 16.6% were exposed before elementary school.

Native speakers' speeches were also collected as a baseline to determine the validity of stimuli. If they are good at the placement of contrastive focus, it ensures the materials are well-designed to elicit the focal accent. Five native speakers of English (mean age = 24.2) participated in the experiment. All were from the USA. Two of them currently have been living in Korea for three and four years, respectively. The remainders are in the USA., and have never lived in Korea. None of all participants reported having speech, hearing or reading disorders.

## 3.2 Research Design

### 3.2.1 Materials

The stimuli sentences consisted of a set of declarative sentences and related alternative questions. Each sentence contains three to seven key words and the focus placement was determined by which alternative question was given. The following is a list of the sentences used in this experiment (the potential key content words are in italics):

- (1) (a) *Chuck* likes the *present* that *Grace* sent to him
- (b) The *ship* is *departing* from *France* on *Sunday*.
- (c) *John* took *eight* of the *cups* out of the *cupboard*.
- (d) The *children* stole the *peach* that *Jack* picked for *Emily*.
- (e) *Mark* left the *socks* on the *fence* beside the *pool*.
- (f) *Chris* and *Sandy* took a *plane* from *Colorado* to *Texas* to *surprise* their *father*.
- (g) The *fish* are *fresh* and *cheap* at this *restaurant*.
- (h) My *father* stopped the *car* so *John* could take his own *girlfriend* across the *street* to see the *ducks* in the *park*.

For every stimuli sentence, alternative questions was composed, each of which would prompt the placement of contrastive focus on the different key words in the sentences. The example of alternative questions and model answers for the sentence (1a) is as follows:

(2) (a) **Sentence:**

“Chuck likes the present that Grace sent to him.”

(b) **Questions:**

- ① Did *William or Chuck* like the present that Grace sent to him?
- ② Did Chuck like *the letter or the present* that Grace sent to him?
- ③ Did Chuck like the present that *Olivia sent* to him *or* the one that *Grace sent*?

(c) **Answers:**

- ① *Chuck* likes the present that Grace sent to him.
- ② Chuck likes the *present* that Grace sent to him.

- ③ Chuck likes the present that *Grace* sent to him.

The questions were designed to elicit relative natural speech samples that are identical and comparable across all participants, as well as to avoid non-contrastive and broad focus interpretations. Each answer was elicited from the questions, thus, was identical in their word composition, differing only with respect to the location of the contrastive focus.

All the sentences were presented with pictures related to the sentences to help subjects process the alternative questions faster. (See Appendix B)

### **3.2.2 Procedures**

The procedures were also extended to elicit a more natural speech production from the participants. Speakers were required to answer the question in a full sentence without looking at the stimuli sentences. In doing so, the subjects were more likely to be imposed to minimal demands to make lexical, syntactic decisions, while producing the sentences, but not as likely to simply

read or repeat the original. This differs from the procedures used in Cooper, Eady and Mueller (1985). The original procedures used in their study was listening and reading. The participants listened to the sentences and alternative questions, and then read the sentence on a card with focal stress. In addition, since they made alternative question with every key word, it was rather obvious and thus likely for the participants to get the feel for the purpose of the experiment.

Each stimulus sentence and alternative question was presented on a computer screen using a Microsoft Office Power Point slide show. Subjects were instructed to read the sentence aloud, and then turn the page as soon as they understood the meaning of it. On the next page, there is an alternative question about what they read. At the start of the recording, each subject was presented with three practice sentences to familiarize themselves with the procedure and to provide them opportunities to practice answering in a full sentence. The participants, first, were asked to read a sentence aloud, followed by an alternative question about what they read. They were asked to read the questions aloud as well. Korean learners are not accustomed to reading in English aloud and had a hard time articulating a stream of words even though they were at advanced levels. Thus the procedure was designed in order to give as many opportunities as possible to practice the target sentence before they produced the answer. The speakers were then asked to answer the questions twice. A total of 24 answers

were drawn from the materials. This procedure was applied identically to the native speakers of English.

### **3.3 Data Collection and Analyses**

#### **3.3.1 Recording**

The participants were tested individually in a quiet room and asked to read the sentences into the microphone positioned on a desk in front of them. All audio recordings were made using a Sony PCM-D50 recorder.

A total of 888 sentences (37 participants x24 sentences) were recorded. For the study, only 8 sentences among 24 were analyzed (37 participants x 8 sentences = 296 sentences). Recordings where participants produced the wrong answers, did not answer in a full sentence or did not answer in the same sentence structure as the materials, or stammered severely were excluded. In the end, the analyses were based on a total of 257 sentences.

### **3.3.2 Rating**

The speech samples were rated by three native speakers of English (mean age = 37.6) who are all associate teaching professors in College English Program at a university in Seoul. They are all experienced experts in the field and have completed their masters programs in Education or English. They have been residents in Korea for ten, seven, and eight years, respectively. Two were from USA, and one is from Canada.

Raters listened to the randomly ordered speech samples and were asked to write down the most prominent word in each sentence. Then, they were asked to assess the perceived foreign accentedness of each sample. The rating for the perceived accentedness was done on a seven-point scale in the Likert format ranging from 1, representing “Definitely not Native Speaker”, to 7, representing “Definitely Native Speaker”.

Prior to and during the listening, the listeners were shown all of the sentences the participants were attempting to say and were able to refer back to the list throughout the experiment so that the listeners could compare what they

heard to their expectations of what the sentence should sound like. The interreliability (Cronbach's alpha) for the raters' consistency was .833. More detailed information about the raters is shown in Table 3.1.

**Table 3.1 Background information of Judges**

	Age	Sex	Occupation	Nationality	LOR (year)
Judge 1	37	M	Associate teaching professor	Canadian	10
Judge 2	41	M	Associate teaching professor	USA	7
Judge 3	35	F	Associate teaching professor	USA	8

\*LOR: Length of Residence in Korea



### **3.3.3 Analyses**

For the analyses, the most prominent word in the speech sentence and perceived accentedness was assessed.

In order to evaluate the Korean learners' ability to place contrastive focus, the raters' answers for the prominent word per sentences were checked. If all three judges perceived the same word as prominent in a sentence, 100 points was graded. If only two judges perceived the same word as prominent, then 66.6 points would be graded. If only one listener choose the prominent word, then 33.3 points would be graded.

## **CHAPTER 4**

### **RESULTS AND DISCUSSION**

This chapter reports the results of the statistical analyses of data and discusses the research questions posed for the study. Section 4.1 explains the results of whether Korean learners are able to realize the perceived prominence on a word which received the contrastive focus in English sentences. Section 4.2 describes the degree of the Korean advanced learners' foreign accentedness on the sentences containing contrastive focus. Section 4.3 examines the effects of the learners' onset age of L2 on their production of contrastive focus and perceived foreign accentedness.

## **4.1 Advanced Korean Learners Ability to Produce Contrastive Focus**

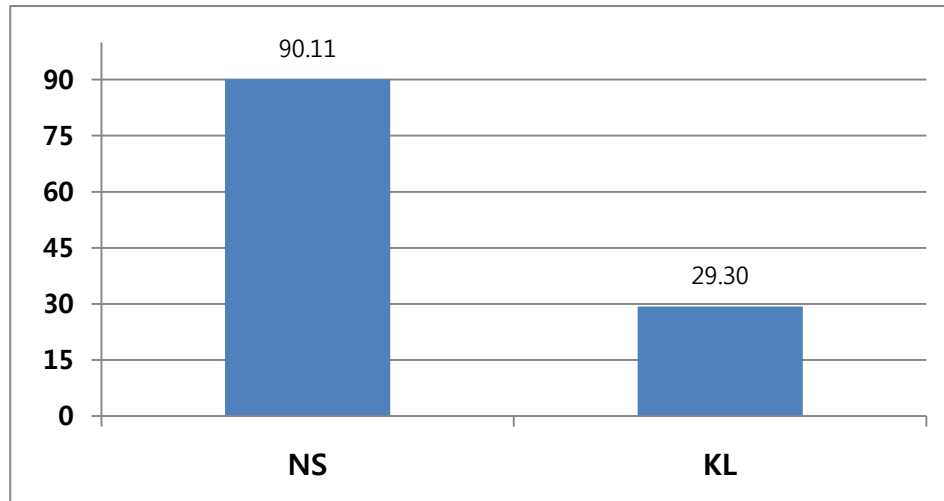
The present study aims to explore whether advanced Korean learners of English are able to use contrastive focus in their speech.

Previous studies have found that advanced Korean learners of English showed native-like performance producing contrastive focus with L+H\* pitch pattern than learners at a basic level (Jun, Song, Lee and Kim, 2002; Kim and Kim, 2012). Their performance was better when the focal accent was put on content words in a sentence structure which is presented syntactically explicit contrast. In addition, in a perception test, after NS listened to the advanced Korean learners' speech sentence, which includes contrastive focus on various content words (one in a sentence), they were able to choose the emphasized words with 95% accuracy.

Therefore, the current study hypothesized that advanced learners might show better performance in producing contrastive focus, when the focal accent posed on a content word in a sentence with explicit contrast syntactically. The present study carried out production experiment of 37 Korean learners of English at advanced level (TEPS 601-990). To elicit contrastive focus on the target

location, an alternative question, which presents contrastive items explicitly, was used. For example, for the sentence “Chuck likes the present that Grace sent to him”, the question “Did Will or Chuck like the present that Grace sent to him?” was asked. L2 learners were supposed to answer “CHUCK likes the present that Grace sent to him.” The analysis for the perceived focal accent rate was determined by NS judges who were asked to choose the most prominent word in the sentence they heard. 100 points were assigned the word that chosen by all three listeners, 66.66 points for the consistent word by two, and 33.33 points for the word with only one judge perceived focal accent. The procedures were applied to five NS speakers. The results of the score are shown in Figure 4.1.

**Figure 4.1 Mean Score of Perceived Contrastive Focus(CF) Produced by Native Speakers(NS) and Korean Learners(KL)**



The mean score of perceived contrastive focus by Korean learners of English was 29.30, while the mean score by native speakers of English was 90.11. Independent sample t-test was carried to identify the significant gap between the two groups ( $p = .000$ ), even though the number of native speakers subjects are not enough for statistics (See Table 4.1).

**Table 4.1 Summary of Production of Contrastive Focus Comparing Native Speakers and Korean Learners**

	Mean	SD	95% Confidence Interval for Mean		t	df	Sig.
			Lower Bound	Upper Bound			
NS	90.1100	13.27143	-73.04892	-48.55864	-10.036	40	.000
KL	29.3062	5.63284					

The mean score of perceived contrastive focus by Korean learners of English was 29.30, while the mean score by native speakers of English was 90.11. The results of the present study were somewhat different from the study by Kim and Kim (2012) and from earlier expectations that advanced learners might be good at production of contrastive focus. Kim and Kim (2012) investigated the realization of advanced Korean learners' contrastive focus pitch patterns and native speakers' perception of an emphasized word from the

learners' sentence production. In the production test, 72.5% of advanced Korean learners produced the contrastive pitch accent correctly which is identical to those of NS. Moreover, in perception test, NS recognized 95% of focal accent produced in KL's sentence speech.

In order to examine whether the results is attributed to the wide range of "advanced" level, participants are subdivided into two groups based on proficiency. According to the TEPS scoring rubrics, learners who scored 801~990 are considered as native and near native level, and those who scored 601-800 are at high intermediate and advanced level. Thus, Group 1 includes learners between 801~990 and Group 2 consists of learner whose proficiency level are at 601~800. Mean TEPS score of the groups was 881 and 718.05, respectively, and there was significant group difference in the aspect of proficiency between the two groups ( $t = 9.615$ ,  $p = .000$ ). Their mean performance score was measured to identify whether there is difference between the two groups.

**Table 4.2 Summary of comparison with Comparisons with Native Level and Advanced Learners' Production of CF**

	Mean	SD	95% Confidence Interval for Mean		t	df	Sig.
			Lower Bound	Upper Bound			
G1	31.1095	14.62503					
			-4.98798	12.83757	.894	35	.377
G2	27.1847	11.55211					

G1: Learners at Native and Near-Native level

G2 : Learners at Advanced and High Intermediate Level

As illustrated in Table 4.2, the mean score of G1 and G2 were 31.11 and 27.18, respectively and there was no significant difference between the groups ( $t = .894, p = .377$ ). It means that Korean learners, regardless of how advanced they are, seem to have difficulty placing focal accent of the contrastive information.



One possible explanation might be the consideration of phonological / phonetic aspect in the realization of contrastive focus. Contrastive focus is produced in the manner of a longer duration and higher F0 value on an emphasized word. In a study which examined the effect of contrastive focus on the duration and F0 value of keyword position (Cooper, Eady and Mueller, 1985), native speakers of English showed highly significant difference in duration and pitch between focal words and non-focal words. A contrastive item exhibits a significantly increased duration and F0 value. In that sense, in an attempt to offer a possible interpretation, the duration and F0 of the prominent words in the speech sample were measured.

Amongst the sentence materials, the sentence “Chuck likes the present that Grace sent to him” has three opportunities to elicit focal accent on different content words: CHUCK, GRACE, and PRESENT. Duration and mean F0 value of each word were obtained from the speech samples. In duration the results revealed that the emphasized words were longer than the other unemphasized words numerically. The results obtained by duration and pitch measurement indicate that Korean learners seemed to place focus on the contrastive information in the sentences, but the focal accent were not prominent enough. This can be explained by a difference of indicators for contrastive focus in Korean and English. According to the studies about contrastive focus in

Korean, English and Korean differs in the manner to which the focused word is emphasized. In Korean, there is a morphological indicator *-nun* or *-eun* after the contrasted word, while the English focal accent is realized only in phonologically with pitch pattern, such as L+H\*. Although there is an apparent difference in the way contrast words are highlighted, the usage of the contrastive focus in a context in both languages is similar. Both Korean and English employ their indicator to express contrastive focus and contrastive topics in a sentence. In German, on the other hand, pitch accent L+H\* is used as an expression of contrast and this indicator is only used for contrastive topic. Thus, Korean and English have different representation but the properties of the indicators are similar. This suggests that Korean learners seem to have better perception in contrastive focus. In a previous perception study (Kim and Kim, 2012), the results revealed that advanced Korean learners showed 100% accuracy in finding out what words are contrasted in native speakers' sentence speech. However, they might not be aware of how to realize the focal accent. This assumption seems possible from the results of another perception study. Jun, Song, Lee and Kim (2002) had NS and Korean learners distinguish whether a sentence they heard includes neutral, information, or contrastive focus. They were presented artificially manufactured pitch of an emphasized word in the sentence ranged from 200Hz ~ 380 Hz. NS perceived the word which received contrastive focus

from over 280 Hz, while Korean learners showed inconsistent results. Taken together, Korean learners might not know when they should mark the focal accent properly.

## **4.2 The Degree of Perceived Foreign Accentedness in Korean Learners' Production of Contrastive Focus**

The second analysis measured the perceived foreign accentedness of Korean learners' production of focal accent. Native English listeners were asked to measure the perceived accentedness of the samples. The listeners used a scale ranging from 1 (Definitely not native speaker) to 7 (Definitely native speaker).

Korean learners appeared to have a detectable foreign accent to the extent of 4.16 compared to native speakers (6.60), the numeric score revealed difference between native speakers and Korean learners (Table.4. 3).

**Table 4.3 Summary of Comparison in Perceived Accentedness between NS and KL**

	Mean	SD	95% Confidence Interval for Mean		t	df	Sig.
			Lower Bound	Upper Bound			
NS	6.6060	.66437					
			.61500	2.30176	-8.081	40	.000
KL	4.1616	.66437					

To have a better understanding about the interaction between better performance of focal accent and the perceived accentedness, Korean learners were divided into two groups based on their mean score of contrastive focus production, which was 29.30. Group 3 includes 17 learners who received higher score than average and Group 4 consist of 20 learners of lower than average score. The mean score for the two groups are presented in Table 4.4.

**Table 4.4 Summary of Comparison in Perceived Accentedness of Well-produced Contrastive Focus in Sentences**

N	Mean	SD	95% Confidence		t	df	Sig.	
			Interval for Mean					
			Lower Bound	Upper Bound				
G3	17	4.2341	.49552					
				-3.1477	.58301	.607	35	.548
G4	20	4.1000	.76784					

G3: above the average (29.30)

G4 : below the average

As summarized in Table 4.4, mean accentedness score for G3 was 4.23, and 4.10 for G4. Between the group that showed relatively better performance producing focal accent and the group which scored below average, there was no significant group differences in perceived accentedness ( $t = .607$ ,  $p = .548$ ). Therefore, it seems that well-positioned contrastive focus does not influence the overall perceived accentedness. It would indicate that prosody might not be a

powerful factor for the listeners to perceive foreign accentedness.

### **4.3 The Effects of Onset Age of L2 on Korean Learners' Production of Focal Accent and Perceived Foreign Accentedness**

The age factor, especially the age of first exposure to English, is one of the main factors affecting L2 learners' foreign accentedness. Therefore, to identify where the participants' onset age of L2 influences the performance of prosody production, participants' were divided into three groups based on their starting age of leaning English. In That, Woods and Loewenthal. (1981) there is a significant difference in ability to produce intonation correctly among learners' exposure to L2: age of under 8, age of 8-10, and age of 11 plus. Learners up to the age of 8 show comparably good at pronouncing foreign words and phrases. There is a rapid drop from 8-11 and children of after 11 showed poor at producing foreign pronunciation. Hence, the present study follows this criteria and categorized participants according to the onset age of L2: 0-7, 8-10, and 11 plus.

**Table 4.5 Summary of Perceived Accentedness Results between Groups Divided by Onset Age of L2**

Onset Age	N	M	SD	Max	Min	F	Sig.
0 - 7	9	4.8756	.68664	4.28	6.17		
8 - 10	22	3.9236	.38901	3.00	4.60	10.506	.000*
After 11	6	3.9633	.75778	3.17	5.07		

\*p < .001

In order to identify the differences in accentedness in different onset age groups, one-way analysis of variance (ANOVA) was conducted. The results are summarized in Table 4.5.

There was a significant difference amongst the three groups ( $F = 10.508$ ,  $P = .000$ ). This is consistent with the previous literature where the acquisition of

pronunciation is affected by the age of first exposure. The correlation between the age and foreign accent has been proven throughout numerous previous studies. In particular, they indicate that learners' age, typically defined as age at the first exposure to L2, is a factor determining a learners' success in L2 phonological learning. In fact, an early exposure to L2 is often associated with native-likeness acquisition of L2 suprasegmentals (Baker & Trofimovich, 2005; Flege, 1995; Flege, Munro and MacKay, 1995; Tahta, Woods and Loewenthal, 1981) .

To closely identify the onset time that may be related to the acquisition of L2 suprasegmentals, the Bonferroni test was conducted (See Table 4.6). According to the post-hoc analyses, there was a significant group difference between the subjects who learned English before the age of 8 and those who learned it during the age of 8-10. Furthermore, subjects who were exposed to English in kindergarten and those during young adolescent showed a difference in foreign accentedness. If this is indeed the case, then it is possible that children learners exposed to L2 prior to age 8 may have the possibility of attaining near native-like suprasegmental features in their utterance. The effect of starting age of L2 in this study agrees with the results obtained by Flege, Birdsong, Bialystock, Mack, Sung and Tsukada (2006), who examined the influence of immigrants' age and length of residence in an L2 speaking country on degree of



foreign accent in a L2, showing that this can be applied in EFL situation.

**Table 4.6 Post-hoc Analyses on Age of Onset**

(I)	(J)	(I-J)	Standard Error	Sig.
Onset Age	Onset Age	Mean difference		
0 -7	8 -13	.95192*	.21266	.000
	11 ~	.91222*	.28326	.008
8 -10	0 -7	-.95192*	.21266	.000
	11 ~	.03970	.24753	1.000
After 11	0 -7	-.91222*	.28326	.008
	8 -10	-.03970	.24753	1.000

## **CHAPTER 5**

### **CONCLUSION**

This chapter draws conclusions based on the results and discussion presented in the previous chapters. Section 5.1 briefly summarizes the major findings of this study and suggests pedagogical implications. Finally, Section 5.2 indicates the limitations of this study and provides some suggestions for future research.

#### **5.1 Major Findings and Implications**

The primary objective of the present study is to examine whether advanced Korean learners of English are able to place contrastive focus on the emphasized

words. This study also aims to investigate the effects of focal accent on perceived accentedness. Lastly, the interaction between learners' onset age of L2 and perceived accentedness was also an additional concern for this study. In order to answer these questions, the production tasks which answer to the alternative question were carried out by Korean learners of English at an advanced level. The findings of the current study can be summarized as follows.

First, advanced Korean learners are not successful in highlighting a specific word which includes contrastive information to other words in a sentence. When the participants are divided into two groups - the native level and the advanced and high intermediate level - there was no significant difference between them. Subsequently, the duration and mean fundamental frequency of the focused words were measured to see whether they were able to differentiate them phonologically. Both of the features were longer and higher than normal words numerically, but there was no significant difference statistically.

This might be attributed to a difference of indicators for contrastive focus in Korean and English. Because of the different mark, although Korean learners perceive contrast words they might not be aware of how to realize the focal accent in English. This assumption seems to be in line with a previous study (Jun, Song, Lee and Kim, 2002).

Second, there was no evidence that well-positioned contrastive focus influences the listeners' perception of accentedness. This might be because the performance of Korean learners' production of focal accent was not more outstanding than earlier expectations.

Finally, this study found that participants' age of first exposure to English affected their foreign accentedness, which supports a number of previous researches that suggested that the strong relationship between age and degree of L2 foreign accent exists. According to the current study, learning English before age seven made a significant difference in degree of foreign accentedness. However, no interaction was found between onset age and placement of focal accent.

## **5.2 Limitations and Suggestions for Further Research**

This study presented some findings on the production of contrastive focus by Korean learners of English but has several limitations. Most of all, the sample

size and the number of native judges were rather small to investigate the Korean learners' production ability to focal accent. Even though the judges are experienced experts in teaching second language, the more number of judges might help securing higher rater reliability. Further research is required with a larger number of participants and listeners to verify the production test.

Regarding the participants, the criterion for distinguishing learners' proficiency level could have been a score obtained from speaking tests. Because of the practical limitation on recruiting the participants, only a few of the participants in the current study have speaking test score. Except for TOFLE, TEPS and TOIEC score do not include learners' speaking ability, and this overall language ability may not precisely represents learners' speaking proficiency.

Another limitation lies in the materials itself. Even though the sentences employed in the experiment were controlled in their length, they were rather short and unnatural in some ways. It can be suggested for future studies to conduct a focal accent production task with the material taken or created from the longer, spontaneous, real speech, which offers more context information. It would enhance deeper understanding on how language learners produce the speech of the target language.

Lastly, it would be beneficial to investigate the effect of focal accent

instruction for speech production. Pronunciation instructions in English classrooms in Korea are not given much attention. However, in order to facilitate the communication in target language, proper use of prosody is required. Therefore, future empirical research on the benefits of training production of prosodic features would be needed for the pronunciation teaching in English classroom.

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# APPENDICES

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# APPENDIX A

## TEPS Scoring Rubrics

### Scoring Rubrics

TEPS scores are categorized into 10 levels. Each level explains a test taker's communicative competence.

Level	Score	Level description
1+	901~990	<b>Native level of communicative competence</b> The test taker shows the ability to use English like a well-educated native speaker and has no problem dealing with professional tasks.
1	801~900	<b>Near-native level of communicative competence</b> The test taker will be able to communicate in most situations with the help of a short, intensive training period and will have few problems dealing with professional tasks.
2+	701~800	<b>Advanced level of communicative competence</b> The test taker will be able to do general tasks in English with a short, intensive training period.
2	601~700	<b>High intermediate level of communicative competence</b> The test taker will be able to do general tasks in English with a medium-length to long, intensive training period.
3+	501~600	<b>Mid intermediate level of communicative competence</b> The test taker will be able to do limited tasks in English with a medium-length to long, intensive training period.
3	401~500	<b>Low intermediate level of communicative competence</b> The test taker will be minimally able to do limited tasks in English with a medium-length to long, intensive training period.
4+	301~400	<b>Novice level of communicative competence</b> The test taker will be able to do limited tasks in English with a long, intensive training period.
4	201~300	
5+	101~200	<b>Near-zero level of communicative competence</b> The test taker has very limited proficiency in English.
5	10~100	

# APPENDIX B

## Materials

### **Directions:**

- 1) Read aloud the sentence.
- 2) Turn the page, you will see a question for the sentence.
- 3) Read aloud the question and answer the question TWICE in a FULL SENTENCE.



## **Practice test**

**Manny paid for dinner yesterday.**

Q. Did Manny paid for lunch or dinner yesterday?

A. Manny paid for \_\_\_\_\_ .

Lunch ?



Dinner ?

The bus arrives at eleven.

**Q. When does the bus arrive?**

**A. The bus \_\_\_\_\_.**



**Mike ordered steak and a glass of wine  
at the restaurant.**

**Q. Did Mike order a glass of water or a glass of wine  
at the restaurant?**

**A. Mike ordered \_\_\_\_\_.**



**Now let's begin !**



I ordered fifty, not fifteen packages.



Q. How many packages did I order?

fifteen



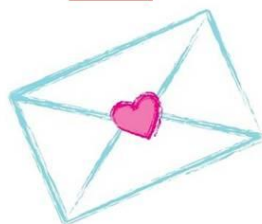
fifty



**Chuck liked the present that Grace sent to him.**

**Q. Did Chuck like the letter or the present  
that Grace sent to him?**

Letter



Present



The same sandwich costs five dollars at bakery A  
and seven dollars at bakery B.

Q. How much does the sandwich cost at  
bakery A and bakery B?



**The ship is departing from France on Sunday.**



**Q. When is the ship departing from France?**



**The product needs to go in the box not near the box.**

**Q. Where does the product need to go?**



**Chuck liked the present that Grace sent to him.**

**Q. Did Chuck like the present that Olivia sent to him  
or the one that Grace sent to him?**

**Olivia**



**Grace**



**John took eight cups out of the cupboard.**

**Q. Where did John take eight cups ?**

**The ship is departing from France on Sunday.**

**Q. Is the ship departing from France  
on Saturday or on Sunday?**

On Saturday



On Sunday



The children stole the peach that Jack picked for Emily.

Q. Did the children steal the peach or the pear  
that Jack picked for Emily?

Peach



Pear



**Mark left the socks on the fence beside the pool.**

**Q. Did Mark leave the socks on the fence or  
on the bench beside the pool?**



I ordered fifty, not fifteen packages.

Q. Did I order fifty or fifteen packages?

fifteen



fifty



**Chris and Sandy took a plane from Colorado to Texas  
to surprise their father.**

**Q. Did Chris and Sandy or Chris and Julie  
take a plane from Colorado to Texas  
to surprise their father?**





**John took eight cups out of the cupboard.**

**Q. Did John take eight bowls or eight cups  
out of the cupboard?**

The fish are fresh and cheap at this restaurant.

Q. Are the fish big and cheap or fresh and cheap at this restaurant?

Big



Fresh



**Andy Miller was a popular singer in the U.S..**

**Q. Is Andy Miller a popular singer in the U.S.?**



**Mark left the socks on the fence beside the pool.**



**Q. What did Mark leave on the fence beside the pool?**

**Chuck liked the present that Grace sent to him.**

**Q. Did William or Chuck like the present  
that Grace sent to him?**

William



Chuck



The same sandwich costs five dollars at bakery A  
and seven dollars at bakery B.

Q. Does the sandwich cost five dollars or seven  
dollars at bakery A?



**My father stopped the car  
so John could take his own girlfriend across the street  
to see the ducks in the park.**

**Q. Did my father stop the car so John could take his  
own girlfriend across the street to see the ducks  
on the pond or in the park?**



## 국 문 초 록

본 연구는 한국 영어 교육의 중요한 목표인 의사소통능력 향상을 도모하기 위한 한 가지 방법으로 발음교육이 중요하다고 보고, 그 중에서도 표면적 의미 이상을 전달하는 기능을 하는 운율 교육의 필요성을 되새기고자 하였다. 그 중에서도 문맥과 화자의 의도에 따라 초점의 위치가 달라지는 대조 초점에 천착하여, 상급 수준의 한국인 영어 학습자들이 대조초점을 적절한 위치에 발화할 수 있는지, 또한 그들의 대조초점 발화 문장이 어느 정도 외국인 억양성이 인지되는지를 중점적으로 살펴보려 한다. 이에 따른 연구 문제는 다음과 같다. 1) 한국인 상급 영어 학습자는 대조초점을 강조되는 단어에 부과할 수 있는지 2) 한국인 상급 영어 학습자들이 대조초점을 적절한 위치에서 실현한다면 그들의 발화 상에서 외국인 억양성 정도는 어떻게 느껴지는지 3) 한국인 상급 영어 학습자들의 영어를 처음 배운 시기가 그들의 발화 상의 외국인 억양성 정도에 영향을 주는지에 대한 연구 문제를 제시하였다.

본 실험에서는 서울 소재 대학의 상급 영어 수준을 보유하고 있는 학생 37명을 대상으로 선택의문문(alternative questions)을 이용한 대조초점 발화 실험을 하였다. 한 문장에 세 개의 선택의문문을 제시하여 질문의 내용에 따라 대조초점의 위치를 달리하여 대답할 수 있도록 유도하였다. 세 명의 영어 원어민 채점자가 참가자들의 발화 문장을 듣고 가장 들리는 단어를 찾은 후 문장 전체에 대한 외국인 억



양성 정도를 표시하도록 지시받았다.

실험 결과, 첫째, 한국인 상급 영어학습자들은 의미상 강조되는 단어가 돌돌리도록 대조초점을 실현하지 못하는 것으로 드러났다. 이는 한국인 학습자가 대조초점을 어떤 방식으로 구현해야 하는지 잘 알지 못하는 것에서 기인한 것으로 보인다. 둘째, 대조초점이 적절한 위치에 나타난 문장과 그렇지 않은 문장과의 외국인 억양성 정도를 비교하였을 때 유의미한 차이가 없는 것으로 나타났다. 이것은 청자가 외국인 억양성을 인지할 때 운율이 더 영향력 있는 요소가 아닐 수도 있다는 것을 암시한다. 셋째, 한국인 학습자의 처음 영어를 배운 나이와 외국인 억양성 정도에 차이가 있는 것으로 나타났다. 8세 이전에 영어를 배운 학습자는 그 이후에 배운 학습자들과 유의미한 차이를 보여주었다. 이것은 이민자들이 처음 해당 국가에 도착한 나이와 외국인 억양성의 관계를 살펴본 많은 연구들과 일치하는 결과로, 영어를 외국어로서 배우는 환경에도 적용될 수 있다는 것을 보여준다.

주요어: 대조 초점, 문장 강세, 영어 운율, 외국인 억양성,

영어 학습 나이

학 번: 2011-23634