

Comparing two types of explicit pronunciation instructions on second language accentedness*

Juhyun Jang · Junkyu Lee**
(Hankuk University of Foreign Studies)

Jang, Juhyun and Junkyu Lee. 2015. Comparing two types of explicit pronunciation instructions on second language accentedness. *Linguistic Research* 32 (Special Edition), 15-32. This study aims to compare the effect of two types of explicit pronunciation instructions, i.e., explicit prosody (EP) instruction and explicit segmental (ES) instruction, on second language (L2) accentedness. This study used a pretest-treatment-posttest design. Sixty two Korean EFL 5th and 6th graders of comparable English proficiency were randomly assigned into three groups (i.e., EP instruction group, ES instruction group, and Control group). Prior to pronunciation-focused activities, English teachers taught explicit linguistic information to the EP instruction group and the ES instruction group. The control group participated in a meaning-oriented activity in which explicit linguistic instruction was not provided. The instructions lasted for five weeks. The improvement of accentedness by each group was estimated by the performance of a reading task in which participants were asked to read aloud a series of narrative sentences. From the recorded data of the learners, foreign accents and pitch accents were analyzed into the sequential phases: a pretest, an immediate posttest, and a delayed posttest. Repeated measure ANOVA analyses revealed that the EP instruction group yielded a strong improvement of L2 accentedness (i.e., foreign accent and prosodic grouping with accent types: pitch accent, phrase accent, and intonational boundary) while the ES instruction group showed the positive results in relation to L2 accentedness as well. (Hankuk University of Foreign Studies)

Keywords explicit instruction, foreign accent, pitch accent, phrase accent, intonational boundary

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** Corresponding author

1. Introduction

Among the various domains of pronunciation studies, this study focuses on second language (L2) accentedness, which has been known for its difficulties for L2 learners. Second language (L2) accentedness is one of several aspects of L2 acquisition that has potential to inform both theory and practice. It is not surprising that research of the effects on L2 accentedness has been extensively investigated in the perception of prosody and segmentals (Flege, MacKay, & Meador, 1995; Tsukada, Birdsong, Mack, Sung, Bialystok, & Flege, 2004; Xue & Lee, 2014).

L2 pronunciation studies showed that segmental properties highly influenced L2 phonological production when compared with prosody (Flege, Yeni-Komshian, & Liu, 1999; Liu & Lee, 2012; Munro, Flege, & MacKay, 1996; Flege, Bohn, & Jang, 1997; Tsukada et al., 2004). Flege, Munro, & Mackay (1995) indicated that Italian learners of English produced accurate segmental production (i.e., consonants and vowels) more than prosodic production. Flege et al. (1999) claimed that foreign accent was associated with segmental productions in terms of English morphosyntax.

However, prosodic features were also influential to produce successful L2 phonological production with respect to intonation, rhythm, and stress (Anderson-Hsieh, Johnson, & Koehler, 1992; Gut & Pillai, 2014; Kang, 2010; Xue & Lee, 2014; Munro & Derwing, 1998; Pickering, 2004; Yoon, 2014). Xue and Lee (2014) contended that native and nonnative Chinese and Korean listeners' L1 background and L2 proficiency influenced their L2 pitch-manipulated speech production with respect to prosodic system. Yoon (2014) also showed that inter-speaker consistency was closely related to perception and production of prosody in terms of three different prosodic boundaries, i.e., pitch accent, phrasal accent, and intonational boundary.

Despite the importance of prosody in language acquisition, recent studies in second language pronunciation have not focused on the contribution of the effect of explicit instruction. Most studies investigating explicit instruction focused on grammar instruction (Long and Robinson, 1998; Muranoi, 2006), while classroom pronunciation studies have received a little attention (Lee, Jang, & Plonsky, 2014; Saito & Lyster, 2012). The role of the explicit instruction of L2 pronunciation remains an open question as to whether or not phonetic explanation (i.e., foreign accent and pitch accent) should be presented in L2 pronunciation. In addition, a

majority of L2 pronunciation studies were conducted by L2 adult learners (Huang & Jun, 2011; Jusczyk, Houston, & Newsome, 1999), but have limitedly been investigated by L2 young learners. Tsukada et al. (2004) indicated that young learners produced more successful production of second language vowels than adult learners. Thus, it is worthwhile to examine the effects of explicit pronunciation instruction on L2 young learners' pronunciation. Contributing to the L2 pronunciation research base, this study emphasizes a necessary combination of L2 accentedness and practical framework of explicit instruction on L2 pronunciation by Korean young learners of English.

2. Literature review

It has been assumed, as pointed out in some studies, explicit instruction of L2 pronunciation of L2 accentedness was effective (Flege, 1988; Munro, Derwing, and Morton, 2006; Saito & Lyster, 2012). Concerning foreign accented speech and pitch accents, L2 learners' production of segmentals and prosody had a considerable effect as demonstrated in the previous studies (Anderson-Hsieh, Johnson, & Koehler, 1992; Flege, Yeni-Komshian, & Liu, 1999; Lee & Liu, 2012; Munro, Flege, MacKay, 1996; Tsukada et al., 2004; Gut & Pillai, 2014; Xue & Lee, 2014; Munro & Derwing, 1998; Pickering, 2004). There have been some previous studies in L2 accentedness speech based on the importance of prosody. Van Els and De Bot (1987) indicated that the L2 utterances were less successfully considered as foreign accent when eliminating pitch information. Anderson-Hsieh, Johnson and Koehler (1992) showed that relationship between the rating of foreign accent and representations regarding intonation. The results showed that intonation was the significant factor of improvement of rating of foreign accent. In addition, some studies have focused on foreign accent, pitch accent, and prosodic groupings by accent types for successful L2 accentedness (Gut & Pillai, 2014; Xue & Lee, 2014; Yoon, 2014)

However, despite the important role of prosody, relatively less studies of explicit pronunciation instruction have investigated in L2 accentedness - foreign accent and prosodic grouping by accent types (i.e., pitch accent, phrase accent, and intonational boundary). Saito and Lyster (2012) analyzed the effects of form-focused instruction

(i.e., explicit and implicit instruction) and corrective feedback of English /ɪ/ by Japanese EFL learners. The results showed that segmental values (i.e., F3 of vowel formants) of form-focused instruction with corrective feedback were positively changed at a controlled speech level as well as spontaneous speech level.

Given the observed the positive effects of explicit segmental instruction, it was to be expected that explicit prosody instruction was also effective in L2 pronunciation. Abe (2010) showed that Japanese learners of English produced four different pronunciation patterns, i.e., rhythm, linking, assimilation, and deletion. Three instructional groups, i.e., explicit prosody instruction group, implicit prosody instruction group, and a control group, were assigned randomly. The results suggested that both the EP instruction group and the ES instruction group outperformed L2 pronunciation of L2 connected speech. Furthermore, explicit prosody instruction group had a positive improvement on L2 pronunciation of English connected speech more than explicit segmental instruction group as well as a control group.

Moreover, less studies of prosody have been investigated by L2 young learners in L2 accentedness for fluency. Trofimovich and Baker (2007) showed that young learners produced fluent L2 prosody, i.e., duration of pausing, peak alignment, speech rate, stress timing, and frequency. Huang and Jun (2011) also examined the effect of age on L2 prosody and the results showed that young learners of English produced speech rate and pitch accent natively than adult learners. The present study aims to fill the gap by investigating the importance of explicit instruction of prosody in L2 accentedness, i.e., foreign accent, and prosodic grouping by accent types – pitch accent, phrase accent, and intonational boundary – by young learners of English.

To obtain significant data for this issue, the present study, therefore, attempts to observe explicit instruction, i.e., explicit prosody instruction and explicit segmental instruction, in which prosody and segmental linguistic information were transplanted with explicit explanation. It observes the comparison between the EP instruction group and the ES instruction group in terms of L2 accentedness (Huang & Jun, 2011; Lee, 2014; Saito & Lyster, 2012; Yoon, 2014). The following two major questions were investigated:

- (1) Does explicit pronunciation instruction contribute to greater posttest gains on Korean young learners' L2 accentedness in comparison to a control group?
- (2) Which type of explicit instructions (i.e., explicit prosody instruction vs. explicit segmental instruction) is more effective in developing Korean young learners' L2 accentedness?

3. Experiment

3.1 Participants

Participants were 5th and 6th grade students attending an elementary school in Korea. Sixty two participants of native Korean young learners of English as a foreign language participated in this study. The participants had an English class three times a week, each class was taught by a native speaking teacher and a Korean teacher together. Self-reported English experience illustrated the length of English learning experience in public and private language classes in Korea. In Table 1, the English experience was estimated on the monthly basis.

Table 1. Second language learning months

Number of learning months	Number of participants (Gender ^a)	Percentage (%)
0<x<40	21 (10F, 11M)	33.87
40<x<54	19 (10F, 9M)	30.65
54<x<68	22 (10F, 12M)	35.48
Total	62 (32F, 30M)	100

Note. Number of participants (Gender ^b): F(female), M(male)

Group distribution was shown as Table 2 below. Due to the administrative difficulty in assigning the participants into random groups, the three intact classes were used.

Table 2. Group distribution

Group	EP instruction group	ES Instruction group	Control
Number	<i>N</i> =21	<i>N</i> =19	<i>N</i> =22
Age ^a	12.30	12.63	12.72
Gender ^b	11F, 10M	9F, 10M	10F, 12M
Proficiency ^c	<i>M</i> =87.48 (<i>SD</i> =5.63)	<i>M</i> =87.93 (<i>SD</i> =5.28)	<i>M</i> =87.78 (<i>SD</i> =5.31)

Note. Age ^a: Current age of all learners; Gender ^b: F(female) and M(male) students; Proficiency ^c: English performance-based test in school

Two classes were assigned to the experimental groups - explicit prosody (EP) instruction and explicit segmental (ES) instruction- and the remaining one served as a control group. All the participants had scores of English Performance-based Test based on listening and speaking samples. All participants' English proficiency was determined as an intermediate level.

3.2 Procedure and instruments

Three groups, i.e., explicit prosody (EP) instruction group, explicit segmental (ES) instruction group, and a control group were instructed over 5 weeks, 9 sessions were distributed in explicit instruction of L2 pronunciation. For the EP instruction group, learners were asked to listen and repeat a teacher's pronunciation of English sentences including accents as well as intonation. They received explicit explanation of prosody before and after instruction with feedback. Also, the teachers taught relevant articulatory gestures about accent to enable learners to actually produce the sounds and encouraged them to listen to perceptual aspects of their own production to help them notice the articulatory difference between English and Korean.

For the ES instruction group, the teacher started with explicit phonetic instruction of segmentals (i.e., phonemic practice, minimal pair practice) and all the learners were asked to listen and repeat the practices on how to perceive and produce English consonants and vowels. They received explicit explanation of segmentals before and after instruction with feedback. Finally, the learners in the control group received comparable meaning-oriented lessons on self-introduction or English story telling skills but with neither explicit explanation of segmentals and prosody nor feedback. The

control group received comments not on any explicit pronunciation errors but rather on grammaticality and inappropriate word use regarding the content of the lessons.

All the learners read a paragraph (Table 3). As shown in previous studies (Munro & Derwing, 1995), participants' reading ability could be a convincing predictor in a reading task. All L2 young learners were individually tested in a classroom after regular classes. Each participant was given few minutes to prepare to read the paragraph before the recording. They read the paragraph, which was recorded using the *Praat* program (speech software). A pretest and two posttests were performed in the first, fifth, and ninth weeks.

Table 3. Reading paragraph* (Huang & Jun, 2011)

Please call Stella. Ask her to bring these things with her from the store: Six spoons of fresh snow peas and maybe a snack for her brother Bob. We also need a small plastic snake and a big toy frog for the kids. She can scoop these things into three red bags, and we will go meet her Wednesday at the train station.

Note. * Several words were modified for the content appropriateness for young learners' understanding.

3.3 Data analysis

Prior to main analyses, accentedness rating was analyzed to investigate the extent to which the learners were able to produce prosody. In this analysis, the sentences spoken by the participants were presented to one native English speaker who majored in English education and taught English at the public elementary school in Korea and a trained nonnative Korean rater who majored in linguistics and English education for ratings. As the raters heard each sentence played over loudspeakers positioned in front of them, they rated the degree of foreign accent on a 9 point scale (1 = very strong foreign accent, 9 = no foreign accent).

In addition, the present study analyzes the autosegmental metrical phonology model of intonation as a theoretical form of L2 accentedness (Beckman & Pierrehumbert, 1986; Ladd, 1996). The intonation includes an inventory of accentedness (i.e., pitch accent, phrase accents, and large phrase boundaries). Four pitch accents (H*, !H*, L*, L+H*) representing stressed syllables, two phrase accents

(H-, L-) representing small phrases, and four intonational boundaries (H-L%, H-H%, L-H%, L-L%) representing large phrases were measured by prosodic grouping. All utterances were coded by two experienced raters and all recordings were examined using the *Praat* speech analysis software program. For the analysis, the group frequency means were adopted as the measure because of the unequal numbers of tones produced in each group. To examine the specific differences among three groups (i.e., EP, ES, Control), L2 accentedness (i.e., foreign accent, pitch accent, phrase accent, intonational boundary) was measured.

4. Results

4.1 Foreign accent

The assessment of the foreign accent has been measured traditionally participants' pronunciation on the basis of all uttered sentences (see, Table 3) before rating of prosody (pitch accent, phrase, accent, and boundary tones). The dependent variables were the means of foreign accent ratings (Liu and Lee, 2012; Trofimovich and Baker, 2007) calculated by two raters, one native speaker and a nonnative speakers' ratings on the seventy three participants. The intra-class correlation coefficient was measured as an inter-rater reliability of participants' sentence production. The raters' coefficient was highly correlated, $r(2) = .92, p < .0001$. This result indicated the high agreements among between raters. There is no significant difference between groups on pretest scores, $F(2, 60) = .11, p = .90$. Foreign accent in the EP instruction group was measured through over the three testing periods, a pretest ($M = 3.18, SD = 0.66$), an immediate posttest ($M = 5.27, SD = 0.94$), and a delayed posttest ($M = 5.64, SD = 1.09$). Thus, the EP instruction group increased both immediate and delayed posttests. In addition, foreign accent in the ES instruction group also assessed in a sequential period, a pretest ($M = 3.05, SD = 0.72$), an immediate posttest ($M = 4.09, SD = 1.11$), and a delayed posttest ($M = 4.77, SD = 1.15$). Like the EP instruction group, the ES instruction group also showed the improvement of foreign accent rating scores, but the EP instruction group had a large improvement when compared to the ES instruction group. In contrast, a control group showed a little change in pretest ($M = 3.19, SD = 0.64$), an

immediate posttest ($M = 3.6, SD = 0.68$), and a delayed posttest ($M = 3.7, SD = 0.65$) in Figure 1 below.

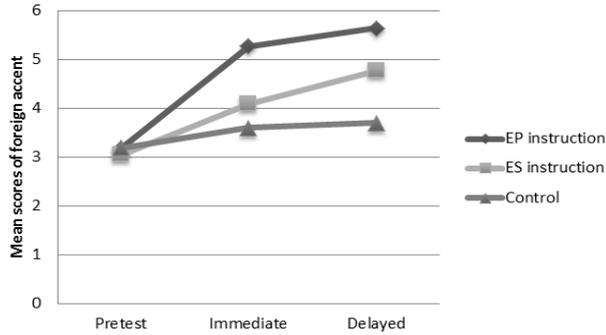


Figure 1. Mean scores changes in foreign accent by three instruction groups

In attempt to examine the group by time interaction, repeated-measure ANOVAs were performed with foreign accent as a dependent variable and with time (pretest, immediate posttest, and delayed posttest) and group (EP, ES, and control) as independent variables. The Mauchly’s test shows in Table 4. The results were corrected by the Huynh-Feldt epsilon, indicating the adjustments of degree of freedom (Huynh-Feldt, 1970).

Table 4. Mauchly’ s tests of sphericity of ANOVAs of foreign accent by three different instructional groups (EP, ES, Control)

Group	Mauchly’s W	df	p	Huynh-Feldt Epsilon
EP	.847	2	.000	.939
ES	.874	2	.000	.964
Control	.765	2	.021	.874

In Table 5, the results of two-way repeated measure ANOVA analyses revealed a significant group by time interaction in EP instruction group, $F(1.878, 39.433)=297.047, p < .001, \eta^2=.934$, in ES instruction group, $F(1.929, 40.504) = 94.975, p < .001, \eta^2 = .891$, in a control group, $F(1.748, 33.209) = 7.337, p = .021, \eta^2 = .279$. The results indicated that the groups performed differently from each other over time, showing the superiority of the EP instruction in foreign accent of L2 pronunciation.

Table 5. Results of within-subject effect of foreign accent

Group	<i>F</i>	<i>df</i>	<i>p</i>	η^2	Error (time)
EP	297.047	1.878	.000	.934	39.433
ES	94.975	1.929	.000	.819	40.504
Control	7.337	1.748	.021	.279	33.209

The results of within-subject contrasts one-way ANOVAs in Table 6 revealed the significance in within-group differences of foreign accent among three groups (EP instruction group, $F(1, 21) = 373.390$, $p < .001$, $\eta^2 = .947$; ES instruction group, $F(1, 21) = 164.804$, $p < .001$, $\eta^2 = .887$; control group, $F(1, 19) = 10.231$, $p = .005$, $\eta^2 = .350$). The results of foreign accent showed the significant improvement of the EP instruction group as well as the ES instruction group.

Table 6. Results of within-subject contrasts of foreign accent

Group	<i>F</i>	<i>df</i>	<i>p</i>	η^2	Error (time)
EP	373.390	1	.000	.947	21
ES	164.804	1	.000	.887	21
Control	10.231	1	.014	.350	19

Overall, the effect sizes of Cohen¹ (1988) in this study are considered to be very large both in the immediate and delayed gains ($d = .85$; $d = 1.225$) in the EP and ES instruction groups when compared with the control group. The EP instruction group showed a large effect size in immediate gain ($d = 1.204$) and a small effect size in a delayed gain ($d = .29$) in comparison to the ES instruction group. These results may suggest that both the EP instruction group and the ES instruction group are considered to be effective in facilitating learners' overall acquisition of L2 pronunciation in terms of foreign accent. In addition, the EP instruction can be more influential for better improvement than the ES instruction with respect to foreign accent in L2 pronunciation.

¹ Cohen's (1988) guidelines for interpreting effect sizes is small ($0.20 \leq d < 0.50$), medium ($0.50 \leq d < 0.80$), or large ($0.80 \leq d$).

Table 7. Results of effect size by three group in immediate and delayed posttests

Group	EP & ES > Control		EP > ES	
Gains	Immediate	Delayed	Immediate	Delayed
Foreign accent	Large effect ($d=.85$)	Large effect ($d=1.225$)	Large effect ($d=1.204$)	Small effect ($d=.29$)

4.2 Prosodic groupings by accent types: pitch accent, phrase accent, intonational boundary

Results revealed that a significant effect with a small effect size in the immediate posttests was shown as the mean frequency of pitch accents, $F(2, 60) = 7.146, p = .01, \eta^2 = .106$, not as the mean frequency of phrase accents, $F(2, 60) = 9.23, p = .134$, or intonational boundary, $F(2, 60) = 6.38, p = .84$ in Figure 2. Post-hoc comparisons showed the significant results between pretests and immediate posttests in high tone (H*) of pitch accent.

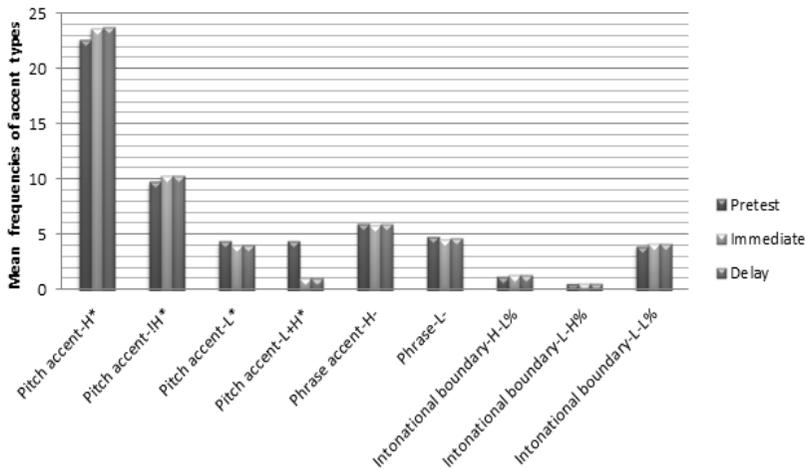


Figure 2. Mean frequencies of pitch accent, phrase accent, and intonational boundary in total over time (pretest, immediate, and delayed posttest)

Tukey’s post-hoc tests comparing the three groups showed that the EP instruction groups produced a significantly large number of pitch accents than did the other

groups. However, no significant differences were observed among three groups. Moreover, the mean frequencies of four pitch accent types (H*, !H*, L*, L+H*) were shown as in Figure 3.

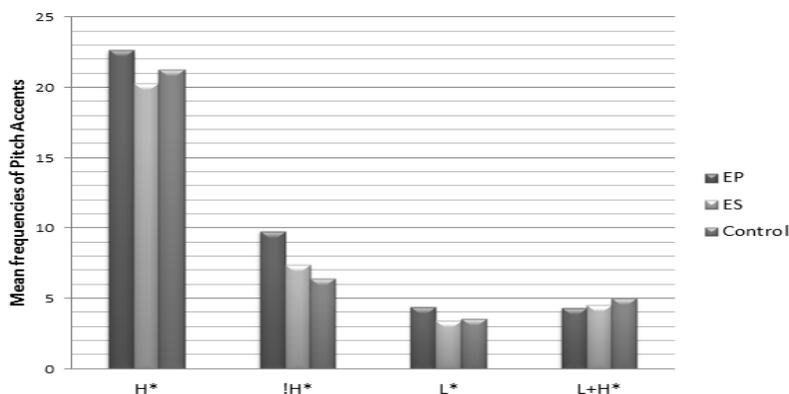


Figure 3. Group mean frequencies of pitch accent types in the immediate posttest

The EP instruction groups produced more pitch accent types (H*, !H*, L*) than the ES instruction group and the control group in the immediate posttest. The ES instruction group produced more pitch accent type (L+H*) than the EP instruction group. The mean frequencies of H* tones had a small effect size, $F(2, 60) = 14.566$, $p < .001$, $\eta^2 = .327$ in the immediate posttest, size, $F(2, 60) = 23.734$, $p < .001$, $\eta^2 = .106$ in the delayed posttest.

The mean frequencies of two types of phrase accent (H-, L-) were shown as in Figure 4. The mean frequencies of H- tones had a small effect size, $F(2, 60) = 36.837$, $p < .001$, $\eta^2 = .21$ in the immediate posttest only and the post-hoc comparisons revealed that the EP instruction group produced more H- and L-tones than the ES instruction group and the control group. Moreover, there was no significant group effect for phrase accent types.

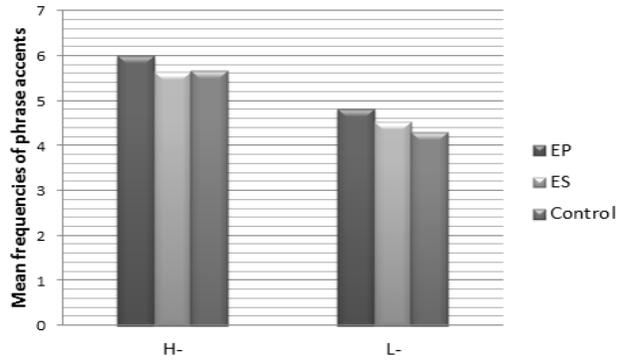


Figure 4. Group mean frequencies of phrase accent types in the immediate posttest

In Figure 5, the mean frequencies of four types of intonational boundary (H-L%, H-H%, L-H%, L-L%) were shown as below. The mean frequencies of L-H tone had a small effect size, $F(2, 60) = 8.127$ $p < .001$, $\eta^2 = .259$ in the immediate posttest only. The post-hoc comparisons revealed that the EP instruction group produced more L-H% and L-L% tones than the ES instruction group and the control group while all groups did not produce any H-H% tones. Moreover, there was no significant group effect for intonational boundary types.

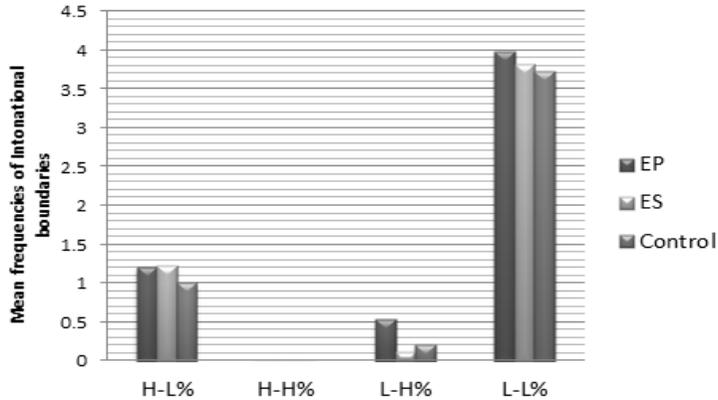


Figure 5. Group mean frequencies of intonational boundaries in the immediate posttest

These results may suggest that both explicit instruction groups (i.e., the EP

instruction group and the ES instruction group) are considered to be effective in facilitating learners' overall acquisition of L2 accentedness. Overall, pitch accents (H*, !H*), phrase accents (H-, L-), and intonational boundaries (H-L%, L-L%) were used more than the other types of accents.

In addition, the EP instruction group has more improvement with respect to accentedness, i.e., pitch accent (H*, !H*), phrasal tone (H-, L-), and intonational boundary tone (H-L%, L-L%) in comparison to the ES instruction group. The ES instruction group showed more patterns of L+H* as pitch accent and H-L% as intonational boundary than the other groups. The result showed that the EP instruction group had a facilitative role in developing L2 accentedness learning than the ES instruction group in Table 8 below. In addition, table 8 indicated that the number of tokens of accents by types with percentage in the immediate and delayed posttests. Three main accent types (H*, H-, L-L%) were markedly prominent over time (immediate-delayed posttests) and the learners produced improvement of L2 accent and prosodic grouping by accent types in the immediate and delayed posttests.

Table 8. Distribution of pitch accent, phrase accent, and intonational boundary tones in the immediate–delayed posttests

Pitch Accent	Number of tokens (Immediate)	Percentage (Immediate)	Number of tokens (Delay)	Percentage (Delay)
H*	1732	60.62%	1746	60.96%
!H*	752	26.31%	760	26.54%
L*	296	10.35%	285	9.92%
L+H*	78	2.72%	74	2.58%
Total	2858	100	2865	100
Phrase Accent	Number of tokens (Immediate)	Percentage (Immediate)	Number of tokens (Delay)	Percentage (Delay)
H-	432	56.11%	437	56.17%
L-	338	43.89%	341	43.83%
Total	770	100	778	100
Intonational Boundary	Number of tokens (Immediate)	Percentage (Immediate)	Number of tokens (Delay)	Percentage (Delay)
H-L%	101	22.35%	119	25.65%

H-H%	0	0%	0	0%
L-H%	45	9.95%	37	7.97%
L-L%	306	67.70%	308	66.38%
Total	452	100	464	100

5. Discussion and conclusion

The present study aimed to investigate the effectiveness of explicit pronunciation instruction of L2 accentedness. L2 pronunciation studies have been less investigated regarding prosody. The goal of this study explores the contribution of L2 accentedness (i.e., foreign accent and prosodic grouping with accent types) and instructional variables (i.e., explicit prosody instruction and explicit segmental instruction) of L2 acquisition of prosody for young EFL learners. The findings in relation to the first research question were that the explicit prosody (EP) instruction group and the explicit segmental (ES) instruction group have a high improvement of L2 accentedness (i.e., foreign accent). Furthermore, explicit instruction is likely to relate to the achievement of L2 prosodic grouping, i.e., pitch accent, phrase accent and intonational boundary in comparison to the control group. A possible interpretation would be that, because of the participants were young EFL learners, both the EP instruction group and the ES instruction group were likely to relate to L2 speech production of accentedness unlike the results of L2 adult learners' production of L2 accentedness. The significant effectiveness of explicit instruction was markedly prominent for L2 young learners contrary to the effectiveness of non-explicit instruction for L2 adult learners over immediate and delayed posttests.

The findings associated with the second research question were also in support of those of the first research question. That is, the EP instruction group showed more improvement of L2 accentedness (i.e., foreign accent and prosodic groups with accent types) than the ES instruction group. Explicit prosody instruction was more valid for L2 accentedness by Korean young learners of English than explicit segmental instruction based on the importance of explicitness of L2 learning (Lee, Jang, Plonsky, 2014; Saito & Lyster, 2012). The results showed that Korean young learners of English produced better L2 production of foreign accent. Explicit prosody instruction was more effective with the remaining effect through immediate to

delayed posttests.

This study included the effectiveness of explicit instruction (i.e., the explicit prosody instruction group, the explicit segmental instruction group) by Korean young learners of English in a sequential phase (i.e., pretest-immediate posttest-delayed posttest). Also, the present study investigated the amount of improvement between the EP instruction group and the ES instruction group. In addition, the results also showed the prominent effectiveness of explicit prosody instruction on L2 accentedness at the speech level and the effect of age on L2 young learners' L2 accent and prosodic grouping by accent types.

Our study may be limited by the short length of the test. While shorter tasks reduce the attentional demands on the task, longer tasks tend to be more appropriate to analyze participants' more natural speech. Another limitation of the current study is that the instructions involved only prosody and segmental focused-tasks without sufficient corrective feedback. Although we observed a similar pattern of results using pronunciation tasks compared to other studies, it was possible that the L2 pronunciation needs to explore with proper feedback to produce more subtle connections between L2 accentedness and explicit pronunciation instructions. Further studies should explore the role of prosody to examine various prosody features on the acquisition of L2 accentedness. With regard to the assessment of consistency of L2 accentedness over time, there should be more training sessions for raters for relatively high rating consistency in the sequential phases of pretest, immediate posttest, and delayed posttests (Yoon, 2014).

In addition, this study concluded with some important implications, suggesting that explicit instruction is indispensable to Korean young EFL learners' prosody and segmental learning, and it does impact on the successful L2 prosody in producing L2 accentedness. Also, L2 experience can influence successful productions of L2 prosody and accentedness (Trofimovich & Baker, 2006). The amount of L2 experience can be highly associated with L2 accent and prosodic grouping. In addition, this study should include more participants for a reliable quantitative analysis of prosody learning and specifications of classroom interaction for cognitive process. Future research would benefit from methodological improvements with appropriate feedback, in establishing native speakers' baseline patterns as well as qualifying L2 learners' various types of prosody production.

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Juhyun Jang

Graduate School of TESOL Department
Hankuk University of Foreign Studies
107 Imunro, Dongdaemun-gu, Seoul, 130-791, Korea
Email: jangjh.mail@gmail.com

Junkyu Lee

Graduate School of English Education
Hankuk University of Foreign Studies
107 Imunro, Dongdaemun-gu, Seoul, 130-791, Korea
Email: junkyu@hufs.ac.kr

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