

## **Suprasegmental Instruction and the Improvement of EFL Learners' Listening Comprehension\***

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Despite increasing attention to the goal of successful communication in foreign language instruction, L2 pronunciation, particularly the production of suprasegmental information, has been neglected in instructional settings at the college level. Yet accurate suprasegmental production is essential to the development of intelligible L2 speech. And while there is a scholarly consensus that accurate suprasegmental production of English is closely related with accurate perception of English (i.e., listening), little is known about the relationship between suprasegmental production and the development of EFL learners' listening skills. This study, therefore, investigates the relationship between suprasegmental production instruction and improvement in Korean EFL learners' listening comprehension scores, and, further, examines the relationship between accurate production of suprasegmentals and learners' production of comprehensible L2 speech. Thirty-two EFL learners participated in a quasi-experimental study in which they received training in English suprasegmental features over one month. They also completed listening comprehension pre and post tests, a suprasegmental production test, and a timed picture description task. The results showed significant relations between accurate suprasegmental production and improvement in listening comprehension, and also accurate suprasegmental production is a good predictor of speaking performance. The main pedagogical implication of these findings is that it is important to emphasize suprasegmental in listening and speaking classes.

**[suprasegmentals/L2 pronunciation/listening/speaking/reading aloud]**

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## I. INTRODUCTION

In instructional settings at the college level, EFL learners generally practice reading and writing more than listening and speaking (see Seong, Chang, Lee, & Park, 2018 for a review).<sup>1</sup> Thus, even while their proficiency in reading and writing increases, they may continue to mispronounce English words or fail to understand them when they hear them. In short, they may be unable to associate words with sounds, despite being able to comprehend and produce them in written form. The inaccurate perception and production of speech including stress, pausing, and intonation features have a great impact on communicative effectiveness. Therefore, learning appropriate English pronunciation, including the use of segments and suprasegmentals<sup>2</sup>, is an important part of accurate speaking and listening. Despite the importance of suprasegmentals in comprehension and production, previous L2 research has mostly focused on segments (consonants and vowels; Chun, 1998; Moyer, 1999; Munro & Derwing, 2006; Qian, Chukharev-Hudilainen, & Levis, 2018). Munro and Derwing (2006) examined the relation between English segmental errors and native speakers' comprehensibility judgments; the results showed that errors in segmentals resulted in reduced comprehensibility ratings. Their findings also provide evidence that L2 segmentals may require explicit teaching. On the other hand, less is known about the role of suprasegmental instruction in effective communication, despite the acknowledged importance of suprasegmentals in EFL learners' listening and speaking (perception and production). There is a need for more research on suprasegmentals in EFL contexts.

Much research has focused on listening strategy instruction to develop EFL learners' listening skills (see Lee 2017 for a review). For example, educators and practitioners have been interested in training EFL learners to pay attention to the gist of the text rather than focusing on details (Morley, 1991; Peterson, 2001). This approach emphasizes top-down processing in which learners use background knowledge to understand texts. However, such top-down strategies for listening comprehension do not help learners understand the whole meaning of a text (Ferris & Tagg, 1996). Deficits in EFL learners' bottom-up processing – decoding acoustic sound at the phonetic level to interpret meaning at the discourse level – hinder their development of strong listening comprehension skills. Unfortunately, many EFL teachers do not practice pronunciation in their classes, either

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<sup>1</sup> Seong and her colleagues (2018) recently reported that the college English program has included English reading and writing classes more than listening and speaking classes.

<sup>2</sup> In phonetics and phonology, a "segment" (phoneme) is "any discrete unit that can be identified either physically or auditorily in the stream of speech" (Crystal, 2003, pp. 408–409). A "suprasegmental" is "a vocal effect which extends over more than one sound segment in an utterance, such as pitch, stress or juncture pattern (Crystal, 2003, p. 446). Suprasegmentals usually include pauses, stress, and pitch (intonation). For this study, the terms "suprasegmentals" and "prosodic features" are used interchangeably.

because they have not been trained in how to teach it, or because they feel they do not have time for it in class (Celce-Murcia, Briton, & Goodwin, 1996; Morley, 1994). Yet pronunciation training, including activities that give learners the chance to practice suprasegmentals, may help EFL learners produce more accurate L2 speech (production) and foster better perception.

Following this view, some recent studies have focused on the role of suprasegmentals in the perception and production of English. To examine the effect of suprasegmentals in the perception (i.e., listening comprehension), Ahangari, Rahbar, and Maleki (2015) found that pronunciation teaching, including suprasegmental instruction, improved EFL learners' listening comprehension skills. A recent study by Yenkimaleki and Van Heuven (2016b) showed that the explicit teaching of suprasegmentals to interpreter trainees led to a significant improvement in their listening comprehension skills. On the other hand, Derwing, Munro, and Wiebe (1998) found that learners who had received suprasegmental instruction showed better spontaneous speech production than those who received instruction only on segmentals (i.e., vowels and consonants). Kang and her colleagues also found that accurate suprasegmental production was related to learners' scores on a TOEFL iBT speaking test (Kang, 2010; Kang, Rubin, & Pickering, 2010). The very few prior studies on this topic in Korean settings have reported no significant effects of suprasegmental instruction on learners' listening (Kim & Nam, 2002; Yang, 2013). Considering the results of other recent studies on the effects of suprasegmental instruction on EFL learners' listening and speaking, however, more research on the teaching of suprasegmental features in Korean EFL contexts is needed.

Moreover, particular attention has been given to the role of suprasegmental features in EFL learners' speech in test settings. Previous studies have been more attuned to assessment than instruction, and to speech production rather than listening comprehension (Isaacs & Trofimovich, 2012; Kang, 2010; Kang et al., 2010; Saito, Trofimovich, & Isaacs, 2016). This study, in contrast, considers suprasegmentals to be crucial in both the perception and the production of L2 English, and therefore focuses on the relationship between suprasegmental production after instruction and the improvement of EFL learners' listening comprehension and speaking performance. The findings highlight the importance of suprasegmental training in EFL education.

## **II. BACKGROUND**

### **1. Suprasegmentals and Listening Comprehension**

Listening comprehension skills enable EFL learners to perceive language input and

facilitate the learners' further development of language skills (Vandergrift & Goh, 2012). Moreover, the development of listening comprehension ability plays an important role in second language acquisition (Dunekl, 1991; Rost, 2001). Rost (2001) pointed out that "a key difference between more successful and less successful acquirers relates in large part to their ability to use listening as a means of acquisition" (p. 94). Nevertheless, listening comprehension ability seems difficult to learn or improve, in part because it is rarely taught in educational settings (Vandergrift, 2007). Generally, listening comprehension skills are assessed rather than taught in language classrooms. Compared with writing, reading, and speaking skills, the development of listening comprehension receives less attention from instructors and practitioners in instructional settings.

Many researchers have paid attention to the cognitive processes of listening comprehension, which can be grouped as top-down and bottom-up. Top-down processing refers to listeners' use of background knowledge to understand a message, whereas bottom-up processing refers to using the incoming input (sounds and words) to understand the message. It is generally agreed that both processes are used at the same time, and that they interact as listeners understand spoken input. For example, O'Malley, Chamot and Küpper (1989) described the role of segments and suprasegmentals in these two processes as follows: in bottom-up processing, segments (i.e., consonants and vowels) are decoded at the phonetic level, and then suprasegmental features, such as stress, pause, and intonation, provide cues to segmentation and meaning to interpret the spoken input at the discourse level. In top-down processing, listeners' knowledge of the appropriate use of suprasegmentals tells them what to expect next as they hear input. As O'Malley et al.'s description indicates, suprasegmentals are involved in both types of processes in listening comprehension. Similarly, Culter, Oahan, and Donselaar (1997) reviewed the role of suprasegmentals in comprehending spoken language. They concluded that accurate perception and production of suprasegmentals help to recognize individual words, extract their grammatical relations, and determine the semantic structure of an utterance and its relation to the discourse context. These processes facilitate improvement in the comprehension of the spoken language.

As mentioned, the previous research has studied how learners' perception of phonetic sounds affects their listening comprehension (Field, 2008; Khaghaninejad & Maleki, 2015), but recent research has paid more attention to teaching stress and intonation (suprasegmentals) in listening comprehension, because stress and intonation can be used as important cues to comprehend the meaning of a spoken text (Ahagari et al., 2015; Yenkimaleki & Van Heuven, 2016a, 2016b). For example, stress can help listeners decipher the speaker's focus, as speakers put more stress on important words and phrases, and on content words (e.g., nouns, verbs, adjectives, and adverbs) in general. Intonation usually indicates phrasal or clausal boundaries, and distinguishes declaratives from

questions; the latter are typically marked by fall-rise or rise-fall patterns (Buck, 2001). A recent study by Yenkimaleki and Van Heuven (2016b) found that practice with suprasegmentals led to the improvement in listening comprehension skills. In their study, one group engaged in exercises to build general listening comprehension skills, while another group received specific instruction in suprasegmentals followed by suprasegmental feature practice activities. The findings showed that the instruction-and-practice group gained better scores on a listening comprehension test than the listening comprehension group. This result is evidence that suprasegmentals are involved in the process of listening comprehension.

A few prior studies have examined the correlation between the production of suprasegmental features and learners' listening comprehension (Blau, 1990; Nakashimas, 2006; Wang, 2003; Xiaoyu, 2009). These studies have reported correlations between the production of suprasegmental features – stress, pause and intonation – and EFL learners' listening comprehension scores, and also suggested the importance of instruction on suprasegmentals. Xiaoyu (2009) found a strong correlation between Chinese EFL learners' production of three suprasegmental features – stress, rhythm, and intonation – and their scores on listening comprehension of a TOEFL lecture. In a Korean context, Kim and Nam (2002) examined the role of segmental and suprasegmental instruction in listening comprehension. One group (the segmental group) took part in seven sessions of practicing individual phonemes, in activities using minimal pairs and dictation, while the other (the suprasegmental group) engaged in seven sessions in which they practiced stress and intonation through dictation and dialogues. The participants took pre and post listening comprehension TOEIC tests before and after the seven sessions. The results showed no significant difference in listening comprehension scores between the two groups. Yang (2013) also investigated whether suprasegmental instruction would improve learners' listening comprehension. Eighteen college students received instruction on suprasegmentals (stress, intonation, and rhythm) during fifteen weeks (two hours a week), and took pre and post listening comprehension tests. However, although the learners showed a numerical increase in their listening comprehension scores, the score difference was not significant.

The studies described so far indicate that learners' accurate production of suprasegmental features is related to learners' listening comprehension. However, less is known about whether suprasegmental feature training would facilitate listeners' development of listening comprehension skills in the Korean context. To fill this gap in the literature, the current study examines to what extent practice in suprasegmental production through a method of reading aloud affects Korean EFL learners' accurate production of suprasegmentals and facilitates the improvement of their English listening ability.

## 2. Suprasegmentals and Speaking

Speaking skills are among the most important skills for successful communication (Derakhshan, Nadi, & Beheshiti, 2016; Goh, 2007; Saunders & O'Brien, 2006). Many researchers have agreed that learners' pronunciation is essential for better L2 speech. Some research has investigated the role of suprasegmental features in EFL learners' speaking performance in testing settings (Kang, 2010; Kang et al., 2010; Saito et al., 2016). However, the role of suprasegmental features in L2 pronunciation is still undervalued in instructional settings despite the fact that the accurate production of suprasegmentals will lead to better speaking skills. Teachers in instructional settings often think they do not have enough time to teach how to appropriately use suprasegmental features, and SLA research has, in general, neglected the importance of suprasegmentals in successful communication (Moyer, 1999). Moreover, some instructors view pronunciation as not being a practical language skill (Elliot, 1997). Thus, for various reasons, the teaching of suprasegmentals to EFL learners has not received sufficient attention.

A recent series of studies, however, has examined the correlation between suprasegmental features – stress, intonation, and pauses – and the comprehensibility and intelligibility of EFL learners' speaking performance (Derwing & Munro, 2005; Isaacs & Trofimovich, 2012; Jenkins 2000, 2002, 2005; Kang, 2010; Kang et al., 2010; Munro & Derwing, 2001; Saito et al., 2015, 2016). Kang (2010) investigated to what extent suprasegmental features (e.g., speech rate, stress, and pitch) were related to English native speakers' comprehensibility judgments of 11 international teaching assistants' presentations. The study's findings suggested that the level of accuracy in the use of suprasegmentals was related to the raters' judgments of the L2 learners' speaking performance. Kang et al. (2010) also examined the relation between acoustic measures of suprasegmentals from recorded samples of the TOEFL iBT speaking test and raters' comprehensibility judgments on the learners' speech samples. The findings implied that suprasegmental accuracy is a good predictor of comprehensible speech. However, because these previous studies analyzed the speech of highly proficient learners (i.e., international assistants or test takers), their findings cannot be generalized to low-level EFL learners' speaking. In addition, findings from testing settings may not apply to other situations (e.g., educational settings or more experimentally controlled settings). Therefore, there is a need for more research that considers different proficiency level learners and a wider range of contexts.

To date, only a few prior studies that have examined the importance of teaching pronunciation in EFL contexts have compared the importance of segments and suprasegmentals (Drewing, Munro, & Wiebe, 1997; Drewing, Munro, & Wiebe, 1998). Drew et al.'s (1998) study compared the effects of segmental, suprasegmental, and no instruction. Native raters evaluated the comprehensibility and fluency of the participants'

speech on a 9-point Likert scale. The group that received suprasegmental instruction showed the greatest improvement in pronunciation at the sentence and speech level. The segmental instruction group also showed improvement at the sentence level, but not at the speech level. Another study by Gordon, Darcy, and Ewert (2013) found that teaching suprasegmental features led to a more comprehensible speech. In addition, Adams-Goertel (2013) showed that EFL learners, through suprasegmental feature training, could improve their pronunciation skills to speak in a more native-like way. A recent work by Yenkimaleki and Van Heuven (2016a) also investigated the effect of teaching suprasegmentals on speaking skills. In their study, participants listened to authentic audio files, and received the suprasegmental instruction (i.e., how the prosody was used). They, then, were asked to practice suprasegmental features used in the files. Their results showed that those who practiced suprasegmental features during 14 sessions (20 minutes each session) had better scores in speaking performance than those who did not. These findings suggest that suprasegmental instruction is called for in EFL classrooms for the development of speaking skills. In reality, however, there is little knowledge of what the best teaching methods for pronunciation might be. And although there is a small number of studies whose results support the teaching of suprasegmentals for better speaking, there is little empirical evidence for the relationship between suprasegmental features and learners' speech production in Korean EFL contexts.

### 3. Research Questions

Taken together, much of the previous research suggests that suprasegmentals are essential to the accurate perception and production of English (listening comprehension and speaking). In the Korean context, a few studies have investigated the effects of teaching suprasegmentals on EFL learners' listening comprehension (Kim & Nam, 2002; Yang, 2013). These studies' participants received suprasegmental instruction through a variety of activities (e.g., dictation and dialogue) in educational settings over several weeks. However, these studies found no effects of suprasegmental instruction on listening comprehension. The current study speculates that the lack of effect might be due to the teaching methods they employed. In addition, there is a lack of research on the relationship between suprasegmentals and learners' speaking performance in Korean EFL classrooms. Therefore, the current study examines the role of suprasegmental instruction in improving EFL learners' listening comprehension and speech production by using a different method for practicing suprasegmentals in the classroom. The specific research questions are as follows:

- 1) Does training that includes suprasegmental instruction and practice affect the improvement of EFL learners' listening comprehension?

- 2) Is an accurate production of suprasegmentals related to the comprehensible L2 speech?

### III. METHOD

#### 1. Participants

Thirty-two EFL learners (11 female; 21 male), all undergraduates, participated in this experiment. All participants were enrolled in a basic level English speaking course, and so were considered a single, homogenous beginning-level group. All participants reported that they had never received formal instruction in appropriately using stress, pause, and intonation.

#### 2. Instruments

##### 1) Instructional Treatment

All participants received the same instruction on the appropriate use of stress, pauses, and intonation; for example, how to stress specific words or phrases in a sentence, and how to pause between phrases or sentences. The instructional treatment took place over five sessions over the period of one month. The first session was devoted to instruction, and the following four sessions were devoted to practicing the appropriate use of stress, pauses, and intonation via the reading aloud method. For example, the following passage was given to the students, who were then given one to two minutes to work on how to apply the rules they had learned for using suprasegmentals (i.e., stress, pause, and intonation).

- (1) An example used during five sessions<sup>3</sup>

Are you looking **for a place**/ which is **located**/ in the **city**? ↑ // Right **now**↑,/ your perfect **home** is **available**/ at **Sunday Building**. ↓ // These new luxury **apartments**/ are **easy** to **access**/ **Kingston Train Station**,/ where there are some **bus** stops/ and a **number** of **subway** lines ↓.// If you **need** more **details**, / you can **visit** our **website**. ↓// (Taken from Kim & Hahn, 2016, p. 26)

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<sup>3</sup> Students were given two minutes to work on how to apply the rules of suprasegmentals. They were instructed to spend that time marking the text as they had learned to do: circling stressed words (e.g., words in bold in example [1]); adding one slash(/) for short pauses and double slashes (//) for long pauses; and marking rising intonation (↑) for question sentences and falling intonation (↓) for declarative sentences.



Then, they were asked to read the passage aloud, and then received corrective feedback individually from an instructor in class. This approach follows previous research claiming the effectiveness of read-aloud practice for suprasegmental features in educational settings (Chun, 2002; Gibson, 2008).

## 2) Suprasegmental Production Test

After the five instructional/practice sessions, each participant took a suprasegmental production test. These were held individually in a quiet room, and recorded for later analysis. The participant was given two reading passages (one of 64 words and the other of 73 words, see Appendix A)<sup>4</sup> and 45 seconds to prepare how to read them aloud. They were given 45 seconds to read each passage aloud, and told to read it as naturally as they could. The two passages were taken from a TOEIC speaking textbook (*PAGODA TOEIC Speaking*, 2016) for beginners or lower intermediate learners. The entire test session took five minutes.

To assess participants' ability to use suprasegmentals, two raters listened to the two recordings by each participant. Both raters were experienced EFL teachers and L2-English speakers. They held doctorates in applied linguistics and had five years of college-level teaching experience. They assessed the speech samples based on a 7-point Likert scale (0 = hardly accurate; 6 = highly accurate). Each recording received two scores, one for each passage on the basis of the scoring guidelines for the TOEIC speaking test (*Examinee Handbook Speaking & Writing*; [www.ets.org/toEIC](http://www.ets.org/toEIC)), which are designed to assess intonation, stress, and pause. The highest possible score was six points. The two raters reached 84% agreement. Discrepancies were resolved by averaging the scores.<sup>5</sup>

## 3) Two Listening Comprehension Tests

To examine the effect of training in suprasegmentals on the participants' listening comprehension, all participants completed the listening comprehension test twice: once before and once after the five instructional/practice sessions. The two listening comprehension tests were taken from a book of TOEIC practice tests published by a major

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<sup>4</sup> While the length of the passages was similar, the degree of task difficulty may have differed between the passages. However, most participants agreed that the two passages were of similar levels of difficulty, in response to an item in the background questionnaire (88% agreement).

<sup>5</sup> While the fact that the two raters were non-native speakers may be a cause of concern, some previous studies have found no significant differences in scores given by native and non-native raters (Carey, Mannel, & Dunn, 2011; Kim, 2009). Moreover, the two raters had two training sessions on following the scoring guidelines of the TOEIC speaking test. Nevertheless, this concern should be considered in further research.

language school and publishing company in Korea (<http://www.ybm.co.kr/>): one for the pre test and the other for the post test. Each test included 100 listening questions, and the highest possible score was 100 points. Each session took 45 minutes to complete.

#### 4) Spontaneous Speaking Test

For the picture description task, participants saw two pictures, which they were asked to describe orally in as much detail as possible. For each picture, they were given 30 seconds of preparation time and 45 seconds to produce a description. All participants' speech productions were recorded for analysis. Two evaluators assessed the speech samples based on a 7-point Likert scale (0 = incomprehensible; 6 = highly comprehensible) and according to Kang's (2010) evaluation rubric. They considered the following criteria: pronunciation, intonation and stress, grammar, vocabulary, and cohesion. The evaluators focused on whether the description was generally comprehensible. The evaluators were both experienced EFL teachers and L2-English speakers; both hold doctorates in applied linguistics and had taught for at least five years at the college. The two raters reached 80% agreement, and discrepancies were resolved by averaging the scores.

### 3. Procedures

As Table 1 shows, all participants completed three separate testing sessions. The participants first took a listening comprehension test (the pre test) during the first session. They then received instruction on suprasegmental use, and took part in suprasegmental practice through reading aloud over five sessions (twice a week, 50 minutes each session), which were followed by a suprasegmental production test. Finally, they took another listening comprehension test (the post test), along with a spontaneous speaking test (picture description task).

**TABLE 1**  
**Testing Procedure**

Session 1	Session 2	Session 3
Listening comprehension pre test	Instructional treatment (five sessions)	Listening comprehension post test
		Suprasegmental production test
		Spontaneous speaking test

## IV. RESULTS AND DISCUSSION

### 1. Relationships Among Scores from the Four Tests

The data were analyzed with the SPSS program. Table 2 summarizes the descriptive statistics of the pre test and post test scores on listening comprehension; the difference between these pre and post test scores; speaking performance scores; and accuracy on suprasegmental production. As Table 2 shows, the difference in listening comprehension scores was calculated for further analysis.

**TABLE 2**  
**Descriptive Statistics of Scores on the Four Tests**

Tests	N	Mean	SD
Pre: Listening comprehension (Max = 100)	32	63.61	12.62
Post: Listening comprehension (Max = 100)	32	67.34	16.22
Difference in pre and post listening scores	32	3.73	10.7
Speaking (Max = 6)	32	3.4	0.76
Suprasegmental production (Max = 6)	32	3.27	0.88

**TABLE 3**  
**Correlations Among Scores on the Four Tests**

	1	2	3	4	5
1	1				
2	.752**	1			
3	.039	.629**	1		
4	.474**	.540**	.259	1	
5	.487**	.621**	.367*	.905*	1

*Note.* 1 = scores on listening comprehension pre test; 2 = scores on listening comprehension post test; 3 = pre and post test difference; 4 = speaking performance scores; 5 = suprasegmental production test  
\* $p < .05$ ; \*\* $p < .01$

First, a preliminary analysis of correlations among the scores from the tests was conducted. As Table 3 shows, the scores on the listening comprehension pre test were closely correlated with those on the listening comprehension post test ( $r = .752$ ), and also moderately correlated with speaking performance scores ( $r = .474$ ) and suprasegmental production accuracy ( $r = .487$ ). Such findings were somewhat expected, based on the assumption that learners' perception and production are related (Baker & Trofimovich, 2006). For example, learners' listening comprehension contributes to better speaking

performance, and vice versa (Astorga-Cabezas, 2015; Bozorgian, 2012; Nation & Newton, 2009; Pavlenko, 2010). The accurate perception of input can lead to better production of suprasegmentals as well as speaking performance (Flege, 1995). Likewise, the scores on the listening comprehension post test were closely related to the difference between the two listening comprehension scores ( $r = .629$ ), and moderately related with the speaking performance scores ( $r = .540$ ) and with suprasegmental production accuracy ( $r = .621$ ). This finding also indicates the link between perception and production. The difference between the listening comprehension pre and post tests is moderately related with accuracy on suprasegmental production ( $r = .367$ ), suggesting the possibility that training in suprasegmentals might enhance the development of learners' listening comprehension ability. Finally, accuracy on suprasegmental production was closely associated with the scores on speaking performance ( $r = .905$ ), implying that practicing suprasegmentals helps enhance the comprehensibility of EFL learners' speech production. These findings will be discussed further in the following section.

## 2. Suprasegmental Production and Improvement of Listening Comprehension and Speaking

The first research question looked for correlations between accuracy on suprasegmental production, after training, and differences in scores on a pre test and a post test of listening comprehension. As Table 3 shows, a moderate relationship was found ( $r = .367$ ), and then a linear regression analysis found that accuracy on suprasegmental production accounted for 13.5% of the variance of the improvement in listening comprehension scores after the suprasegmental instruction/practice treatment ( $F(1,31) = 4.667$ ,  $p = .039$ ,  $R^2 = .367$ , adjusted  $R^2 = .135$ ). During the suprasegmental training sessions, participants practiced suprasegmental use by reading aloud while receiving corrective feedback from an instructor, whereas previous studies in the Korean context used practice in listening and dictation, with spoken input (dialogues), and did not give feedback. These different methodologies might have led to the differences in results among the studies. Unlike previous studies in the Korean context (Kim & Nam, 2002; Yang, 2013), the current study found a statistically significant relationship between suprasegmental production and listening comprehension scores, which indicates that the accurate production of suprasegmentals is a good predictor of listening comprehension improvement. This finding indicates that practicing suprasegmentals in an instructional setting can indirectly influence learners' listening comprehension. The finding would also support the claim that a deficit in learners' bottom-up processing skills negatively affects their listening comprehension. In this study, this deficit was mitigated in a small way by a short training period, in which participants practiced producing suprasegmentals by reading aloud, which presumably

increased the learners' sensitivity to phrasal and clausal boundaries, in turn improving their understanding of spoken input. Thus, this finding shows the role of suprasegmentals in bottom-up processes of listening comprehension. Moreover, in top-down processing, accurate perception of prosodic features indirectly helps listeners expect information to come. This explanation subsumes the hypothesis that accurate production and accurate perception are linked to each other so that accurate production should indirectly lead to better listening comprehension (Flege, 1995).

Another important implication of this finding is that practice in suprasegmentals through a reading-aloud method is applicable to the development of listening comprehension; it is possible that this is particularly true for beginners or lower intermediate learners, and less true for highly proficient learners like the participants in previous studies (Kang 2010). Furthermore, such training may lead to learners' greater awareness of prosodic patterns while listening to dialogue, presentations, academic lectures, and so forth. As Schmidt (1990) argued, noticing enhances the accurate learning of language. This finding could also encourage teachers to view suprasegmental practice as one of the most important means to enhance listening skills, which, as Rost (2001) observed, are vital in SLA: "the optimal goal of L2 listening development is to allow for the L2 to be acquired through listening, not only to allow the learner to understand spoken messages in the L2" (p. 91).

The second research question was answered by the finding of a close correlation between suprasegmental production accuracy and the comprehensibility of EFL learners' speech. A linear regression analysis found that accuracy on suprasegmental production accounted for 81.9% of the variance of scores on the oral performance ( $F(1, 31) = 135,909$ ,  $p = .000$ ,  $R^2 = .905$ , adjusted  $R^2 = .819$ ). This means that how well learners use suprasegmentals while reading is closely related to how well they speak, indicating that accurate production of suprasegmentals is a strong predictor of the comprehensibility of EFL learners' speech. This finding is consistent with findings from previous studies (Kang, 2010; Kang et al., 2010), suggesting that training in producing suprasegmentals leads to more comprehensible speaking. Kang and her colleagues have also pointed out that the accurate production of suprasegmentals influences speaking, and the current finding makes this statement more generalizable, expanding its scope to beginners and lower intermediate learners in addition to advanced learners, as well as to instructional settings as well as test settings.

#### **IV. CONCLUSION AND IMPLICATIONS**

The current study demonstrates the importance of suprasegmental production ability in Korean EFL learners' comprehension and comprehensibility. Findings from a few prior

studies found no statistically significant connection between suprasegmentals and listening comprehension (Kim & Nam, 2002; Yang, 2013), but the current study found that suprasegmental production accuracy predicts improvement in listening comprehension scores, as Table 3 shows. In addition, this study's findings allow us to generalize the findings from previous studies to include beginners and lower intermediate level learners in instructional settings (Derwing & Munro, 2005; Isaacs & Trofimovich, 2012; Jenkins, 2000, 2002, 2005; Kang, 2010; Kang et al., 2010; Munro & Derwing, 2001; Saito, et al., 2015, 2016).

The study's findings suggest some pedagogical implications for educators and practitioners. First, instructional practices of teaching suprasegmentals need attention. Much research has agreed that pronunciation, including segmentals as well as suprasegmentals, is crucial for communication (Celce-Murcia et al., 1996; Chun, 2002), in which decoding acoustic sounds and perceiving prosodic patterns are actively involved in the process of speaking in response to listening. This study's findings show that instruction in suprasegmentals is needed to supplement instruction in segments. To be precise, an L2 curriculum should teach nonnative speakers to reduce pause duration, distinguish between stressed and unstressed words, and vary their speech intonation (Kang, 2010). How to appropriately use these suprasegmental features should be taught in speaking classes if the goal is for learners to achieve accurate, comprehensible speech. Such instruction would also raise learners' awareness, improving their ability to notice their pronunciation when involved in a variety of speaking activities (e.g., presentations or dialogues). As for listening classes, teachers mainly teach listening strategies because they do not know how to teach listening skills. The current study's findings, however, suggest that teachers might employ suprasegmental practice activities, which would help learners make the distinction between stressed and unstressed words or phrases in the input for better comprehension, and in turn develop their listening comprehension ability.

Second, despite the fact that reading aloud is considered old-fashioned, this does not mean that it is no longer useful in language learning (Gibson, 2008). The current study suggests that appropriate use of reading aloud is still applicable as an instructional practice for teaching pronunciation in listening and speaking classes. Prior Korean EFL studies did not find any correlation between suprasegmental instruction and listening comprehension, but they did not give learners practice in suprasegmentals after the instruction. The current study, in contrast, used reading-aloud activities to allow learners to practice before and after listening tests, and found an effect. Nevertheless, reading aloud alone is unlikely to guarantee better suprasegmental production over the long term, and more investigation into the best methods of teaching suprasegmentals in particular and pronunciation in general is needed in further research. Yet the study's findings are not spurious, and teachers and practitioners may find that they can cautiously use reading aloud as a useful learning tool

for specific aims. This suggestion parallels recommendations in pronunciation books, which include short passages for reading aloud. For example, one of the best-selling books (i.e., *New Headway Pronunciation: Upper Intermediate*) is designed to practice intonation and phrasing (Bowler & Cunningham, 2000). Reading aloud practice activities could be introduced to students as part of their preparation for giving oral presentations and taking dictation. Such activities might encourage learners to focus on accurate articulation for better pronunciation.

Finally, this study's finding that producing suprasegmentals is related to listening processes also indirectly confirmed the relation between perception and production of language. Hence, this study suggests that program designers, practitioners, and teachers should consider the integrative teaching of listening and speaking. Teachers can teach students listening and speaking together. This also parallels the integrative approach used in test settings. For example, the TOEFL iBT test includes an integrated speaking test, in which test takers are asked to speak on the basis of what they understand after listening to an academic lecture. This trend should not be neglected in instructional settings. Many educators who are interested in the integrative approach to teaching English at the college level are hindered by practical concerns (e.g., see Seong et al. 2018 for a review and discussion). More attention to overcoming the obstacles to integrative teaching of language skills is called for in EFL contexts.

To summarize, the current study found that suprasegmental training may help learners develop better listening comprehension, and that the accuracy on suprasegmental production seems related to speaking skills. Nevertheless, this does not mean that this study neglected the importance of segments in listening and speaking, and future research should consider the relative weight of the importance of segmental versus suprasegmental instruction in EFL contexts. The current study also has a limitation in the research design, in that it did not include a control group (i.e., no instructional treatment), so it is necessary to be cautious in generalizing the study's findings. Moreover, the finding from this study should be cautious to generalize that suprasegmental instruction might be related to their better speaking performance, in that it did not include a pre test of learners' spontaneous speaking task before the suprasegmental instructions.

## REFERENCES

- Adans-Goertel, R. (2013). Prosodic elements to improve pronunciation in English language learners: A short report. *Applied Research on English Language*, 2(2), 117-128.
- Ahangari, S., Rahbar, S., & Maleki, S. E. (2015). Pronunciation or listening enhancement:

- Two birds with one stone. *International Journal of Language and Applied Linguistics*, 1, 13–19.
- Astorga-Cabezas, E. (2015). The relationship between listening proficiency and speaking improvement in higher education: Considerations in assessing speaking and listening. *Higher Learning Research Communication*, 5(1), 34-56.
- Baker, W., & Trofimovich, P. (2006). Perceptual paths to accurate production of L2 vowels: The role of individual differences. *International Review of Applied Linguistics*, 44(3), 231-250.
- Blau, E. K. (1990). The effect of syntax, speed, and pauses on listening comprehension. *TESOL Quarterly*, 24(4), 746-753.
- Bowler, B., & Cunningham, S. (2000). *New headway upper intermediate pronunciation*. Oxford: Oxford University Press.
- Bozorgian, H. (2012). The relationship between listening and other language skills in international language testing system. *Theory and Practice in Language Studies*, 2(3), 657-663.
- Buck, G. (2001). *Assessing listening*. Cambridge, UK: Cambridge University Press.
- Carey, M., Mannel, R., & Dunn, P. (2011). Does a rater's familiarity with a candidates' pronunciation affect the rating in oral proficiency interviews? *Language Testing*, 28(2), 201-219
- Celce-Murcia, M., Briton, D. M., & Goodwin, J. M. (1996). *Teaching pronunciation: A reference for teachers of English to speakers of other Languages*. Cambridge, UK: Cambridge University Press.
- Chun, D. M. (1998). The neglected role of intonation in communicative competence and proficiency. *The Modern Language Journal*, 72(3), 295-303.
- Chun, D. M. (2002). *Discourse intonation in L2: From theory and research to practice*. Amsterdam and Philadelphia: John Benjamins Publishing.
- Crystal, D. (2003). *English as a global language*. UK: Cambridge University Press.
- Cutler, A., Oahan, D., & Donselaar, W. (1997). Prosody in the comprehension of spoken language: A literature review. *Language and Speech*, 40(2), 141-201.
- Derakhshan, A., Nadi Khalili, A., & Beheshti, F. (2016). Developing EFL learner's speaking ability, accuracy and fluency. *English Language and Literature Studies*, 6(2), 117-186.
- Derwing, T. M., Munro, M. J., & Wiebe, G. (1997). Pronunciation instruction for fossilized learners: Can it help? *Applied Language Learning*, 8, 185-203.
- Derwing, T. M., Munro, M. J., & Wiebe, G. (1998). Evidence in favor of a broad framework for pronunciation instruction. *Language Learning*, 48(3), 393-410.
- Derwing, T. M., & Munro, M. J., (2005). Second language accent and pronunciation teaching: A research-based approach. *TESOL Quarterly*, 39(3), 379-397.



- Dunkel, P. (1991). Listening in the native and second/foreign Language: Toward an integration of research and practice. *TESOL Quarterly*, 25(3), 431-457.
- Elliot, R. (1997). On the teaching and acquisition of pronunciation within a communicative approach. *Hispania*, 80(1), 95-108.
- Ferri, D., & Tagg, T. (1996). Academic listening/speaking tasks for ESL students: Problems, suggestions, and implications. *TESOL Quarterly*, 30(2), 297-320.
- Field, J. (2008). Bricks or mortar: Which parts of the input does a second language listener rely on? *TESOL Quarterly*, 42(2), 411-432.
- Flege, J. (1995). Second language speech learning theory, findings, and problems. In W. Strange (Ed.), *Speech perception and linguistic experience: Issues in cross-language research* (pp. 233-277). Timonium, MD: York Press.
- Gibson, S. (2008). Reading aloud: A useful learning tool? *ELT Journal*, 62(1), 29-36.
- Goh, C. C. M. (2007). *Teaching speaking in the language classroom*. Singapore: SEAMEO Regional Language Centre.
- Gordon, J., Darcy, I., & Ewert, D. (2013). Pronunciation teaching and learning: Effects of explicit phonetic instruction in the L2 classroom. In J. Levis & K. LeVelle (Eds.) *Proceeding of the 4<sup>th</sup> Pronunciation in Second Language Learning and Teaching Conference* (pp. 194-206). Ames, IA: Iowa State University.
- Isaacs, T., & Trofimovich, P. (2012). Deconstructing comprehensibility. *Studies in Second Language Acquisition*, 34(3), 475-505.
- Jenkins, J. (2000). *The phonology of English as an international language*. Oxford: Oxford University Press.
- Jenkins, J. (2002). A sociolinguistically based, empirically researched pronunciation syllabus for English as an international language. *Applied Linguistics*, 23(1), 83-103.
- Kang, O. (2010). Relative salience of suprasegmental features on judgments of L2 comprehensibility and accentedness. *System*, 38(2), 301-315.
- Kang, O., Rubin, D., & Pickering, L. (2010). Suprasegmental measures of accentedness and judgments of language learners proficiency in oral English. *The Modern Language Journal*, 94(4), 554-566.
- Khaghaninejad, M. S., & Maleki, A. (2015). The effect of explicit pronunciation instruction on listening comprehension: Evidence from Iranian English learners. *Theory and Practice in Language Studies*, 5(6), 1249-1256.
- Kim, M. H., & Nam, J. Y. (2002). Segmental vs. prosodic approach to listening comprehension in English. *Foreign Language Education*, 9(2), 303-326.
- Kim, M., & Hahn, P. (2015). *Pagoda TOEIC speaking: Level 5&6*. Seoul: Pagoda Books.

- Kim, Y. H. (2009). An investigation into native and non-native teachers' judgment of oral English performance: A mixed methods approach. *Language Testing*, 26(2), 187-217.
- Lee, O. S. (2017). Notetaking strategies use in EFL learners' listening comprehension speaking performance. *Journal of Linguistic Science*, 81, 257-276.
- Morley, J. (1991). The pronunciation component in teaching English to speakers of other languages. *TESOL Quarterly*, 25(3), 481-520.
- Morley, J. (1994). *Pronunciation pedagogy and theory: New views, new directions*. VA: TEOSL.
- Moyer, A. (1999). Ultimate attainment in L2 phonology: The critical factors of age, motivation, and instruction. *Studies in Second Language Acquisition*, 21(1), 81-108.
- Munro, M. J., & Derwing, T. (2001). Modeling perception of the accentedness and comprehensibility of L2 speech: The role of speaking rate. *Studies in Second Language Acquisition*, 23(3), 451-468.
- Nation, I. S. P., & Newton, J. (2009). *Teaching ESL/EFL listening and speaking*. Abingdon, UK: Routledge.
- O'Malley, J. M., Chamot, A., & Küpper, L. (1989). Listening comprehension strategies in second language acquisition. *Applied Linguistics*, 10(4), 418-437.
- Pavlenko, T. (2010). *Integration of listening and speaking in teaching English*. E-Teacher Summer Institute: Ukraine.
- Qian, M., Chukharev-Hudilainen, E., & Levis, J. (2018). A system for adaptive high-variability segmental perceptual training: Implementation, effectiveness, transfer. *Language Learning & Technology*, 22(1), 69-96.
- Rost, M. (1991). *Listening in action*. UK: Prentice Hall International Ltd.
- Saito, K., Trofimovich, P., & Isaacs, T. (2016). Second language speech production: Investigating linguistic correlates of comprehensibility and accentedness for learners at different ability levels. *Bilingualism: Language and Cognition*, 19(3), 597-609.
- Saunders, W. M., & O'Brien, M. D. (2006). Oral language. In F. Genesee, K. Lindholm-Leary, W.N. Sanders, & D. Christian (eds.), *Educating English language learners: A synthesis of research evidence* (pp. 14-45). Cambridge: Cambridge University Press.
- Schmidt, R. (1990). The role of consciousness in second language learning. *Applied Linguistics*, 11(2), 129-158.
- Seong, M. H., Chang, H., Lee, O. S., & Park, J. (2018). *A study on university-level program: English composition*. Seoul: Korean Council for University Education.
- Trofimovich, P., & Baker, W. (2006). Learning second language suprasegmentals: Effect

- of L2 experience on prosody and fluency characteristics of L2 speech. *Studies in Second Language Acquisition*, 28(1), 1-30.
- Vandergrift, L. (2007). Recent development in second and foreign language listening comprehension research. *Language Teaching*, 40(2), 191-210.
- Vandergrift, L., & Goh, C. C. M. (2012). *Teaching and Learning Second Language Listening*. New York: Routledge.
- Xiaoyu, H. (2009). The relationship between Chinese EFL learners proficiency in suprasegmental features of pronunciation and their Listening comprehension. *CELEA Journal*, 32(1), 31-39.
- Yang, M. (2013). The effect of teaching prosody on L2 listening comprehension. *Foreign Languages Education*, 20(1), 27-44.
- Yenkimaleki, M., & Van Heuven, J. (2016a). Prosody teaching matters in developing speaking skills for Farsi-English interpreter trainees: An experimental study. *International Journal of English Language and Linguistic Research*, 4(5), 82-91.
- Yenkimaleki, M., & Van Heuven, J. (2016b). Explicit teaching of segmental versus and suprasegmentals: Which would yield better listening comprehension skills of interpreter trainees? An experimental study. *British Journal of English Linguistics*, 4(6), 11-22.

## APPENDIX A

### Sample of the suprasegmental production test

(Taken from Kim & Hahn, 2016, p. 34)

- a. Good evening, Edison Fashion Shoppers. This month only, we're offering a discount on tailoring service to customers who make a purchase over fifty dollars. All alteration can be finished in the store within one hour. We can offer service on any kinds of clothes such as depresses, trousers or jackets. To find out more about the service, talk to the staff wearing a uniform.
- b. I would like to welcome everyone this evening' panel discussion on our local transportation systems. As you are all probably well aware of, there is a shortage of public transport in the city and our population continues to rise. Tonight we hope you will listen attentively to our invited guests, who include a panel of city leaders, urban planners, and local citizens as they talk about this issue. Thank you for your attention.

**Examples in: English**

**Applicable Language: English**

**Applicable Level: Tertiary**

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