Exploring the Relationship between Pronunciation Training

and Listening Ability

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Keywords

pronunciation training, listening ability, TOEIC listening scores

Abstract

  This study was an attempt to examine the effect of pronunciation training on students' listening ability. TOEIC listening scores of students who took a pronunciation training class for one-semester or two-semesters were compared with students who did not take any pronunciation training. In the first data set, one-semester pronunciation training, both the experimental group and the control group TOEIC listening scores decreased. In the second data set, two-semester pronunciation training, both the experimental group and the control group TOEIC listening scores improved somewhat, but the improvement was not statistically significant.

Introduction

  Imagine this scene. You are at a gathering of professional language teachers. You overhear some of the members commenting about their approach to pronunciation training. They say that they teach pronunciation not for pronunciation itself, but for listening ability. Furthermore, as long as students have communicative ability, pronunciation ability is not so important. Pronunciation *awareness* is what is important for their comprehension of an interlocutor's speech. Therefore, features of pronunciation, such as reducing function words, are highlighted and explained more than practiced. Does this scene sound familiar? In fact, I have experienced this, or a similar scene more than a few times. At first, I didn't pay much attention. However, the seed of this current study was planted. I began to wonder about the relationship between pronunciation training and listening ability.

  It almost seems intuitive that listening and pronunciation are related. Pronunciation is the production of sounds that we speak. The sounds are grouped together to make meaningful units of words. Likewise, we listen to sounds and organize

the sounds into meaningful units of words. But which skill precedes the other? Border, Gerber and Milsark (1983 in Shimamune & Smith, 1995) conducted research on whether, in the relationship of sounds spoken and sounds heard, production of sounds precedes discrimination of sounds, but drew inconclusive results. In addition to the segmental sounds that form words, there are also supra-segmental or prosodic features that cover the phonological property of more than one sound such as intonation, stress and rhythm. Unlike reading there are no spaces between the words in speech (Brown, 2014) and as soon as they are heard the words disappear. According to Hismanoglu (2006), pronunciation training is a necessary element for the L2 learner to gain communicative competence.

Communicative competence means the production of a sound system to understand and be understood by both the listener and the speaker. James (2010) outlined three basic levels of pronunciation ability that directly relate to communicative competence. At level 1, the L2 learner's speech is not understandable and may cause a breakdown in communication. The speaker is most likely applying her native language pronunciation rules and features onto the L2. At level 2, the L2 learner's speech is understandable to some degree, but still heavily accented. At level 3, the L2 learner's speech is what Scovel (1988) termed comfortable intelligibility by both interlocutors. Native-like pronunciation need not, nor should be the goal of pronunciation training (Pourhosein Gilakjani, 2016). The goal should be to become aware of the rules and features of the target language and to incorporate them into one's own existing corpus of sounds. Gebhard (1996, in Khaghaninejad & Maleki, 2015) states that pronunciation ability and listening ability are linked because the ability to perceive and produce sounds by the L2 learner requires her to understand the rules and features of the target language. Simply put, learners should become able to produce the sounds of the target language in order to comprehend the spoken word. The current study will explore this conviction.

1. Previous studies on the relationship between pronunciation training and listening ability improvement.

This is not a robust line of research. Despite this, there is conviction that L2 listeners would be able to process L2 connected speech better if they had better bottom-up processing skills in order to decode the flow of speech (Field, 2004). In addition, Reed and Michaud (2011) contend that L2 learners don't decode the target pronunciation but continue to process the auditory feedback loop using their own

mental model of the segmental and supra-segmental features. Learners need to form a different motor-memory with new aural images of the sounds through explicit oral training. The following studies are based on this conviction.

Brown and Hilferty (1986, in Brown 2014) worked with Chinese students for four weeks on reduced forms. They compared the students against a control who had been taught minimal pairs for the same four weeks. The results were that the students who had been trained on reduced forms significantly outperformed the minimal pairs group on reduced forms dictation. However, the researchers did note that the material used for the dictation test did not really have that many reductions to begin with and the fact that students were familiar with dictations could have influenced the results.

In a study by Shimamune and Smith (1995), the framework of the study was to find out if pronunciation training of particular phonemes (/l/, /r/, /v/, and /b/) influenced listening ability and conversely, if listening training of the same phonemes influenced pronunciation skill. There were two participants in the study, both Japanese. Subject 1 started with pronunciation training of the phonemes, then was switched to listening training. The procedure was reversed for Subject 2. The results revealed that there was interaction between these two response modes, with listening training a bit more effective on pronunciation improvement than vice versa. The authors warn that the incomplete design of their study should be interpreted cautiously.

Al-jasser (2008) developed a study focusing on phonotactics, or the ways in which phonemes are allowed to combine in a language. Two groups of Saudi Arabian students received 12 hours of pronunciation training over the course of eight weeks. The classroom content was almost the same, including reductions, contractions, assimilation, stress, and intonation. However, the experimental group received additional tuition about clusters that were not allowed in an English onset or coda and had to memorize them. Some of the boundaries in the list were also not allowed in the L1, while others were. Both groups were assigned similar tasks to do outside of class. The control group's task was to transcribe 500 words from an English radio, TV or internet broadcast and highlight that class' relevant pronunciation feature. The experimental group's task was the same with the addition to pointing out the phonotactic constraints that were taught in the lesson. The results of the study showed that the experimental group improved significantly in a pre and post-test measuring reaction time and error spotting boundaries of English words after training.

Ak (2012) developed a study for her master's thesis with the major research question of whether or not there is a difference in listening comprehension between the control group, participating in a listening skills class, and the experimental group,

participating in an identical class with the addition of pronunciation awareness training. A pre and post-test developed by the researcher was administered to a total of 68 students. Both the control group and the experimental group took a standard listening class for six weeks, each class lasting 50 minutes. The experimental group received treatment regarding segmental and supra-segmental features of English. In addition, this treatment focused on sounds that do not occur in Turkish (the L1) and connected speech, stress patterns and so forth. The results of a post-test administered showed that the mean improvement between the groups was statistically significant, thus there was a definitive effect on listening comprehension due to pronunciation awareness training.

2. Pronunciation training

Pronunciation has a spotty history and seems to be orbiting around the other major skill areas in foreign language education (see Ak, 2012 for a comprehensive outline). Moreover, pronunciation has been referred to as a "poor relation" in the EFL world (Gilbert, 1995, in Khaghaninejad and Maleki, 2015). In this university, a class called *Speech Clinic* is dedicated to pronunciation training and included in the curriculum as an elective class for 3rd year students. The inclusion of this class was the thought that it would be beneficial to those students who are preparing to become teachers of English.

I have been the teacher in charge of the class for about 10 years. The class started out as a one-semester only class, but I found that one semester was not enough time to cover all the features that would benefit the students. Thus, my proposal to make it a two-semester class was readily accepted soon after completing the first year. The first semester, called *Speech Clinic I,* is mainly focused on select segmental features of English pronunciation such as /th/, /v/-/f/ and /b/ discrimination, while the second semester, called *Speech Clinic II*, focuses on supra-segmental features such as stress, intonation, reductions and thought groups. Appendix A provides a detailed outline of the syllabi. Choosing what features, or key points as I call them, came from years of experience as an EFL teacher. Because the underlying aim is to train future EFL teachers, I utilize a two pronged approach to each key point. Specifically, not only do I explain and train the pronunciation feature, but provide the theoretical rationale for the feature. Sometimes, it is as straightforward as explaining that the feature does not exist in Japanese, the L1 of the students. Sometimes it is more complex as when laying the groundwork for the key point of word stress by teaching what a syllable is, identifying syllables, and explaining to students the fundamental difference that Japanese is a CV

language whereas English allows up to three consonants (CCCV) at the beginning of a word and up to four consonants (CCCC) at the end of a word. In summary, the students receive twelve 90-minute classes dedicated to pronunciation each semester. Having said that I include theory, I am mindful of not burdening the students with too much theory nor expertise language. Moreover, as Marza (2014) explains in her research of students' perceptions of pronunciation training, including fun activities to help them to more naturally deal with pronunciation points is quite beneficial and encouraging.

3. The current study

The purpose of this study is to investigate the possibility of pronunciation training having an effect on learner's listening skill. This study stems from my curiosity about the prevalent assumption that pronunciation and listening are connected and that, moreover, despite little evidence to support this assumption, pronunciation awareness can improve listening. In this respect, the research question is: Do students who take *Speech Clinic I* only or both *Speech Clinic I* and *Speech Clinic II* outperform students who do not take the class in their listening ability? The outcomes were measured by TOEIC listening scores.

3.1 Participants

The participants of this study were all third year students of a four-year program majoring in English. All students had just returned from a 6-week study abroad experience in an English speaking country: either Australia, Canada, Ireland or New Zealand. The total number of students was 104. Fifty-four of the students did not take *Speech Clinic I* or *II*. Twenty-two students took *Speech Clinic I* only, and 32 students took *Speech Clinic I* and *II*.

3.2 Data Collection

The TOEIC test is administered three times a year in April, July and December to determine class level and student progress. The April test is administered at the start of the academic year, the July test in the middle of the academic year and at the end of the first semester, and the December test is close to the end of the academic year and at the end of the second semester. The data was gathered from TOEIC listening scores of 104 students over a period of five years, from 2013 to 2017. The TOEIC listening scores

range from 5 to 495 points, with 100 items, i.e., each correct answer is just about 5 points. There are two data sets for examination in this research. The TOEIC listening scores were recorded from the April and July tests for data set 1 and from the April and December tests for data set 2. The April TOEIC test serves as the base of determining if pronunciation training had an effect on listening ability. The first data set is made up of 22 students who did not take the *Speech Clinic* class at all (control group) with the 22 students who took only *Speech Clinic I* class (treatment group 1). The second data set is made up of 32 students who did not take the *Speech Clinic* class at all (control group) with 32 students who took both *Speech Clinic I* and *Speech Clinic II* class (treatment group 2).

4. Results
4.1 Data set 1

The TOEIC listening test scores for data set 1 shows a decrease of mean scores for both the control group and treatment group 1. This result is disappointing, especially because not only did both groups not improve, but actually went down in their listening ability. On the bright side, the treatment group did not go down as much. A two-tailed T-test analysis was performed on the data. According to this analysis there was no statistically significant difference between the July results of the first experimental group and the control participants (p=.23 <.05). This implies that the explicit pronunciation training brought about no significant improvement for the experimental participants.

Table 1 - Data set 1

TOEIC	Treatment group 1	Control group 1
April		
Mean	334	334
Median	335	335
July		
Mean	330	327
Median	325	335
Mean difference	-4	-7
Median Increase or decrease	2.5	-10

4.2 Data set 2

The TOEIC listening test scores for data set 2 shows an increase of mean scores for both the control group and treatment group 2 with the treatment group outperforming the control group. A two-tailed T-test analysis was performed on the data. According to this analysis there was no statistically significant difference between the December results of the first experimental group and the control participants (p=.94 < .05).This implies that the explicit pronunciation training brought about no significant improvement for the experimental participants.

Table 2 - Data set 2

TOEIC	Treatment group 2	Control group 2
April		
Mean	304	302
Median	310	308
December		
Mean	324	314
Median	325	320
Mean difference	20	12
Median difference	15	12

5. Conclusion

The aim of this study was to investigate the effect of pronunciation training on the listening skills of third year Japanese students majoring in English. The results indicate that both treatment groups did outperform both control groups. In the first data set, the outperformance was a matter of not doing as badly as the control group, which is quite an unexpected result. In the second data set, the outperformance was a slightly higher increase in the listening test scores.

Looking more carefully at data set 1 where the average difference is a negative amount for both the treatment and the control group is discouraging to say the least. We could surmise that the students themselves were consistent, meaning they all moved in the same direction. This is salient considering that the scores were gathered from a five-year spread of TOEIC tests. Thus, it would be improbable that the test itself was too difficult one certain July.

Would it be too far-fetched to think that the July heat is a contributing factor to the negative results? Absolutely not. Heat and humidity have been documented as a

predictor of sleepiness, inability to concentrate, and increased anxiety (Howard & Hoffman, 1984, and Ward, 2013). The July TOEIC is administered at the end of July. The temperature at that time of year can easily rise above 30°C to 35°C. Besides this, the average humidity level is 78% according to the World Weather and Climate Information for Maebashi City. While air-conditioners are turned on early to cool the testing rooms down, they are turned off during the 45-minute listening test section so that the quality of the audio is not compromised or distorted by the constant humming or burping of the heavy duty equipment while it self-regulates. If that isn't enough, the TOEIC is held just between the end of the semester and before the final examination period: a period of intense exhaustion and anxiety.

Different from the July TOEIC, the December TOEIC is administered while the weather is cool, around 10°C and dry at 45% humidity. The heaters are turned on to warm the testing rooms and then turned off during the listening portion of the test. Even though the room is cool there are strategies to keep warm enough such as wearing a sweater or hat. Research by Howard and Hoffman (1984) and Ward (2013) shows that cooler, drier weather enables one to think more clearly, focus, and stay on task longer. Another difference is that the December TOEIC is not held at the end of the semester but just before the winter vacation. Students may be tired, but not at the level of the July TOEIC and they are mentally preparing for a vacation, not a week of testing and writing reports so stress level is much lower.

Finally, another contributing factor to the poor performance/slight improvement of listening ability might be the amount of effort required by the listening test. One hundred items in ascending difficulty must be answered in 45 minutes with no breathing space or chance to reflect or review. Hence, the demand for continued attention is quite heavy.

I embarked on this study as an exploration into the relationship between learners' pronunciation training and listening ability. Using differences in TOEIC listening scores as the measurement may not have been ideal. Notwithstanding, there is no question that this line of inquiry is valid and promising. With more research the connection between pronunciation will become clearer and this in turn will have more important implications for textbook writers and practitioners.

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Data

Data set 1

nuTR1	April	July	difference	nuCG1	April	July	difference
1	425	375	-50	23	250	180	-70
2	250	310	60	24	380	335	-45
3	380	375	-5	25	335	330	-5
4	450	405	-45	26	335	340	5
5	335	265	-70	27	280	325	45
6	335	325	-10	28	370	345	-25
7	280	195	-85	29	335	335	0
8	370	405	35	30	275	310	35
9	330	350	20	31	230	335	105
10	335	300	-35	32	305	250	-55
11	275	285	10	33	230	205	-25
12	230	325	95	34	330	325	-5
13	305	325	20	35	365	335	-30
14	395	435	40	36	255	290	35
15	450	380	-70	37	275	255	-20
16	230	280	50	38	420	395	-25
17	330	365	35	39	455	380	-75
18	365	375	10	40	335	320	-15
19	255	200	-55	41	380	410	30
20	390	315	-75	42	440	415	-25
21	275	340	65	43	415	420	5
22	350	320	-30	44	350	350	0
mean	333.6	329.5	-4.09	mean	333.86	326.5	-7.27
median	335	325	2.5	median	335	335	-10

Data set 2

nuTR2	April	December	difference	nuCG2	April	December	difference

1	450	465	15	33	460	485	25
2	310	345	35	34	310	275	-35
3	255	290	35	35	255	220	-35
4	360	295	-65	36	360	350	-10
5	195	265	70	37	195	180	-15
6	240	285	45	38	240	295	55
7	310	370	60	39	310	345	35
8	320	340	20	40	320	370	50
9	265	295	30	41	265	235	-30
10	390	325	-65	42	335	365	30
11	335	300	-35	43	325	370	45
12	325	355	30	44	350	375	25
13	350	355	5	45	265	280	15
14	265	235	-30	46	250	250	0
15	250	335	85	47	290	345	55
16	310	230	-80	48	180	230	50
17	330	355	25	49	300	290	-10
18	290	310	20	50	325	345	20
19	420	460	40	51	260	225	-35
20	175	170	-5	52	320	325	5
21	330	305	-25	53	270	355	85
22	300	295	-5	54	305	255	-50
23	325	360	35	55	270	285	15
24	260	320	60	56	375	415	40
25	320	350	30	57	315	315	0
26	270	325	55	58	325	330	5
27	380	405	25	59	275	275	0
28	305	335	30	60	300	195	-105
29	255	365	110	61	345	380	35
30	310	365	55	62	245	270	25
31	270	285	15	63	360	430	70
32	270	285	15	64	375	415	40
mean	304.38	324.22	19.84	mean	302.34	314.84	12.5
median	310	325	27.5	median	307.5	320	17.5

Appendix A

First semester (focus on segmentals)		Second semester (focus on supra-segmentals)	
Key point 1	[iy] and [I]	Key point 1	Word endings - past tense
Key point 2	[a] and [ə]	Key point 2	Word endings – plurals, present tense and contractions
Key point 3	[ð] and [ɵ]	Key point 3	Word groups and thought groups
Key point 4	[f] and [v]	Key point 4	Review joining and reducing. Add: [h] reductions
Key point 5	Reducing: 1) and/in, 2) or, 3) can, 4) to, and 5) of	Key point 5	Analyzing syllables
Key point 6	Joining (Blending, Linking) 1) Word final consonant sound with word initial vowel sound 2) Word final consonant sound (/p/, /b/, /t/, /d/, /k/, /g/) with different word initial consonant sound 3) Word final consonant sound with same word initial consonant sound	Key point 6	Strong stress and secondary stress in words
Key point 7	[l] and [r]	Key point 7	Strong stress and secondary stress in words
Key point 8	[ow] and [aw] and [ɔ]	Key point 8	Strong and weak words in sentences
Key point 9	[ar], [or] and [ər]	Key point 9	Strong and weak words in sentences
Key point 10	[ʤ], [ʧ], [ʃ]	Key point 10	Highlighting the strongest word to express meaning
Key point 11	[s] and [ʃ] [z] and [ʤ]	Key point 11	Tag questions and Drop-rise intonation

Key point 12	Review of [a] and [ə] Add: [æ]	Key point 12	Listing intonation and Rising intonation on question words

要旨

発音訓練と聞き取り能力との関係調査

デロージェー ロリアン

本研究は、発音訓練が学生の聞き取り能力に及ぼす影響を調査したものである。1 学期また
は 2 学期間におよび発音訓練を受けた学生の TOEIC リスニングスコアを、発音訓練を受け
なかった学生のスコアと比較した。データセット 1 では、1 学期の発音訓練を受けた学生の
実験グループとその対照グループの両者において、TOIEC リスニングのスコアは減少した。
データセット 2 では、2 学期間の発音訓練を受けた学生の実験グループとその対照グループ
の両者において、TOIEC リスニングのスコアに幾分進歩がみられたが、統計的に有意では
なかった。