Changes in Perceptions of Suprasegmentals in Pronunciation Among Korean EFL learners

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A Scholarly Paper

Submitted in Partial Fulfillment of

Master of Arts in Second Language Studies

Department of Second Language Studies

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Summer 2021

Abstract

The current study investigates changes in perceptions of suprasegmental features among nine adult Korean learners of English as a Foreign Language (EFL) after offering three hours of one-on-one pronunciation instruction. The participants learned English in Korea for at least 10 years at public and/or private institutions and have no prior pronunciation-focused training. In pre- and post-instruction interviews, the participants were asked questions about their English learning backgrounds and causes of communication breakdowns to elicit their perceptions of suprasegmentals. Their responses were qualitatively analyzed through coding. The findings revealed that their perceived importance of suprasegmentals had generally increased and that their perspectives of pronunciation features had widened after the treatment, from a segment or a word to a sentence. Three participants were delved into as separate cases due to their differentiated patterns compared with the general tendency among the other participants to focus on segmentals in the pre-instruction interviews and suprasegmentals in the post-instruction interviews. Based on the findings, implications for pronunciation instruction and future research directions are suggested.

Changes in Perceptions of Suprasegmentals in Pronunciation Among Korean EFL learners

When one learns a second language (L2), oral competence is usually what is expected or desired to be gained in the process. In the current era when languages are valued resources for achieving communicative competence in the globalized world, in particular, it is considered necessary to develop speaking skills to the level that does not create communication problems. One of the essential components of this communicative competence is intelligible pronunciation (Derwing et al., 1997, 1998; Derwing & Munro, 2005; Levis, 2005; Morley, 1991).

A speaker's utterances can become more intelligible to a listener through pronunciation instruction (Derwing et al., 1997, 1998; Loewen, 2020; Saito, 2012). However, opinions vary with regard to what aspect of pronunciation should be targeted in the pronunciation instruction. From a phonological perspective, the focus of pronunciation instruction can be divided into two; segmentals and suprasegmentals. Traditionally, segmental features such as individual segments have been emphasized in pronunciation teaching (e.g., Saito, 2011; Saito & Lyster, 2012). On the other hand, some researchers and instructors have argued that teaching suprasegmental features such as rhythm, stress in words and sentences, and intonation plays a more salient role in improving intelligibility (e.g., Field, 2005; Gilbert, 1984; Hahn, 2004; Pennington, 1989). However, what forms the basis of the present study is a more balanced teaching approach that incorporates both segmental and suprasegmental elements. This has been recommended by multiple instructors and researchers who asserted that both the elements have a significant impact on intelligibility (e.g., Celce-Murcia et al., 2010; Couper, 2003; Crowther et al., 2015; Derwing et al., 1998; Trofimovich & Isaacs, 2012; Zielinski, 2015). However, how pronunciation is actually taught in the classrooms is far from this well-balanced ideal.

In many countries where English is taught as a Foreign Language (EFL), suprasegmentals are often neither recognized nor targeted in English classes. Korea is one of the countries where little to no pronunciation instruction is provided in public schools due to its various local constraints (Hwang, 2008; Kim, 2004). Without sufficient pronunciation instruction in school, it is probable that most Korean EFL learners' perceptions of segmentals and suprasegmentals are not balanced. In fact, there has been very little research on perceived significance of suprasegmentals from the learner's perspective. Moreover, information is lacking on whether learners' awareness of suprasegmentals can be raised through instruction and how their perceptions can change. To fill these gaps, the current study aims to investigate how pronunciation instruction can influence Korean EFL learners' perceptions of suprasegmentals.

Literature Review

Intelligibility and Pronunciation

The term intelligibility has been defined within a body of pronunciation research in different ways (e.g., Derwing & Munro, 2015; Levis, 2005; Munro & Derwing, 1999; Nelson, 2012; Smith & Rafiqzad, 1979). The present study focuses on Munro and Derwing's (1999) broad conceptualization of intelligibility, defined as "the extent to which a speaker's message is actually understood by a listener" (p. 289; see also Levis, 2006, 2020). This construct can encompass narrower intelligibility (accuracy) and comprehensibility (ease of understanding) defined within Derwing and Munro's (2015) paradigm of intelligibility. Levis' (2005) Intelligibility Principle is built upon this broader conceptualization of intelligibility, claiming that learners can successfully communicate in an L2 despite their foreign accents as long as their speech is reasonably intelligible, which is contrary to the Nativeness Principle aiming for native-like pronunciation. Many other researchers have also argued for understandable speech as a more

realistic and reasonable goal for teaching pronunciation (Matsuura, 2007; Morley, 1991; Saito, 2011).

There has been a long-standing debate about which pronunciation features contribute to intelligibility and thus should be focused on in instruction. In particular, opinion has been divided in terms of which aspect of pronunciation should be targeted between the two phonological features, segmentals and suprasegmentals. First, segmentals such as consonants and vowels have long been the dominant focus of pronunciation instruction among experts (e.g., Collins and Mees, 2013; Jenkins, 2000, 2002). Collins and Mees (2013), for instance, identified six types of errors leading to a breakdown of intelligibility (p. 215), and four of them concerned segmentals such as confusion of consonant/vowel contrasts and deletion or replacement of segments. Many parts of the book put emphasis on accurate segmental production while elaborating on phonemes and articulation. Jenkins (2000, 2002) argued for mutual intelligibility in communication among international speakers and proposed the Lingua Franca Core (LFC) for pronunciation instruction, which contained a set of pronunciation instruction suggestions avoiding native speaker norms of pronunciation. In LFC, she also attributed many cases of communication breakdowns to segmental inaccuracy such as /f/ versus /p/ and emphasized segmentals over suprasegmentals in pronunciation instruction. Research has given evidence of teachability of segmentals and evidence of instruction contributing to greater intelligibility (e.g., Saito, 2011; Saito & Lyster, 2012). For example, Saito (2011) reported a significant effect of four-hour explicit instruction about the segmentals /æ/, /f/, /v/, /θ/, /ð/, /w/, and /l/ on comprehensibility. Saito and Lyster (2012) also found a significant improvement in pronunciation of the /ɹ/ sound as a result of four hours of instruction with corrective feedback at a controlled-speech and a spontaneous-speech level.

On the other side of the debate, some experts argued that suprasegmentals such as linking, stress, rhythm, intonation, and speech rate have greater impact on intelligibility and thus should be given priority in instruction (e.g., Gilbert, 1984; Pennington, 1989). Gilbert (1984), for example, emphasized suprasegmental features such as linking, stress, vowel reduction, rhythm, and intonation as significant elements for intelligibility over segmentals. Pennington (1989) advocated a top-down approach to teaching pronunciation shifting the focus from individual phonemes to suprasegmentals. In line with this view, research has lent support to pedagogical claims about the importance of teaching suprasegmentals (e.g., Derwing et al., 1998; Field, 2005; Hahn, 2004). For example, Derwing et al. (1998) investigated the effects of three types of pronunciation instruction (segmental accuracy; prosodic features; and no pronunciation instruction) on speech of three groups of English as a Second Language (ESL) students and discovered that significant improvement in comprehensibility and transfer of learning to a spontaneous production had only been found in the suprasegmental-focused instruction group. Hahn (2004) also highlighted the importance of sentence stress to learners' intelligibility through an experiment where participants had recalled the content of three versions of lectures including identical contrastive sentences with primary stress placed on different words.

Rather than advocating for one over the other, the present study takes a mixed approach incorporating both segmental and suprasegmental elements into pronunciation teaching. This teaching approach has been recommended by a number of instructors and researchers (Celce-Murcia et al., 2010; Couper, 2003; Crowther et al., 2015; Derwing et al., 1998; Trofimovich & Isaacs, 2012; Zielinski, 2015). For example, Murcia et al. (2010) claimed that both inability to distinguish segments and inability to distinguish suprasegmentals can give negative influence on oral communication and argued for integrated pronunciation curricula. Also, Couper (2003)

found that pronunciation instruction with its focus on segmentals and suprasegmentals in a university ESL course had helped the students improve the accuracy of their pronunciation. Although Couper did not directly relate the instruction with intelligibility, the segmental (e.g., sounds of consonants and vowels) and suprasegmental features (e.g., linking, stress in words and sentences, and intonation) covered in the course are those that many intelligible pronunciation studies claimed contribute to intelligibility. In sum, there has been a growing trend in pronunciation instruction scholarship towards keeping a balance between segmentals and suprasegmentals. Therefore, it is important to provide L2 learners with opportunities to develop their speech intelligibility through pronunciation instruction focused equally on segmentals and suprasegmentals.

Awareness-Raising in Pronunciation

In the current study, raising awareness of pronunciation features is considered to be essential in teaching pronunciation. The rationale for it can be explained by Schmidt's (1990) Noticing Hypothesis. According to this hypothesis, a learner cannot improve linguistic abilities without consciously processing the input to make it intake for language learning (Schmidt, 1990, 2001). In other words, L2 learning requires learners' awareness in order for learning to happen. As Schmidt (1983) claimed earlier, this is especially applicable to adult L2 learners because they usually do not have the ability of children to unconsciously learn a language.

Although Schmidt's (1983) claim concerned acquiring the grammatical forms of language, Wong (2016) expanded the hypothesis to the learning of pronunciation. She listed explicit instruction as one of the crucial elements in teaching pronunciation to raise learners' awareness of two kinds, awareness of different pronunciation among different varieties and awareness of how to produce the different variant forms. As an example, she suggested that

Mandarin learners pronouncing the English glottal fricative /h/ as a velar fricative due to the transfer of /x/ from Mandarin should be taught about how those two sounds are different and how to pronounce them differently. What is also notable, however, is that she brought the concept of self-monitoring into the discussion of awareness raising. She maintained that if learners are not aware that their pronunciation was unintelligible, changes cannot be made into their pronunciation, which suggested the importance of metalinguistic awareness of pronunciation features. This type of awareness has significance as well because learners, notwithstanding their understanding of how two sounds are pronounced differently, may not still have control over their production. In line with her view, the present study uses awareness as the term embracing knowledge of pronunciation features and knowledge of how well pronunciation features are used in one's own production.

Zhang and Yuan (2020) also cited Schmidt (2001) when discussing the effectiveness of explicit pronunciation instruction offered in their study. Similarly, they contended that explicit pronunciation instruction is effective because only the things that learners attend to can be learned. The discussion about gap-noticing in their study also parallels Wong's (2016) two types of awareness illustrated above in that they argued that learners need to both notice the gap and understand how the gap is created through practice and feedback. Therefore, following Wong's (2016) and Zhang and Yuan's (2020) suggestions based on the Noticing Hypothesis, the current study views explicit teaching of phonological differences between two languages along with guided practice and feedback as fundamental to awareness-raising in pronunciation.

Raising Awareness of Pronunciation Features Among Korean EFL Learners

Despite the strong pursuit of English proficiency across society, Korea is one of the countries where English pronunciation instruction is limited due to various local constraints

(Hwang, 2008; Kim, 2004). First of all, learners have little exposure to spoken English outside the classroom. The learners usually rely on the teacher's English or recordings of standardized English varieties such as American or British English as models, which are limited in source and quantity (Szpyra-Kozłowska, 2014). Also, the learners rarely communicate in English when they leave the classroom. Therefore, emphasis is rarely placed on intelligible pronunciation in Korean EFL classrooms. The second constraint is the heavy focus on exams in education. For example, the Korean government's stimulus for international competitiveness led universities and companies to require standardized English tests scores of applicants (Park, 2009). Consequently, English education in Korea has been heavily centered on preparing students for written exams, rather than involving teaching spoken English for communication, let alone pronunciation instruction. Another key constraint is limited class time along with large class sizes. Szpyra-Kozłowska (2014) explained that within a few hours of English classes a week, many EFL teachers selectively spent more time on grammar and vocabulary, leaving out pronunciation. It was even worse in Korea as the English teachers stayed skeptical about speaking English in class by reason of inefficiency (Kim, 2004). Although changes have been recently made such as increased speaking opportunities in class, there is still little to no instruction specifically targeting pronunciation in public schools in Korea.

With the contextual conditions above intertwined, it is likely that many adult Korean EFL learners have not taken stand-alone pronunciation classes or even classes with enough focus on pronunciation. This suggests that their awareness of segmentals and suprasegmentals, which are the key aspects of pronunciation instruction, is assumably low, especially lower for suprasegmentals. In fact, in Korean schools, the basic articulation of consonants and vowels is touched upon when the alphabet is first taught, but prosodic features such as stress, rhythm, and

intonation are often neglected. Only segmentals are briefly introduced in the early stage of

learning English, and there is no consistent and systematic pronunciation instruction following.

Therefore, in Korea, it is highly probable that learners' perceptions of the importance of the two

phonological aspects of pronunciation are imbalanced.

Some pronunciation experts specified English pronunciation features with which Korean

learners usually have difficulty (e.g., Avery & Ehrlich, 1992; Bauman, 2006). Avery and Ehrlich

(1992) presented a list of pronunciation problems of Korean speakers and attributed them to the

major differences between the sound systems of Korean and English. The segmental features in

the list include /f/ vs. /p/, /b/ vs. /v/, voicing of fricatives, voicing of stops, /l/ vs. /ɹ/, /ɵ/ vs. /ð/,

tense vs. lax vowels, and /ɛ/ vs. /æ/ vs. /ɑ/ vs. /ʌ/, and the suprasegmental features include stress,

rhythm, and intonation. Bauman (2006) also offered a catalogue of errors made by Korean

learners in different linguistic aspects including pronunciation, grammar, and syntax based on his

observation in and outside of the classroom. The segmentals listed encompass /f/ vs. /p/, /b/ vs.

/v/, extra /i/ sounds at the end of a word, /l/ vs. /ɹ/, /ɛ/ vs. /æ/, and /ɵ/ vs. /s/, and the

suprasegmental section consists of rhythm and stress. Through a comparison of these two lists,

the most essential pronunciation features for pronunciation instruction for Korean EFL learners

can be identified and then complemented in consideration of Jenkins' (2000, 2002) LFC and

Celce-Murcia et al.'s (2010) teacher's guidebook. Jenkins' (2000, 2002) LFC can help making a

decision of whether a certain feature is crucial for intelligibility. For example, consonant clusters,

the lengthening of stressed syllables, and contrastive stress are considered to have a significant

impact on intelligibility. Also, Celce-Murcia et al.'s (2010) book contains diverse

suprasegmentals with sufficient examples, which can serve as a resource to fill the lack of

suprasegmentals in those lists.

Although the pronunciation problems above arise from the differences in sound systems between Korean and English, more precisely, they are attributed to how learners perceive and use the relevant pronunciation features. First of all, Korean learners' awareness of those pronunciation features can be low. However, it may not be the case with many segmentals considering that most Korean learners are already aware of them. In such cases, either awareness of how to produce two sounds differently or metalinguistic awareness discussed by Wong (2016) can be limited. However, it is also possible that even with great awareness of the pronunciation features, Korean learners may not perceive those features as being important for communication. If they do not attribute communication breakdowns to their poor use of those features, it is unlikely that changes can be made in their production. Therefore, although awareness-raising in pronunciation features is the first step of pronunciation instruction, learners' perceived importance of pronunciation features should be also considered for the instruction to potentially lead to improvement in pronunciation among learners.

Learners' Perceived Importance of Pronunciation Features

Although instructors' perceptions have been often investigated regarding which feature instructors consider to be important to teach and how they are actually teaching (e.g., Breitkreutz et al., 2001; Burgess & Spencer, 2000; Burns, 2006), studies exploring learners' perceptions of pronunciation features are fewer. As one of a few examples, Derwing and Rossiter (2002), in their survey study, reported that most ESL learners had cited segmental features as their major pronunciation problems and ascribed the absence of suprasegmentals in their responses partly to the lack of instruction on suprasegmentals in the classroom. Even though their study identified the learners' low perceived importance of suprasegmentals, it did not offer an intervention through which learners' perceptions could change.

In spite of a number of recommendations about pronunciation instruction with a segmental-suprasegmental balance in pronunciation instruction scholarship, whether learners' perceived importance of segmentals and suprasegmentals can actually change through intervention has been rarely probed. Based on Schmidt's (1990) Noticing Hypothesis, also discussed by Wong (2016) and Zhang & Yuan (2020), no matter how much researchers argue for pronunciation instruction combining segmentals and suprasegmentals and how conscious instructors are of its importance, unless learners pay attention to these aspects, their pronunciation can hardly improve. That is, learners should become aware of the significance of segmentals and suprasegmentals to intelligibility to reduce communication breakdowns.

The Current Study

In sum, what is missing from research is how EFL learners may perceive pronunciation features, especially suprasegmentals, and how their perceptions may change through balanced instruction. To fill these gaps, the current study aims to examine how Korean EFL learners' perceptions of the importance of suprasegmentals can change through awareness-raising pronunciation instruction. To that end, the following research questions were investigated:

1. How do adult Korean EFL learners who have no prior stand-alone pronunciation training perceive the importance of suprasegmental features for communication in English?

2. How do their perceptions of those features change after receiving awareness-raising pronunciation instruction?

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Methods

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Participants

Nine Korean learners of English in their 20s or 30s participated in the study (Table 1). They learned English in Korea for at least 10 years at public and/or private institutions. At public schools, spoken English was often excluded except for infrequent speaking drills such as repetition and memorization.

Table 1

Background Information of the Participants

	Age	Gender	Length of English study (years)	Other L2 study
Participant A	29	F	13	None
Participant B	25	F	16	Japanese, Chinese
Participant C	31	F	14	None
Participant D	29	F	10.3	None
Participant E	38	M	20	Portuguese
Participant F	30	F	12.5	None
Participant G	24	F	14	None
Participant H	31	F	10.5	None
Participant I	25	F	10	Spanish
M	29.1		13.4	
SD	4.28		3.19	

Note. Length of English study includes learning experiences at private language institutes.

Seven participants out of nine indicated that they had practiced English speaking either on their own or through language programs at colleges and private language schools. However, the time spent on pronunciation during their programs was extremely short, and the content was limited as well. For example, one participant stated that in the speaking course she had taken at a private language school, only five to ten minutes had been assigned to pronunciation where the students had been asked to repeat after the instructor without detailed explanation. Furthermore,

in terms of phonology, the focus was on segmentals such as /l/ and /ɹ/, which means

suprasegmentals were often ignored in class.

None of the participants took stand-alone pronunciation courses or tutoring sessions.

Also, none of them majored in English in university or stayed in an English-speaking country

more than one month. These requirements were put in place to make sure that the participants

represented a majority of Korean adults who had neither prior knowledge about pronunciation

aspects of English nor experiences of encountering different varieties of English.

Procedure

To examine changes in perceptions of suprasegmentals, three hours of pronunciation

instruction and two sets of 30-minute interviews were conducted. The instructional sessions and

the interviews were done through the online meeting platform Skype, and all the other

communication was via email. The interviews were done in Korean, the participants' first

language, to facilitate open and expressive communication. The instruction was offered in

Korean as well because the participants' level of English proficiency was deemed not high

enough to understand oral explanations of how pronunciation features were produced and when

they occurred. Especially considering that linguistic differences between Korean and English

(e.g., stress-timed vs. syllable-timed) had to be compared and analyzed to raise their awareness

of specific pronunciation features, Korean was the language that the participants would feel the

most comfortable understanding and using.

Using the researcher's personal network, recruiting emails were sent to 11 potential

participants with an outline and a brief explanation of the project as well as screening questions.

After it was confirmed that they met the requirements for subjects, two out of the 11 were asked

three questions from the pre-instruction interview to pilot the questions. These questions were

revised based on the two participants' responses. For the other nine participants, signed consent

forms were collected, and detailed steps of the study were sent out.

Afterwards, the nine participants went through a pre-instruction interview, three

pronunciation instructional sessions, and a post-instruction interview in order. The dates and

times for the meetings were agreed upon based on their availability. The interviews and the

sessions were conducted individually over 11 to 23 days with an interval of at least two days in

between. In total, each subject committed about four hours to the study.

Intervention

Pronunciation Instruction

The participants took part in three one-hour one-on-one instructional sessions, which

consisted of eight topics, four about segmentals and the other four about suprasegmentals, in

mixed order (Table 2). These target features were selected from Avery and Ehrlich's (1992) list

of pronunciation problems of Korean speakers and Bauman's (2006) catalogue of pronunciation

errors made by Korean learners, while taking into account Jenkins' LFC and Celce-Murcia et

al.'s (2010) teacher's guidebook. Rather than covering all the features included in the lists with a

short time assigned to each, the instruction was focused only on the selected features so that the

learners could build greater awareness of them. The number of the segmental topics and that of

the suprasegmental topics included were the same for two reasons: to prevent the participants

from noticing that the target aspect was suprasegmentals and to follow the recommended

pronunciation teaching approach with a segmental-suprasegmental balance. The class time was

also intended to be distributed equally (i.e., 50% on segmentals and 50% on suprasegmentals),

but in practice slightly more time was spent on suprasegmental features due to their relative

unfamiliarity with those features; 60% on suprasegmentals and 40% on segmentals.

Table 2

Topics of the Pronunciation Instruction

		Topics	Examples
	1	/l/ vs. /r/	collect vs. correct
Day 1	2	Removing a short vowel /i/ after affricates in a word-final position	mat<u>ch</u> [tʃɪ]
		Removing a short /u/ between initial and final consonant clusters	<u>s</u>traight [sutu]
	3	Word stress and vowel reduction	C<u>a</u>nada vs. C<u>a</u>nadian
Day 2	1	/f/ vs. /p/ /b/ vs. /v/	feel vs. peel berry vs. very
	2	Linking	find out →fin<u>d</u> ‿ out short‿<u>time</u> [t:]
Day 3	1	/θ/, /ð/ vs. /t/, /s/, /d/	thank vs. tank vs. sank breathe vs. breed
	2	/ɛ/ vs. /æ/ /ɑ/ vs. /ʌ/ vs. /ɔ/	pen vs. pan gun vs. gone
	3	Sentence stress, rhythm, intonation	●　·　●·· Where's your bicycle?

Prior to each session, a self-designed handout titled "Common Difficulties in

Pronunciation Experienced by Korean Learners of English" was emailed to the participants.

Some examples and exercises were adapted from Celce-Murcia et al.'s (2010) pronunciation

guidebook. Each of the eight topics was dealt with in three steps that had been developed by the

researcher, Step 1: Listening Discrimination, Step 2. Production, and Step 3: Practice with

Sentences. These three steps of pronunciation instruction were designed to raise the two kinds of

awareness suggested by Wong (2016) and Zhang and Yuan (2020): the awareness of how English pronunciation is different from Korean pronunciation and the awareness of how to pronounce sounds in the two languages differently.

In the first step, three to four sets of words or sentences were presented to check the participants' level of listening discrimination. As an example, in the case of /l/ and /ɹ/ sounds, the participants were asked to circle the right word that they heard while reading the given sentence "The teacher collected/corrected the homework." For another example, regarding sentence stress, the participants were asked to mark the words that were stressed when hearing the sentence "Put it on the table."

In the second step, oral and written descriptions of how each pronunciation feature is produced in what circumstances were presented, followed by more examples of words or phrases to practice. For example, in the case of word stress and vowel reduction, by comparing "Cánada" and "Canádian" with an accent mark on them, how the vowel /æ/ could be reduced to the /ə/ sound when the stress shifts from one syllable to another due to suffixation was elaborated, and the participants practiced pronouncing other similar sets of words, while paying attention to stress and reduced vowels.

In the last step, the participants were asked to read aloud given sentences, dialogues, or short paragraphs while attending to the targeted pronunciation features. For instance, to practice linking, the participants were provided with a short dialogue consisting of various connected sounds such as "consonant + vowel" sequences and "stop + stop" sequences as can be seen from the following excerpt: "I had a [də] bad day [d:]. My brother got mad at me [t'm] [dət'm] this morning."

Data Collection

Pre-/Post-Instruction Interviews

To capture and compare how much emphasis the participants placed on suprasegmentals in communication before and after the treatment, pre- and post-instruction interviews were carried out individually. In avoidance of possibilities of steering the participants' responses to a certain direction, the interview questions were semi-structured and carefully designed to elicit beliefs indirectly. Also, technical terms were avoided, and general questions were first asked, followed by follow-up questions asking about details. The interview questions were not shared in advance with the participants to preclude any bias from appearing.

At the start of each pre-instruction interview, basic background information was gathered from the participants including their ages, majors, occupations, and L2 other than English that they could speak. The pre-instruction interviews consisted of three questions:

1. How long and through what program have you learned English?

2. Have you spoken English in class? Have you done any activities for pronunciation practice in class?

3. What do you believe to be the causes of difficulties when English learners have difficulty communicating with a native speaker of English? How about with a nonnative speaker of English?

The first question was developed by the researcher to gain comprehensive understanding of the participants' English learning backgrounds. This question was also designed to identify their learning experiences related to pronunciation that could be further asked in the next question. The second question about personal experiences of English speaking and pronunciation practice

in class is based on Derwing and Rossiter's (2002) interview question "Have you ever taken a pronunciation course?" (p. 164). In consideration of the lack of stand-alone pronunciation training in Korea due to various factors including the focus on written English, "a pronunciation course" was replaced by "activities for pronunciation practice." The last question about the causes of communication breakdowns was key to identifying the participants' current perceived importance of suprasegmentals. It was adapted from Derwing and Rossiter's (2002) interview question "When you have problems communicating in English, is it more likely because of a language problem or a pronunciation problem?" (p. 164). The modifications were made in two parts: the participants were broadly asked about the causes of communication breakdowns rather than being given specific options to choose from in order to hide the overt focus on pronunciation as well as suprasegmentals and keep the question from being leading; the agent of communication in the question was also expanded from the participants themselves to English learners so that the question could invite those who had rarely communicated in spoken English to express their thoughts. The latter point was brought up in the pilot procedure by one participant who had no personal experiences of using oral English to communicate.

After the instruction, the post-instruction interviews were conducted with a focus on how their perceptions of suprasegmentals changed. The three post-instruction interview questions which were developed by the researcher are as follows:

1. From the training, do you think your opinions have changed on the causes of difficulties of communicating in English?

2. From the training, did you notice anything different or new compared to what you had learned before?

3. What would you like to learn in future English pronunciation instruction?

The first question, which was similar to the last question of the pre-instruction interview, was core to the current research because it was designed to find out if there were any changes to the participants' perceptions about the importance of suprasegmentals after the instruction. The remaining two questions were asked for eliciting supplementary responses which may indicate their perceptions of suprasegmentals. Both the pre- and the post-instruction interviews were audio-recorded and later transcribed in Korean for further analysis.

Data Analysis

The interview data were analyzed through qualitative content analysis, first in a deductive way and then in a more inductive way. First of all, deductive content analysis was used to code the data according to a set of categories of a predefined coding frame. The initial coding frame was developed based on the phonological features of pronunciation that were frequently mentioned in the pronunciation instruction scholarship. It consisted of two main categories, *Segmental* and *Suprasegmental*. For *Segmental, Consonants* and *Vowels* were selected for the subcategories, and for *Suprasegmental*, *Linking*, *Stress*, *Rhythm*, and *Intonation* were selected. However, while reading the data, some codes were revised and new codes arose through inductive content analysis. For example, *Consonants* and *Vowels* were subsumed under the new code *Precise sound of segment* because this more comprehensive concept was often mentioned without specifically referring to either of the two. Moreover, *Articulation* was added to the *Segmental* coding frame as a new code through interpretation that movement of speech organs belongs to a different category from production of sounds. *Pitch* and *Speech rate* were also added to the *Suprasegmental* coding frame after reading the data. Therefore, the finalized coding frame (Table 3) was built both deductively and inductively.

Table 3

The Coding Frame

Category	Code	Definition	Example
Segmental	Precise sound of segment	The clear production of sounds of segments including consonants and vowels	"Many words can't even be guessed from the context if the pronunciation is too imprecise."
	Articulation	The movement of the tongue, lips, jaw, and other speech organs to make speech sounds	"When I didn't catch a word you pronounced, I could figure it out from your mouth shape."
Suprasegmental	Linking	The connecting of the final sound of one word or syllable to the initial sound of the next	"I realized I was missing some words because of (my ignorance of) linking."
	Stress (in word/sentence)	The relative emphasis on one or two syllables in a word or words in a sentence	"I found things like stress crucial (for communication)."
	Rhythm	The regular, patterned beat of stressed and unstressed syllables and pauses	"When pronouncing the word 'apple,' there are ups and downs (within the word)."
	Pitch	The relative highness or lowness of the voice	"If the pitch is too off, it seems to seriously hinder understanding."
	Intonation	The rise and fall of the voice to various pitch levels	"I'm talking about intonation, the thing about rising and falling at the end."
	Speech rate	The speed at which language is spoken	"When two foreigners talk fast to each other, I can't understand what they're saying."

Before coding, comments related to pronunciation were identified and segmented into units in the way that each unit fit into one subcategory in the coding frame, which varied in size from a phrase to several sentences. After the segmentation process, the data were coded by assigning these units to the subcategories. To find patterns in coded data, the codes in each main

category (i.e., *Segmental* and *Suprasegmental*) were counted, and the frequency counts were compared.

During the coding process, when some participants used a term incorrectly, the term was replaced by a more appropriate one. To illustrate, one participant stated "(International speakers' pronunciation differs from one another) in terms of either pronunciation of specific things or intonation," which shows that she used "pronunciation" as a term to contrast it with "intonation." Also, her later use of the word "precise" to modify "pronunciation" suggests that it was associated with segmental accuracy. Accordingly, "a precise sound of a segment" was used as a substitute for it. In such cases, therefore, those incorrectly used terms were replaced with more suitable ones based on the researcher's interpretation.

Findings

In the analysis of the interview data, general changes of focus among all the participants were found, though three showed differentiated patterns in their responses. These three participants' perceptions will be later delved into as separate cases.

Group Trends

Table 4 below reports the frequency counts of segmentals and suprasegmentals that the participants mentioned during the interviews and their overall focus of pronunciation. When asked about their perceptions about causes of communication breakdowns in the pre-instruction interviews, six participants referred to segmentals more often. Through inductive analysis, it was revealed that seven participants had considered segmentals as being more important for communication before the treatment. This number was in consideration of one participant who

clearly stated in her interview that she considered segmentals more important than suprasegmentals. The following excerpt exemplifies this general trend:

> *(The reason for communication breakdowns) has more to do with precise sounds of segments, I think. And there seems to be nothing that can be done for intonation.*

In contrast, the other two participants (i.e., Participant D and I) referred to suprasegmentals more frequently in the pre-instruction interviews, and inductive analysis of the data indicated that they perceived suprasegmentals to be more important. As these two participants' perceived importance of suprasegmentals goes against the group trend, their cases are individually discussed later in this findings section.

While the majority of the participants directly or indirectly referred to at least two suprasegmentals in the pre-instruction interviews, their comments were largely concentrated on *Stress* and *Intonation* with several instances of confusion between pronunciation features. As an example, a participant first used the word "eogyang" (translated as intonation or accent) and then "eojo" (translated as tone) to mean rhythm. Another participant also used the word "eogyang" to refer to stress and then to pitch.

In the post-instruction interviews, however, the frequency pattern of segmentals and suprasegmentals was the opposite. All the participants except for one mentioned suprasegmentals more frequently than segmentals when asked about what causes communication problems. When their comments about pronunciation features were inductively analyzed, it was found that seven participants had regarded suprasegmentals as being important for communication after receiving the instruction. An example of this trend is as follows:

I found things like stress crucial (for communication). . . . For stress in sentences, what is emphasized varies depending on where to put stress. . . . Also, the intonation of questions. . . . "Ah, these would be really important to make my speech natural in communication."

On the other hand, as the results of inductive analysis showed, two participants (i.e., Participant D and G) considered segmentals and suprasegmentals as being equally important for communication. As these two cases do not agree with the group trend in terms of perceived importance of suprasegmentals, they are later further discussed as individual cases.

Whereas segmentals were rarely stated across the majority of the participants, suprasegmentals were frequently referred to in the post-instruction interviews, primarily about *Stress* and secondarily *Intonation* and *Linking*. Also, there was far less confusion between pronunciation features among the participants.

Table 4

Frequency Counts of Segmentals and Suprasegmentals Mentioned and Overall Focus

	Pre-Instruction Interview			Post-Instruction Interview		
	Seg.	Supra.	Focus	Seg.	Supra.	Focus
Participant A	3	2	Seg.	1	4	Supra.
Participant B	1	4	Seg.[a]	0	4	Supra.
Participant C	2	0	Seg.	1	3	Supra.
Participant D	1	3	Supra.	1	5	Seg.=Supra.
Participant E	4	2	Seg.	0	7	Supra.
Participant F	2	0	Seg.	1	4	Supra.
Participant G	5	3	Seg.	5	3	Seg.=Supra.
Participant H	4	3	Seg.	1	6	Supra.
Participant I	1	4	Supra.	1	2	Supra.

Note. Seg. = Segmentals; Supra. = Suprasegmentals.

^aDespite more references to suprasegmentals, Participant B stated in the later part of the pre-instruction interview that segmentals seemed relatively more important than suprasegmentals.

Cases Focused

Despite the general tendency among the participants to lay emphasis on segmentals before the treatment, two participants (i.e, Participant D and I) frequently mentioned suprasegmentals in the pre-instruction interviews. Also, contrary to the other participants who emphasized suprasegmentals over segmentals in the post-instruction interviews, two participants (i.e., Participant D and G) placed equal importance on segmentals and suprasegmentals. As these three participants revealed different patterns than the group trend, their cases are discussed individually below. Pseudonyms were used to maintain the confidentiality of the participants.

Participant D: Seyoung

Seyoung learned English for 10 years at school and then eight months at a private institute. In the conversation course that she took, a little time was spent on pronunciation with a focus on segmentals. In contrast with a majority of the participants, she frequently mentioned several suprasegmental features, mainly stress in the pre-instruction interview even though she had not officially learned about them in class before. However, her awareness of suprasegmentals was limited as can be seen from an excerpt below:

> *When I practice speaking English at home by myself, I don't know anything about stress*
>
> *[eogyang]. So, that makes me lose confidence. My English sounds unnatural to me.*

As reported earlier, some students confused the word "eogyang" with other features, and Seyoung was one of them. Due to her lack of knowledge of suprasegmentals, she used "eogyang," which translates in English as either intonation or accent, to refer to stress. When asked later if she meant the rise and fall in pitch by the term, she mentioned stress and loudness instead. Consequently, "eogyang" was translated as stress considering the intended meaning and the context. Overall, despite frequent mention of suprasegmentals, her perceptions of suprasegmentals were abstract and she often mixed up some suprasegmental features.

Another notable pattern found is the evenly distributed importance on segmentals and suprasegmentals in her post-instruction interview. As can be seen from the excerpt below, she reported the change in her perceived importance:

> *At that time, I said stress was the most important, but now I think precise sounds of segments is also important as such. They share similar importance.*

Although her perceived importance of suprasegmentals was not relatively greater than segmentals, her perception of suprasegmentals clearly became more concrete after the pronunciation instruction. For example, in the post-instruction interview, she remarked on linking and distinguished word stress from sentence stress.

Also, she attributed the lack of confidence in speaking to the lack of knowledge about suprasegmentals. In fact, she monitored herself throughout the sessions and analyzed in the post-instruction interview that the more she became used to prosodic features, the louder her voice could get.

> *I'm a confident speaker when speaking Korean. . . . But, when I spoke English before, I pronounced unclearly, and that made me speak more softly, and while hearing my softer*

> *voice, I felt more daunted. . . . (What I think is important to easier communication) is*
>
> *stress. Stress is more related to speaking louder.*

It seems that she realized that confidence was a major element of her speaking, and knowing where to put stress allowed her to speak more confidently and loudly. To put it another way, she developed metalinguistic awareness about suprasegmentals, and increasingly valued those features.

Participant I: Baena

As with Seyoung, Baena mainly talked about suprasegmentals in the pre-instruction interview. This preference seems to have to do with her English learning background. She learned English for 10 years during which she took private tutoring lessons with a focus on listening and speaking skills. For this reason, among the participants, she was the most conscious of and exposed to suprasegmentals before the treatment.

> *I think stress has a great influence on perceiving spoken words. . . . A word can be*
>
> *perceived as a different one depending on the stress.*

The excerpt above shows that she already considered stress as being key to intelligibility. However, she did not get the instruction in a structural or comprehensive way but in the form of repetition and drills of given words. Consequently, her perception of suprasegmentals was narrow, as can be seen from the fact that she only talked about word stress.

However, after the treatment, Baena frequently remarked on sentence stress. Below is an illustration of her perception changed:

> *In the sentence stress session, I newly learned that a stress should be put on different*
>
> *words in the same sentence depending on whether the sentence is a question or not, and*
>
> *it seems important in communication.*

Compared to her previous preoccupation with word stress in the pre-instruction interview, now she recognized what sentence stress was for and how important it could be in communication. This indicates that her view of suprasegmentals grew wider.

Participant G: Hanbom

Hanbom learned English for 14 years and was planning for a working holiday in New Zealand, which was cancelled due to the pandemic. Contrary to the others, she mainly talked about precise sounds of segments and mouth shapes in the post-instruction interview. This is assumably because she paid more attention to segmentals during the instruction. She said that she had never learned phonics before, which is a method for reading by correlating sounds with letters, and it had probably been her long-desired goal to read segments accurately. With that said, suprasegmentals such as linking and stress were mentioned as well with specific examples.

> *Linking and stress were so shocking to me. . . . Regarding the "th" sounds or mouth*
>
> *shapes, I think I gained deeper understanding (through the instruction), but when I*
>
> *learned about the difference in pronunciation between Canada and Canadian, I was in*
>
> *shock all day. . . . Where can I learn more about things like these? . . . I think*
>
> *suprasegmentals can't be acquired without the help of instruction.*

The examples of "Canada" and "Canadian" have direct relevance to word stress and vowel reduction. Her response suggests that her awareness of suprasegmentals has increased after the

instruction. Moreover, she admitted that she had never been exposed to such detailed explanation of suprasegmentals, and felt the necessity of receiving stand-alone instruction.

Although segmentals were more frequently referred to than suprasegmentals in her post-instruction interview, Hanbom's comments shows that her focus was actually not heavily on segmentals. Hanbom reported changes in her perceptions of the importance of suprasegmentals for communication as follows:

> *My focus seems to have changed. I leaned towards precise pronunciation [segmentals], now it's different. Maybe that was because I didn't know well about things like linking and stress at that time. . . . Honestly speaking, every feature seems important. I feel like natural speech delivery happens when all of them blend in with one another.*

She revealed that suprasegmental features grew in importance on her mind after learning about them in the sessions. Moreover, based on her more balanced view of segmentals and suprasegmentals that was formed through the intervention, she noted that all of the features should blend in well with one another for natural speech. This shows that she considered the harmony of segmentals and suprasegmentals to be important in communication.

Discussion

The current study was built upon the two research questions: (1) How do adult Korean EFL learners without prior stand-alone pronunciation training perceive the importance of suprasegmental features for communication in English?, and (2) How do their perceptions change after receiving awareness-raising pronunciation instruction? To discuss the first research question, the findings of the pre-instruction interviews can be reviewed. The fact that the numbers of suprasegmentals mentioned in most pre-instruction interviews were relatively small

compared to those of segmentals suggests that they generally did not perceive suprasegmentals to be important for communication. The exceptions were the two participants Seyoung and Baena who mentioned suprasegmentals more frequently than segmentals. However, the results of inductive analysis reveal that they mainly talked about one suprasegmental, stress, which indicates their perceived importance of suprasegmentals may be limited to it. Moreover, confusion between suprasegmental features among some students including Seyoung indicates that their awareness of suprasegmentals was low. Although the majority of the participants were already conscious that there are prosodic differences between Korean and English, they did not have a clear understanding of what exactly those differences are and what brings about those disparate features. Therefore, both the awareness and perceived importance of suprasegmentals of adult Korean EFL learners without prior stand-alone pronunciation training were limited. This suggests that on the basis of Schmidt's (1990) Noticing Hypothesis, adult EFL learners in Korea are in a state where their abilities to produce suprasegmentals cannot be improved due to the lack of experience of conscious processing through training.

Regarding the second research question, the numerical findings of the post-instruction interviews show that the frequency counts of suprasegmentals references in each post-instruction interview were relatively high when compared with those of segmentals. This demonstrates that in the post-instruction interviews, the participants considered suprasegmentals to be more crucial for intelligible communication. The relative dominance in number of suprasegmentals over segmentals suggests that the participants' awareness of suprasegmentals increased and their perceptions of suprasegmentals have changed from less important to more important after the instruction. The participants who were not in line with this group trend were Seyoung and Hanbom who placed equal importance on segmentals and suprasegmentals. Deeper analysis and

interpretation of the data, however, shed light on how their perceptions had actually changed;

they clearly considered suprasegmentals to be more significant for communication than they did

before. This shows that although the comparison of the number of comments made about

suprasegmentals with that of suprasegmentals was useful, it could not fully capture changes in

awareness and perceived importance of suprasegmentals. In other words, inductive content

analysis of the interview data supplemented the quantitative analysis by allowing deeper

interpretation of how the participants had valued or understood the pronunciation features.

Therefore, whether it was small or large, all the participants' perceptions of suprasegmentals

changed from less important to more important. Also, their perspective of pronunciation aspects

widened from a segment or a word to a sentence. It supported Wong's (2016) and Zhang and

Yuan's (2020) contention that explicit pronunciation instruction is effective in raising awareness

of two different sounds and of how to pronounce them differently. Consequently, adult Korean

EFL learners' perceptions of suprasegmentals changed from less significant to more significant

after receiving awareness-raising pronunciation instruction.

Another noteworthy finding from the individual cases was Seyoung's linking of

confidence with her knowledge of suprasegmentals. After understanding different

suprasegmentals as well as how to use them to produce English accurately through the

instruction, she felt more confidence speaking English, which contributed to an increase in her

perceived importance of suprasegmentals. Although not mentioned earlier, Hanbom also stated

that suprasegmentals are important to communicating with confidence. This suggests that when

learners feel that confidence plays an important role in communication, suprasegmental features

that they believe are related to confidence will be also perceived to be important. Also, the fact

that she noticed the perceived correlation between confidence and suprasegmentals during the

instruction is supported again by Wong's (2016) and Zhang and Yuan's (2020) arguments for the effectiveness of explicit instruction in raising awareness of pronunciation.

Implications and Limitations

The findings from the analysis suggest several implications for pronunciation instruction. First, the first step for more balanced pronunciation instruction in Korea should be raising the learners' awareness of suprasegmentals. As many participants of the current study revealed, there are few pronunciation-focused courses available in Korea, and even the time spent on suprasegmentals in general English courses are highly limited. As suggested by a number of instructors and researchers (e.g., Field, 2005; Gilbert, 1984; Hahn, 2004; Pennington, 1989), suprasegmentals play a vital role in improving intelligibility, and thus more class time should be devoted to suprasegmentals. The primary reason of the lack of pronunciation instruction in Korea may be that there are not enough needs for it. Considering that their awareness of pronunciation features is low due to the emphasis on written exams in society and the other local constraints (Hwang, 2008; Kim, 2004; Park, 2009), younger learners of English are less likely to feel the needs for learning pronunciation. However, teaching suprasegmentals through instruction with a segmental-suprasegmental balance can be more practical with older learners who are interested in improving their speaking skills and relatively free from exams. This pronunciation instruction can give them more opportunities to come across and learn about suprasegmentals as well as raising their awareness that suprasegmentals are actually learnable and can play a crucial role in communication.

Second, learning suprasegmentals can contribute to gaining confidence in speaking. As the two participants stated in the interviews, having knowledge of stress and intonation actually made them speak English more confidently in the sessions. This may be attributed to their

realization that they could make communication smoother and more effective by delivering

nuances and intentions in larger units such as sentences if they become aware of and properly use

suprasegmentals.

Lastly, a systematic teaching approach to suprasegmentals is necessary, which includes

introducing general principles and giving feedback through practice. This is because explicit

instruction along with practice and feedback is necessary for building awareness by noticing the

gap in terms of pronunciation between two languages and understanding how the gap is formed

(Wong, 2016; Zhang & Yuan, 2020). According to most participants, smaller units such as

segments and words are relatively more approachable and can be more easily learned, whereas

direct or indirect feedback are hardly given on larger suprasegmental features such as linking and

intonation in non-instructional settings. Especially considering the linguistic differences between

Korean and English, sufficient explanations about pronunciation rules and principles with

examples as well as effective practice and feedback seem to be necessary for teaching

suprasegmentals.

However, the current study also has some limitations. First, given that it takes time to

change perceptions, three-hour instruction might not have been enough to bring about

fundamental changes in perceptions. Second, it is possible that the participants put more

emphasis on suprasegmentals in the post-instruction interview because those features were

relatively new to them and drew their attention. To reduce this bias, the question "Do you think

that the feature is important in communication or not?" was frequently asked when the

participants elaborated on a specific feature so that it could remind them of the interview

question. Another limitation of this study is that it did not show whether the changes in

perceptions of suprasegmentals could lead to changes in pronunciation abilities. As a study

investigating perceptions at two points through interviews, the current study did not measure how the participants' actual pronunciation changed after the treatment. Lastly, the current study is limited in source of data and in method. As the only source of data and method is the two sets of interviews, the findings may be less comprehensive and more subjective.

Conclusion

Pronunciation instruction needed in each context can vary due to social and environmental factors, and understanding the local contexts is crucial in designing and implementing pronunciation courses. However, although instructors are aware of the contexts and the importance of teaching specific pronunciation aspects, it does not necessarily lead to the actual teaching. Learners should also have awareness of what they need and perceive how important it is. Through awareness-raising instruction with explicit descriptions of phonological differences between two languages along with guided practice and feedback, learners can have more learning needs for the pronunciation features, which can result in more courses available. This seems to be the first step towards the implementation of courses with a segmental-suprasegmental balance.

To that end, the current study investigated changes in perceived importance of suprasegmentals in communication among adult Korean EFL learners in consideration of the lack of instruction on suprasegmentals in EFL classes in Korea. The findings demonstrate that the leaners' awareness and perceived importance of suprasegmentals increased after receiving pronunciation instruction. In addition, the range of perceived pronunciation aspects expanded from smaller units including segments to larger ones such as sentences.

In response to the above-mentioned limitations of the current study, directions for future research are suggested. Firstly, regarding the short period of time of the intervention, long-term intervention is necessary to bring about fundamental changes in perceptions. For example, the training can last for a semester, a year, or a longer period to confirm the findings of the three-hour instruction. Secondly, with regard to the participants' potential bias towards newly-learned suprasegmentals, pronunciation features can be carefully selected by identifying in advance what feature participants are already aware of. For example, the content of instruction can be individualized depending on how much each participant knows about each pronunciation feature and only the features that the participants know to the similar extent can be compared to one another. Thirdly, concerning the actual pronunciation progress, laboratory-based experiments are needed in the future to examine the influences of raising awareness of suprasegmentals on the performance of suprasegmentals. For instance, intelligibility of the participants' pronunciation can be measured by assigning them read-aloud and spontaneous tasks. Lastly, with respect to the limited source of data and method, a wide range of methods and data should be used in future studies to investigate whether increased perception of suprasegmentals can lead to more intelligible pronunciation. When the interview method is combined with other qualitative methods such as learning log and observation, or with quantitative methods such as tests, survey, and questionnaire, more comprehensive and corroborated findings can be made.

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