

The Effects of Pronunciation-Based Listening Practice on Korean EFL Learners

Jong-Im Han
(Ewha Womans University)

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The purpose of this paper is to investigate the effects of pronunciation-oriented listening practice on Korean university students' pronunciation and listening comprehension. The major findings of the study are as follows: First, pronunciation teaching through listening exercises proved to be effective in improving Korean EFL learners' pronunciation clarity and listening proficiency; second, suprasegmental features, especially focus and contraction/reduction, are more significant factors for clarifying sounds and comprehending spoken English than consonant and vowel sounds; third, Korean students are weak in suprasegmentals, whereas they seem to reach a relatively high level with respect to segmental sounds. All of the findings of this study lead to the conclusion that pronunciation teaching should not be sacrificed at the expense of communicative fluency, but should proceed in an integrated fashion, and that, for the improvement of Korean EFL learners' listening comprehension and pronunciation comprehensibility, greater focus should be placed on suprasegmentals than individual sounds under communicative pronunciation-based listening teaching.

I. INTRODUCTION

Even though pronunciation is a central factor in EFL learners' success in making themselves understood in communication (Gilbert, 1987, 1993; Wong, 1987; Morley, 1987, 1994; Celce-Murcia, 1987), pronunciation teaching has been neglected since the 1980s. This is mainly due to the limitations

of the traditional approaches to pronunciation teaching, whose goal was in the native-like mastery of L2 sounds and whose teaching techniques stressed isolated and mechanical drills and exercises.

Recently, however, the teaching of pronunciation has been receiving increasing attention as an area of renewed interest in oral communication (Avery & Ehrlich 1987; Morley 1991; Pennington & Richards 1986; Murphy 1991). As a result, a number of changing views on pronunciation teaching emerged. One of the new perspectives is that L2 pronunciation practice needs to be intimately linked with the listening process and with communicative speaking activities.

With respect to the relationship between listening and pronunciation, many EFL researchers claim that a specific emphasis on pronunciation can enhance not only ESL students' listening comprehension, but also their pronunciation clarity (Gilbert, 1987, 1993, 1994; Burns, 1992; Murphy, 1991; Wong, 1987). However, no empirical research has yet been conducted to investigate the mutual interdependency of listening and pronunciation teaching and the validity of the claim that teaching pronunciation through listening activities can improve both listening and pronunciation.

This paper, therefore, aims to empirically investigate the effects of pronunciation-oriented listening teaching on Korean students' pronunciation and listening comprehension. For this purpose, after briefly reviewing current trends on pronunciation teaching, this study will examine whether pronunciation-based listening activities can really contribute to the improvement of both listening and pronunciation, and which aspects of pronunciation play a significant role in developing EFL learners' pronunciation clarity and listening comprehension. Based on the findings of the study, pedagogical implications and suggestions for effective pronunciation-based listening teaching will be provided.

II. CURRENT PERSPECTIVES ON PRONUNCIATION TEACHING

Perspectives on pronunciation teaching have been varied as teaching methodologies changed. Traditionally, especially under the Audio-Lingual approach, pronunciation was viewed as a very important component of

English teaching programs for EFL learners. The goal of traditional pronunciation teaching was the perfect or near-native mastery of L2 pronunciation. This goal, however, is virtually unattainable for the vast majority of EFL learners since ESL/EFL learners hardly achieve native-like pronunciation after the age of puberty (Scovel 1969). Furthermore, traditional approaches to teaching pronunciation are based on a structurally-based manipulative work such as minimal pair drills, tongue twisters, or sound discrimination and identification exercises. These kinds of activities and materials are isolated, artificial, and unauthentic sounds or stress and intonation patterns which are not related to communication (Nairman, 1992; Murphy, 1991; Celce-Murcia, 1987; Wong, 1987). Thus, there was little transfer from pronunciation practice to natural communication and EFL teachers could not find any relevance in pronunciation practice to learners' communicative demands outside of the classroom.

Furthermore, as the Communicative Teaching approach was adopted in the teaching of language, the traditional approaches to teaching pronunciation did not seem to fit into communicative language teaching. As a result, dissatisfaction with the limitations of conventional pronunciation teaching approaches led to a significant decrease or elimination of pronunciation practice in many EFL programs (Morley, 1987).

Since the mid-1980s, however, the necessity of pronunciation teaching in EFL began to get attention even under the communicative approach which emphasizes fluency instead of accuracy for successful communication.¹⁾ According to Hinofotis and Bailey (1980), if a non-native speaker's pronunciation falls below the threshold level, he will not be able to communicate successfully no matter how good his control of English grammar and vocabulary might be.²⁾ Thus, it is generally agreed that

1) Even though intelligible pronunciation is the minimum requirement for communicative effectiveness, there are a lot of ESL/EFL workers whose pronunciation does not reach the standards of intelligibility. Thus, pronunciation teaching is required for those non-native speakers who are engaged in professional ESP areas such as research scholars in higher education and skilled professionals in business and industry (Wong, 1987; Morley, 1987).

2) A similar view on pronunciation can be found in Brown (1991:1) who emphasizes

intelligibility should be a minimum goal for the EFL classroom, although researchers continue to debate the degree to which L2 learners acquire native-like fluency in L2 pronunciation. That is, the goal of pronunciation teaching shifted from the unrealistic native-like mastery of L2 pronunciation to the more realistic and moderate intelligibility of L2 pronunciation. Accordingly, a number of changing trends on pronunciation learning and teaching emerged. The three major trends in the teaching of pronunciation are (i) increasing attention to suprasegmentals, (ii) expanded perspectives on pronunciation and listening, and (iii) application of Communicative Language Teaching to pronunciation, which will be briefly discussed in the following section.

1. A Trend Toward Integration of Pronunciation Into an Oral Component

One of the current trends in EFL teaching is that pronunciation teaching should proceed in an integrated fashion. According to Morley (1991), pronunciation-based listening exercises can develop EFL learners' auditory perception, discriminative listening skills for pronunciation and their overall aural comprehension of English. Claiming that pronunciation and listening are directly related in a speech loop of mutual comprehension between speaker and listener, Gilbert (1987, 1994) suggests that pronunciation class should be designed to integrate aspects of listening comprehension. Pointing out that many ESL learners have learned English without hearing it spoken natively, Wong (1987) suggests that EFL students should have the opportunity to listen to spoken English in order to develop active listening skills and a comfortable level of fluency. Citing Ur's (1984) comment that "it is certainly true that if the learner learns to pronounce...sounds accurately..., it will be much easier...to hear them correctly when said by someone else," Burns (1992) advocates teaching pronunciation through listening and suggests a variety of practical activities. Murphy (1991) claims that there are mutually interdependent relationships among pronunciation,

the importance of pronunciation in communication: "You have probably all met foreign speakers of English who sounded very fluent and may have been perfectly grammatical, with appropriate vocabulary, but who were unintelligible owing to poor pronunciation."

listening, and speaking, and thus pronunciation should be presented as a subset of both speaking and listening development.

In short, current pronunciation teaching has a tendency to integrate pronunciation into the broader context of oral communication and as a result of it, pronunciation-oriented listening instruction has become an important component of oral communication teaching.

2. A Trend Toward a Primary Focus on Suprasegmental Aspects

Traditionally, suprasegmental features have been treated by ESL/EFL teachers as peripheral elements and not as central to the conveying of meaning. Recently, however, there is a growing trend toward shifting emphasis from the teaching of segmentals (individual vowel and consonant sounds) to the teaching of suprasegmentals (stress, rhythm, and intonation).

McNerney and Mendelsohn (1992) claim that suprasegmentals are far more important and central to communication than accurate pronunciation of the individual sounds because they control the structure of information and have the greatest impact on the comprehensibility of EFL learners' English. According to Gilbert (1993, 1994), English uses suprasegmentals to mark the distinction between old information and new information and the shift of sentence stress helps the listener and speaker follow each other's thoughts. Similarly, Crawford (1987) claims that suprasegmental aspects such as vowel reduction, assimilation, and focus are extremely important in spoken English and thus practice in recognizing and making efficient use of suprasegmental clues in spoken English is one way to improve EFL students' listening and pronunciation.

In short, current pronunciation teaching has a tendency to focus on suprasegmentals such as stress, intonation, linking, pausing, and contraction/reduction since they have great influence on successful oral communication.

3. A Trend Toward Communicative Pronunciation Teaching

It has been claimed by many studies that pronunciation teaching can be more effective when employing the communicative techniques that have

become widely used in ESL teaching (Celce-Murcia, 1987; Pica, 1984; Naiman, 1992; Celce-Murcia & Goodwin, 1991).

Accordingly, a variety of communicative techniques have been introduced to teach pronunciation. Celce-Murcia (1987) & Pica (1984) suggest that the same communicative approach to language teaching can be used in the teaching of pronunciation by providing student-centered and task-based activities such as role playing, problem solving, and interactive games.

Claiming that EFL learners should be provided with authentic language materials and should be engaged in a meaningful interchange of language beyond the word and sentence level, Naiman (1992) suggests that communicative pronunciation teaching should include (i) meaningful practice beyond the word level, (ii) task orientation of classroom activities, (iii) development of strategies that facilitate communication outside the classroom, (iv) peer correction and group work, and (v) a student-centered classroom.³⁾

According to Wong (1987), EFL students need to begin, not with pronunciation exercises, but with communicative experiences which can provide students with opportunities to develop some fluency and to modify their speech in order to be more intelligible to their listeners. As a way to develop a comfortable level of fluency, Wong (1987) recommends a variety of activities such as the strip story, the active listening exercise, the fluency workshop, and the discussion which can be instrumental in helping students understand the need for clarity as communicators from experience.

In short, current pronunciation teaching has a tendency to employ communicative teaching approaches in the teaching of pronunciation. Consequently, it is emphasized that students should engage in meaningful pronunciation practice activities designed for the communication in the learner's real-life situations to help students understand the need for clarity and intelligibility of pronunciation as communicators.

3) For concrete and practical techniques in communicative pronunciation teaching, refer to Naiman (1992), Celce-Murcia (1987), Jull (1992), and McNerney and Mendelsohn (1992). From a practical point of view, for example, Naiman suggests the following techniques: information gap activities, matching exercises, chain stories, and fluency squares are recommended for teaching consonants and vowels; questionnaires and surveys, and rhymagogues for connected speech; shadowing and focused activities for suprasegmentals.

III. RESEARCH DESIGN

1. Subjects

The subjects of this study were Korean female university students who took phonetics as one of their major courses. A total of seventy students participated in this study: sixty-seven were sophomores and three were juniors. Not all of the subjects completed all the tests of this study. Thus, the performances of sixty-one subjects were statistically analyzed by the study. In order to examine the weakness patterns of Korean students' pronunciation and listening comprehension, the study further divided the sixty-one subjects into three groups: those whose TOEFL listening scores belong to the top and the bottom 30 percent of the whole group were assigned to high level (HL) and low level (LL) listening proficiency groups respectively, and the remaining subjects to a mid level group. Only the high and the low level proficiency groups were considered by this study.

2. Materials

Materials consisted of TOEFL listening, Pronunciation-Based (PB) listening, and Pronunciation-Based (PB) speaking tests. A practice version of a TOEFL listening test with three parts was used as a basis for the subjects' listening proficiency. Part A consisted of 30 items of short dialogue-type conversations, Part B 8 items of long dialogue-type conversations, and Part C 12 items of a monologue-type lecture. In order to examine which aspects of pronunciation affect listening comprehension, this study conducted Gilbert's (1993) PB listening test which was designed to measure six aspects of pronunciation related to listening comprehension (segmental sounds (SEG), focus meaning (FM), contraction/reduction (CR), word stress (WS), focus identification (FI), and thought groups (TG)). In order to measure the clarity of the subjects' pronunciation, this study used Gilbert's (1993) PB speaking test. The subjects were asked to record a conversational dialogue in the PB speaking test and their recorded performances of the PB speaking test were analyzed in terms of five aspects of pronunciation (contraction/reduction (CR), intonation (I), focus

{F}, stress {S}, and segmental sounds {SEG}).

3. Procedures and Statistical Analysis

Subjects were provided not only with pronunciation practice through listening activities which reflected the current major trends of pronunciation teaching given in section II of this study, but also with theories on phonetics and phonological rules to help the subjects' awareness and understanding of the English sound system. Prior to beginning and after finishing their one-semester phonetics course (that is, at the first and last weeks of the course), the subjects took pre-and posttests.

As for PB speaking test assessment, raters, listening to audio recordings of subjects' speaking test, analytically evaluated their pronunciation in terms of the five aspects on the basis of PB speaking test analysis form provided in Gilbert (1993) and then filled out a pronunciation evaluation form for each subject.

The results of the TOEFL, PB listening, and PB speaking tests were processed using SPSS PC+ and SAS. The results of the three tests were statistically analyzed in terms of mean scores, standard deviations, t-values, Pearson correlation coefficients, and regression coefficients to see whether there were any significant differences and correlations among the tests. The significant differences between pre- and posttest scores was investigated by a paired t-test. In all these analyses, the alpha significance level was set at .05.

4. Limitations of the Study

Limitations of this study are as follows: First, listening needs to be approached from both microlevel and macrolevel perspectives since a lot of factors are involved in affecting listening (Richard, 1985). Nonetheless, this paper approached the pronunciation-listening relationship from a microlevel perspective only (that is, elements of pronunciation in a bottom-up sense) since we focused attention on productive and receptive aspects of pronunciation. Thus, it should be made clear that the pronunciation aspect is one of many factors which can affect listening proficiency, and thus the suggestions of this paper show one way to

develop listening proficiency in relation to pronunciation. Second, the subjects of this study are by no means sufficient enough to represent Korean college students. Furthermore, the subjects of this study are all female students majoring in English. Thus, different results might be obtained if the same experiment were conducted with other college students whose majors are not English. Thus, caution is required when making generalizations of the results of the study.

IV. RESULTS AND DISCUSSION

Mean scores and standard deviations of the TOEFL listening, PB listening, and PB speaking tests are presented in Table 1.

Table 1
Means and Standard Deviations of TOEFL Listening,
PB Listening, and PB Speaking Tests

Test	Pretest		Posttest		
	M (%)	SD	M (%)	SD	SD
<i>TOEFL</i>					
Part A	16.66 (55.5)	5.53	19.03 (63.4)	5.53	
Part B	5.10 (63.8)	1.85	5.82 (72.8)	1.58	
Part C	5.82 (48.5)	2.18	6.56 (54.7)	2.13	
Total	27.52 (55.1)	8.29	31.41 (62.8)	7.91	
<i>Listening</i>					
SEG	8.77 (87.7)	0.86	9.13 (91.3)	0.81	
FM	3.98 (79.6)	0.88	4.51 (90.2)	0.87	
CR	6.36 (63.6)	2.04	7.54 (75.4)	1.75	
WS	9.28 (92.8)	0.82	9.36 (93.6)	0.80	
FI	7.05 (70.5)	1.36	8.28 (82.8)	1.20	
TG	4.52 (90.4)	0.62	4.38 (87.6)	0.99	
Total	39.97 (79.9)	3.51	43.20 (86.4)	2.97	
<i>Speaking</i>					
CR	17.03 (54.9)	3.16	18.57 (60.0)	2.88	
I	8.49 (84.9)	1.03	8.82 (88.2)	0.99	
F	16.48 (71.7)	1.18	17.39 (75.6)	0.89	
S	32.08 (89.1)	1.94	32.72 (90.9)	1.63	
SEG	41.23 (89.6)	1.81	42.26 (91.9)	1.77	
Total	115.32 (79.0)	6.52	119.76 (82.0)	5.58	

As for the TOEFL listening test, the score of Part B was the highest of all the three types. That is, subjects comprehended the long dialogue-type conversation better than any other short dialogue-type conversation or long monologue-type lecture. As for the PB listening test, the scores of word stress, thought group, and segments were relatively high, while those of contraction/reduction, focus meaning, and focus identification were relatively low. The word stress score was the highest, but the contraction/reduction score was the lowest. As for the PB speaking test, the scores of segments and word stress were relatively high, but those of focus and contraction/reduction were very low. The segment score was the highest, but as in the PB listening test, the contraction/reduction score was the lowest.

The examination of these results reveals the general picture of Korean students' weakness patterns in pronunciation. Korean students as a whole seemed to reach a relatively high level as far as segments were concerned, but they were very weak in suprasegmental aspects. To be more specific, Korean students in general seemed to do well in discriminating the differences of consonant and vowel sounds and recognizing isolated word stress and the thought group, but they were weak in identifying focus and recognizing reduced sounds in English. These results strongly reflect the fact that Korean students have received segment-oriented pronunciation teaching rather than suprasegment-oriented pronunciation teaching.

In order to further examine the weakness pattern of Korean students' pronunciation and listening comprehension, the study examined the performances of the high and the low level listening proficiency groups. The results of the means of the three tests by the groups are shown in Table 2.

As for the TOEFL test, both the high level and the low level proficiency groups did best in the long dialogue-type test. As for the PB listening test, it is a common characteristic that the two groups did quite well in the segmental aspect and no significant difference between the groups was found in the segmentals: the scores of the segmentals were fairly high (almost 90 % for both groups). It is another common characteristic that both groups were very weak in the contraction/reduction aspect: the score of the contraction/reduction for the high level group was the lowest(60.0 %),

Table 2
Means and Percentage of TOEFL, PB Listening,
and PB Speaking Tests by Groups

Test	HL	LL	T-value
<i>TOEFL</i>			
Part A	23.16 (77.2)	10.55 (35.2)	12.63***
Part B	6.72 (84.0)	3.88 (48.5)	6.22***
Part C	8.16 (68.0)	4.27 (35.6)	8.01***
Total	38.05 (76.1)	13.72 (37.4)	14.35***
<i>PB Listening</i>			
SEG	8.83 (88.3)	8.88 (88.9)	-0.17
FM	4.60 (93.2)	3.11 (62.2)	7.33***
CR	6.00 (60.0)	5.72 (57.2)	0.37
WS	9.55 (95.5)	9.16 (91.6)	1.76*
FI	8.16 (81.6)	5.66 (56.6)	8.83***
TG	4.61 (92.2)	4.33 (86.6)	1.29
Total	41.83 (83.7)	36.88 (73.8)	4.65***
<i>PB Speaking</i>			
CR	18.72 (60.4)	14.7 (47.6)	4.73***
I	8.94 (89.4)	8.05 (80.5)	2.67*
F	17.47 (76.0)	15.50 (67.4)	5.58***
S	33.44 (92.9)	30.80 (85.6)	4.26***
SEG	42.66 (92.7)	40.05 (87.1)	5.14***
Total	121.25 (83.0)	109.22 (74.8)	7.46***

* $p < .05$ ** $p < .01$ *** $p < .001$

and the score for the low level group was the second lowest (57.2 %). The big difference between the two groups was in the focus meaning and the focus identification aspects: the low level group was very weak in these two aspects (62.2 % and 56.6 % respectively), while the high level group seemed to reach a fairly high level (93.2 % and 81.6 % respectively). As for the PB speaking test, both groups appeared to attain a relatively high

level of pronunciation accuracy as far as segmental pronunciation was concerned, as indicated in their high score percentage (92.7 and 87.1 for the high and the low groups respectively). The common aspects of pronunciation identified by both groups as weakest were contraction/reduction and focus.

All of these results indicate that the focus aspect is closely related to listening proficiency and pronunciation accuracy. That is, students with higher listening proficiency tend to do better in producing and comprehending English focus patterns and reduced sounds than those with low level listening proficiency. This fact again indicates the importance of focus in spoken English⁴⁾. That is, the ability to identify and pronounce correct focus patterns of English can serve as a basis for determining listening proficiency and pronunciation comprehensibility.

On the other hand, the low scores of contraction/reduction in both the PB listening and speaking tests demonstrate that Korean students have difficulty in recognizing one of the most important characteristic rhythms of spoken English. This can be attributed to the different types of rhythm between English and Korean. As is well known, English is a stress-timed language, whereas Korean is a syllable-timed language in which every syllable gets the same stress and thus no vowel reduction occurs. Furthermore, reduced and linked sounds seem to be great barriers to Korean EFL students who have studied English mainly through print and thus have become too dependent on clear and distinct pronunciation of vowels and consonants. Therefore, as Gilbert (1993) claims, it becomes evident that the two most important characteristics of English rhythm, focus and contraction/reduction, should be presented and practiced not only as a natural aspect of connected speech, but also as a fundamental one for successful communication in English.

The teaching effects of pronunciation-based listening teaching was investigated by carrying out t-tests for mean differences between the pre- and posttests on the three tests.

4) As we have already seen in section II of this study, focus patterns in English are very important because they downplay the less important words in order to more fully highlight the important ones (Gilbert, 1993).

Table 3
 T-Tests for Mean Differences of the Pre-and Posttests on TOEFL
 Listening, PB Listening, and PB Speaking Tests by Groups

TOEFL Listening							
Group	Part A		Part B	Part C		Total	
HL	2.61*		1.15	0.67		2.62*	
LL	5.39***		3.38**	1.58		6.13***	
Total	5.13***		3.77***	2.98*		6.24***	
PB Listening							
	SEG	FM	CR	WS	FI	TG	Total
HL	1.32	-1.15	3.30**	1.71	1.69	-1.48	2.89*
LL	0.93	9.00***	5.34***	0.00	6.58***	0.23	10.39***
Total	2.54*	3.81***	4.78***	0.82	6.18***	-1.12	8.04***
PB Speaking							
	CR	I	F	S	SEG	Total	
HL	3.13**	1.14	2.29***	1.00	5.58***	4.86***	
LL	5.83***	2.67*	7.23***	3.98***	6.17***	9.70***	
Total	8.02***	3.16***	8.58***	4.17***	9.43***	12.89***	

* $p < .05$ ** $p < .01$ *** $p < .001$

As shown in Table 3, significant differences between the pre- and posttests were obtained in all three parts of the TOEFL test, although Part C showed a weak difference. As for the PB listening test, a significant increase was observed in the total score of the whole group. However, no significant score increase was found in the word stress and the thought group aspects. This seems to be due to the fact that the two scores were already fairly high in the pretest (92.8% and 90.4% respectively). For the PB speaking test, subjects showed a significant score increase in all aspects of the speaking test. All of these results suggest that the pronunciation-based listening practice was very effective in improving the subjects' pronunciation and listening.

Table 3 further shows differences between the high and the low level listening proficiency groups. Compared with the high level group, the lower level group made much more significant improvement in all the three test areas. As for the TOEFL test, the high level group made significant progress only in Part A, whereas the low level group made significant

improvement in Part A and Part B. As for the PB listening test, the high level group, which gained high scores in all aspects except contraction/reduction in the pretest, did not show any significant increase in almost all the aspects except in their weakest aspect, contraction/reduction. In contrast, the low level group made significant improvement in three aspects—focus meaning, contraction/reduction, focus identification which were the group's weaknesses in the pretest. As for the PB speaking test, the low level group made a significant improvement in all aspects. This is in contrast with the high level group who showed a significant increase in three aspects—contraction/reduction, focus, and segments. From these results, we can see that the pronunciation-based listening practice of this study, which placed greater emphasis on suprasegmentals than segmental, was very effective in improving the subjects' weakness aspects in listening and pronunciation, and that students with low level listening proficiency, who were weak in suprasegmentals, benefited more from the pronunciation-based listening teaching than those with higher level proficiency.

In order to examine the relationships among the TOEFL listening, PB listening, and PB speaking tests, correlation coefficients on the three tests were computed by Pearson product moment correlation. The results of the correlations among the three tests are presented in Tables 4 to 6 below.

Table 4
Correlations Among the Total Scores of TOEFL Listening,
PB Listening, and Speaking Tests

	TOEFL	PB Listening	PB Speaking
TOEFL	1.000	0.476***	0.801***
PB Listening	0.476***	1.000	0.459***
PB Speaking	0.801***	0.459***	1.000

* $p < .05$ ** $p < .01$ *** $p < .001$

With respect to the relationships among the three tests, significant correlations were noted among the total scores, as shown in Table 4. This result indicates that there are significant relationships among listening proficiency, PB listening comprehension, and pronunciation clarity.

Table 5

Correlations Between the Total Scores of TOEFL, PB Listening and Speaking Tests and the Scores of PB Listening Test Components

	PB Listening						
	SEG	FM	CR	WS	FI	TG	Total
TOEFL	-0.062	0.653***	-0.022	0.120	0.750***	0.124	0.476***
PB Speaking	-0.177	0.616***	0.040	0.192	0.635***	0.188	0.459***
PB Listening	0.167	0.643***	0.652***	0.408	0.667***	0.359**	1.000

* $p < .05$ ** $p < .01$ *** $p < .001$ **Table 6**

Correlations Between the Total Scores of TOEFL, PB Listening and Speaking Tests and the Scores of PB Speaking Test Components

	PB Speaking					
	CR	I	F	S	SEG	Total
TOEFL	0.517***	0.395***	0.688***	0.619***	0.645***	0.801***
PB Listening	0.343**	0.351**	0.431***	0.256*	0.297*	0.459***
PB Speaking	0.793***	0.456***	0.787***	0.740***	0.647***	1.000

* $p < .05$ ** $p < .01$ *** $p < .001$

As for the correlations between the PB listening components and total scores presented in Table 5, four (focus meaning, contraction/reduction, thought group and focus identification) out of the six components were significantly correlated with their total scores. This result suggests that focus and contraction/reduction are the key factors for developing listening skills. As for the correlations between the PB speaking components and total scores shown in Table 6, all the five aspects show significant correlations with their total score. It should be noted that the coefficients of the contraction/reduction and the focus are very high, which, in turn, indicates that those two components play a significant role in determining the intelligibility and clarity of the Korean EFL learners' pronunciation.

Table 5 and 6 also show the correlations between the TOEFL and the PB listening and PB speaking components. Although the overall correlation between the TOEFL total score and the PB listening total score was significant, only two out of six PB listening components were significantly correlated with the TOEFL total score—focus meaning and focus identification. In contrast, strong and high correlations were found not only between the TOEFL and the PB speaking total scores, but also between the TOEFL total score and each PB speaking component score. Especially, the focus score had the highest correlation coefficient with respect to the TOEFL total score. This again indicates that focus plays a very important role in determining EFL learners' pronunciation intelligibility.

In order to examine the relationships among the increase in scores of the three tests, correlations among the TOEFL, PB listening, and PB speaking tests by Mean Differences between pre- and posttests were computed.

Table 7
Correlations Among TOEFL, PB Listening, and PB Speaking Tests
by Mean Differences Between Pre- and Posttests

	TOEFL	PB Listening	PB Speaking
TOEFL	1.0000	0.2469*	0.4741***
PB Listening	0.2469*	1.0000	0.4247***
PB Speaking	0.4741***	0.4247***	1.0000

* $p < .05$ ** $p < .01$ *** $p < .001$

As shown in Table 7, the correlations among the three tests by the mean differences were significant. That is, the increase in TOEFL scores was positively correlated with the increase in PB listening and PB speaking scores. This finding suggests that subjects who made improvement in PB listening and PB speaking tests tended to develop their listening proficiency, and vice versa. On the other hand, other significant correlations were noted between the PB listening and the PB speaking total scores. That is, an increase in the score of the PB speaking test was positively correlated to an increase in that of the PB listening test. Based

on these findings, we can say that there were statistically meaningful teaching effects of pronunciation-based listening practice on the three areas, and that listening proficiency developed as the ability to recognize and produce English sounds improved.

Stepwise multiple regression was performed in order to examine the best predictive variable of the subjects' listening proficiency, PB listening comprehension, and PB speaking ability. Variables used in the procedure were the total scores and each component score of the TOEFL, PB listening, and PB speaking tests. The results are shown in Table 8.

Table 8
Stepwise Multiple Regression Among the Components of
TOEFL Listening, PB Listening, and PB Speaking Tests

Dependent Variable	R2 (adjusted)	Independent Variable	Standardized regression coefficient
TOEFL Scores	0.738	Focus Identification (PB Listening)	0.386***
		SEG (PB Speaking)	0.259**
		Stress (PB Speaking)	0.167*
		Contraction (PB Speaking)	0.163*
PB Listening Scores	0.257	TOEFL Part A	0.214***
		TOEFL Part B	0.283*
PB Speaking Scores	0.645	TOEFL Part B	0.466***
		TOEFL Part C	0.282**

* $p < .05$ ** $p < .01$ *** $p < .001$

As shown in table 8, the focus identification of the PB listening components was the most significant variable for predicting the TOEFL scores, although the contraction/reduction, stress, and segments of the PB speaking test were positively related predictors for the TOEFL listening scores. This result is consistent with the prediction made from the high

and significant correlation between the TOEFL listening and the focus aspect noted in Tables 5 and 6. This result indicates that the ability to identify focus patterns in conversational speech can act as a key factor which can predict the Korean EFL learners' English listening proficiency. Thus, it is essential that practice in recognizing and making efficient use of focus pattern should be stressed in order to develop listening proficiency.

An interesting finding of this study is that segments can serve as the second most important variable for predicting listening proficiency. This means that the teaching of consonant and vowel sounds should not be neglected simply because of the tendency to place a primary focus on suprasegmental aspects. In other words, attention needs to be given to vowel and consonant sounds as well as suprasegmentals.

As for PB listening and speaking total scores, the TOEFL listening test, especially Part B, is the most important predictor for PB listening comprehension and PB speaking ability, as we can expect from the close relationships between the TOEFL and the PB listening, and between the TOEFL and the PB speaking noted in Table 7. This result indicates that students with high listening proficiency tend to have better PB listening comprehension and more accurate and intelligible pronunciation than those with low listening proficiency.

V. CONCLUSION AND SUGGESTIONS

This study investigated the effects of pronunciation-oriented listening practice on Korean EFL learners' pronunciation and listening comprehension. The major findings of the study are as follows:

First, pronunciation teaching through listening exercises proved to be effective in improving Korean EFL learners' pronunciation clarity and listening proficiency. Furthermore, it was shown that there were significant correlations among listening proficiency, PB listening, and PB speaking tests.

Second, suprasegmental features were indispensable for understanding fluent and conversational speech and they were more closely related to

listening and pronunciation than segmental aspects. Especially, it was shown that the focus and the contraction/reduction in English rhythm played a primary role in both pronunciation and listening.

Third, contrary to many EFL teachers' belief that practicing perfect individual consonant and vowel sounds improves pronunciation, the improvement of suprasegmental features, especially focus and contraction/reduction, proved to be more effective for clarifying sounds and comprehending spoken English than the improvement of consonants and vowel sounds.

Fourth, Korean students were very weak in suprasegmental aspects, although they reached a relatively high level concerning segmental sounds. Especially, they did not do well in producing and recognizing focus and contraction/reduction which played a significant role in conveying the meaning of oral communication. In addition, the weakness patterns were related to listening proficiency. That is, students with lower level listening proficiency had more difficulty in pronouncing and comprehending suprasegmental aspects than those with higher level listening proficiency.

Based on the findings of this study, let us provide some suggestions and conclusions with respect to the improvement of Korean EFL students' pronunciation clarity and listening proficiency.

First, the effectiveness of pronunciation-oriented listening teaching and the high degree of overlap between listening and PB speaking lead to the conclusion that pronunciation teaching should not be sacrificed at the expense of communicative fluency. As reflected in the current trends, pronunciation teaching should proceed in an integrated fashion. That is, pronunciation practice should be introduced as a part of oral communication teaching, either in the form of pronunciation-oriented listening or pronunciation-oriented speaking.

Second, in the teaching of pronunciation, greater focus should be placed on suprasegmentals than individual sounds in order to effectively and efficiently improve Korean EFL learners' listening comprehension and pronunciation comprehensibility. Especially, the aspects of focus and contraction/reduction in English rhythm, which are the weakness aspects of Korean students, should be intensively practiced to help them understand authentic spoken English.

Third, considering the fact that few EFL programs in Korea give a separate pronunciation class, EFL teachers should have a solid background not only in EFL teaching methodologies but also in the sound system of English. Then they can apply their phonetic and phonological knowledge to the teaching of pronunciation which tends to be integrated in oral communication, as Naiman (1992) and Catford (1987) claim. On the other hand, taking into mind the fact that EFL students' increased and conscious awareness of English pronunciation may aid in improving their listening and pronunciation (Burns, 1992; Murphy, 1991), EFL teachers should explicitly raise EFL students' awareness of how English sounds are actually spoken and how suprasegmentals are used to communicate meaning in the discourse by providing theories about the English sound system as well as practice.

Lastly, in order to facilitate learners' development of the functional communicative pronunciation pattern, the teaching of pronunciation-based listening should not repeat the conventional drill-based techniques. It should be designed in the communicative way that focuses on student-centered and task-based interactions, and purposeful and meaningful language use which can help learners engage in a process of exchanging meaningful information.

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