An Analysis of English Pronunciation of Japanese Learners: From the Viewpoint of EIL

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The objective of this research is to detect effective factors in English pronunciation teaching from the viewpoint of EIL (English as an International Language). This research is based on the data of the Successful Pronunciation Learners (SPL) selected by the raters, Japanese and native speakers of English (NSE), in Tominaga (2005). On the grounds that the aim of teaching English to Japanese students should not be confined within the intelligibility to NSE, in order to examine whether the pronunciation of each SPL in this research is really not only intelligible but also sounds good to both NSE and non-NSE from the viewpoint of World Englishes (WE) or EIL, their pronunciations were evaluated by non-NSE from 12 countries studying English in an English school in the United Kingdom. This evaluation was analyzed and compared with the evaluation by the NSE. In respect of the correlation between the evaluations by NSE and those by non-NSE, significant correlation was found between rhythm and fluency. In regard to the total score, the evaluation by non-NSE was generally stricter than that by NSE.

1 Introduction

In Japanese formal instruction[1] of English, teaching pronunciation still appears to be a peripheral component of English class at the junior/senior high school levels[2] and is rarely taught in an organized way although many teachers and students are aware of the necessity of teaching/learning English pronunciation.

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[1] The definition of "formal instruction" is based on Ellis (1994) in the field of SLA. "Formal instruction" means the regular school education with teachers who deliberately adopt a systematic curriculum based on certain organized teaching methodologies, such as raising learners' consciousness on grammar explicitly.

[2] Arimoto (2005) published the results of a survey of junior and senior high school teachers. It shows that 30% of the teachers have not practiced pronunciation teaching in class at all, and that most of the teachers have not referred to parts of pronunciation teaching in textbooks.

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However, in today's globalization, the Course of Study now positions English language as a tool of international communication and encourages cultivating the practical communication ability in English. In order to achieve this goal, it is crucial to lay emphasis on pronunciation in teaching English.

In the research by Tominaga (2005), what was amazing was that very small number of "true" SPL (Successful Pronunciation Learners) were identified who had acquired good English pronunciation through Japanese formal instruction of English. At the same time, one question arises. Is the pronunciation of SPL in her research really good and intelligible to both NSE and non-NSE from the viewpoint of WE (World Englishes) or EIL (English as an International Language)? In this sense, it would be necessary for the pronunciation of Japanese SPL to be evaluated by non-NSE because the aim of teaching English to Japanese students should not be confined within the intelligibility to NSE.

Therefore, in this paper, the pronunciations of the eight Japanese senior high SPL were evaluated by 13 non-NSE, who were studying English language in an English school in the United Kingdom[3]. This evaluation was analyzed and compared with the evaluation of the NSE.

2 Rationale

It can be said that today English is *de facto* an international language. The background of the expansion of English language is based on the power — political, military, economic, social, and cultural one — of the people who speak this language as a mother tongue. In the 19th century, together with the expansion of the British Empire, English language proliferated, and in the 20th century, Americans had been driving force behind the expansion of American English. The number of people using English as a means of communication is over 1.6 billion; in other words, one-third of world population use English in various ways. This "internationalization" of English language means that English has already deviated from the frame of British and American cultures and, at the same time, requires teachers of English in Japan to teach English from the viewpoint of EIL.

In 1987, the Ad hoc Council on Education positioned English for the first time as an "international language" so that the Japanese could actively participate in the world affairs using English language, although it still stipulated that their concept of "foreign language" included various languages other than English. Since then, a great number of discussions have been done boisterously. In general terms, there are two standpoints. One is that it does not matter for native speakers of English whether the English spoken by a

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[3] The raters are not specialists on phonetics or phonology. In this paper, the raters did not evaluate the pronunciation from the viewpoint of scientific analysis.

non-native speaker sounds natural or not insofar as they can fully understand the meaning. Therefore, for this standpoint, what is the most important is whether English learners can make themselves understood in English without causing misunderstandings or rudeness. The other standpoint is that especially at the threshold level, learners should learn "authentic" model of English instead of so-called Indian English or Chinese English.

In either case, a common core of English language to obtain intelligibility must exist, and this core should be clearly indicated in the classroom in order to ensure international intelligibility. To date, in the field of teaching pronunciation, how should pronunciation be defined as international pronunciation?

In order to approach to the answer, this study attempts to suggest concrete factors that may contribute to teaching English pronunciation to Japanese learners in the perspective of EIL securing "international intelligibility" by having both native and non-native raters evaluate the pronunciation of Japanese learners.

3 Method

3.1 General description

The objective of this second research is to examine to what extent the evaluation of the pronunciation of the eight Japanese students by non-native speaker raters is different from that of native speaker raters. The hypothesis is that non-native raters are more tolerant toward the evaluation of Japanese students' pronunciation than native raters and thereby more diversity would be found between the non-native raters than the diversity between native raters that was found in Tominaga (2005).

The pronunciations of the eight students evaluated by native raters in the previous research were also evaluated by 13 non-native raters, who were studying English for IELTS (International English Language Testing System) in the UK in order to be qualified to apply for universities in the UK.

3.2 Participants

The participants are eight SPL selected by Japanese teachers of English (JTE) and three NSE[4] from among 339 Japanese first-year senior high school students of a private school in Tokyo, Japan. They were already selected in

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[4] In order to minimize the inter-rater reliability gap as much as possible, the author selected as raters three native speakers of English who had not had contact with the participants and who had a similar level of teaching experience in Japan as shown in Appendix B. Despite our rater training, the evaluation by ALT indicates a significant inter-rater reliability gap between the American and British ALT (see Appendix C).

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Tominaga (2005).

3.3 Procedure

The author asked a private language school in the UK for collaboration in selecting raters from among their students to evaluate the pronunciation of the eight SPL.   In order to confirm the evaluation ability of the raters, the author employed the following criteria in the selection of the raters:

The rater
      1) must be in the advance-level class of his/her language school,
      2) is expected to obtain high scores in the IELTS,
      3) has learned English language for five to ten years,
      4) has no experience staying in Japan for more than one year, and
      5) is admitted that he/she has enough English proficiency to do
      this task by the teachers of the language school.
Finally, 13 raters from 12 countries were selected (see Table 1).

3.4 Criteria

The selected raters were divided into several groups (at least three raters in one group).   Having been explained the objective of this study and the process, each group listened to the recorded tape of the eight students' pronunciation. The pronunciation was based on their reading aloud of a 73 - word English essay.

Table 1. Background of Non-NSE Raters

Nationality	Age	Sex	Learning English	Mother Tongue	Sojourn*
France	23	M	9 years	French	8 months
Estonia	21	F	12 years	Estonian	36 months
Korea	21	M	7 years	Korean	Never
Germany	25	F	8 years	German	1/2 month
Germany	22	F	8 years	German	1 month
Switzerland	20	F	5 years	German	11 months
Ecuador	26	F	9 years	Spanish	12 months
Chinese	20	F	8 years	Chinese	5 months
Poland	23	M	6 years	Polish	1 month
Libya	34	M	10 years	Arabic	4 months
Morocco	39	M	12 years	Arabic	12 months
Kazakhstan	25	F	5 years	Russian	12 months
Russia	28	F	7 years	Russian	1 month

* the sojourn period in a country where English is spoken.
      The pronunciation skills of the SPL were evaluated by the raters

regarding five elements[5]:

 1) Stress,
 2) Rhythm,
 3) Intonation,
 4) Sound Change, and
 5) Voice quality.

These five elements were graded at three levels by the raters respectively:

 2: Good [clear and natural],
 1: Average [within the range of intelligibility], and
 0: Not Good [not clear, unnatural, or not intelligible].

3.5 Data analyses

The evaluation by Non-NSE was analyzed and compared with the evaluation by the NSE in Tominaga (2005). The analysis was mainly conducted with the correlation coefficient between the five pronunciation items (stress, rhythm, intonation, sound change, and voice quality). Finally, t-test was conducted to make sure the differences of the scores of the pronunciation items between NSE and non-NSE[6].

4 Results and Findings

4.1 Average scores

Table 2 shows the average of the scores for each item. The evaluation of the non-NSE was stricter than that of the NSE. The average of the total scores of the native raters was 7.13/10, while that of the non-native raters was 5.27/10.
Table 2. Average of the Scores

	Stress	Rhythm	Intonation	Sound Change	Voice Quality
Native	1.25/2	1.54/2	1.33/2	1.29/2	1.71/2
Non-native	0.93/2	0.98/2	0.97/2	1.13/2	1.25/2

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[5] These features can be considered to play a significant role in communication because they usually provide crucial context and support for segmental production. At the same time, they can function as an obstacle against non-NSE in learning English pronunciation (see Celce-Murcia, Brinton, & Goodwin, 1996).

[6] In this paper, language gap between English and mother tongue of the non-NSE raters is not considered.   It is necessary to research on it for the further study.

4.2 Evaluation by NSE

Table 3 indicates that none of the pronunciation items has significant correlation between the evaluations of NSE. One of the notable points is that the evaluations of Sound Change and Voice Quality tend to be given as one similar aspect by NSE raters.   They seem not to have paid attention to the difference between Sound Change and Voice Quality. Another notable point is that it is clear that with regard to Intonation and Sound Change there exist significant correlations between the total score. On the whole, on each item, the evaluation is different from rater to rater.   Each of the raters seems to have his/her own particular idea and opinion regarding pronunciation, just like each country has its own specific English dialect.

4.3 Evaluation by non-NSE

As Table 4 shows, in contrast to the evaluation by NSE, each pronunciation item evaluated by non-NSE closely correlates with each other except for Stress and Rhythm. It indicates that their evaluations are similar, i.e., their "good or bad" evaluations are consistent; in fact, the student who had high score in total also had high score in every pronunciation item. In other words, it is clear that with regard to all items there exist significant correlations between the total score: the higher the total score is, the higher variables of all items exist. On the one hand, the non-NSE raters seem to have difficulty in judging Sound Change. These non-NSE raters seem to have similar notions to the image of Standard English, while it might be said that the non-NSE still do not have the image of Standard English in evaluating English pronunciation items.

Table 3. Evaluation by NSE

	Stress	Rhythm	Intonation	Sound Change	Voice Quality	Total
Stress		.23	.51	.47	-.23	.53
Rhythm			.00	.43	-.04	.41
Intonation				.48	.42	.76[*]
Sound Change					.64[†]	.92[**]
Voice Quality						.63[†]
Total						

†*p*<.10, *p<.05, **p<.01.

Table 4. Evaluation by non-NSE

	Stress	Rhythm	Intonation	Sound Change	Voice Quality	Total
Stress		.49	.67†	.73*	.81*	.84**
Rhythm			.82*	.86**	.57	.86**
Intonation				.48*	.61	.90**
Sound Change					.62†	.92**
Voice Quality						.81*
Total						

$\dagger p<.10$, $*p<.05$, $**p<.01$.

4.4 Evaluation by NSE and non-NSE

As Table 5 indicates, with regard to Rhythm, Voice Quality, and Total, there exists significant correlation between the evaluations of NSE and those of non-NSE. This means that both of them have similar ideas and opinions concerning these two pronunciation items and total impression, although the evaluations of non-NSE are generally stricter than those of NSE.

Sound Change is second to Rhythm and Voice Quality as a significant pronunciation item. In this study, Sound Change is regarded as a contributive factor of fluency. In order to give raters specific descriptor, this term was used (see 5.3).

On the other hand, Voice Quality was excluded from the discussion because the definition of Voice Quality was ambiguous for raters. For example, some raters tended to regard "Voice Quality" as "comfortable range of sound to human ears" from the viewpoint of biology, although the raters were given an explanation about it in advance. This point should be examined in further research. Therefore, it could be said that Rhythm and Sound Change are significant factors between NSE and Non-NSE. However, from the other result, on the whole, NSE and non-NSE seem to have different images of Standard English pronunciation.

Table 5. Evaluation by NSE and non-NSE

NSE / Non-NSE	Stress	Rhythm	Intonation	Sound Change	Voice Quality	Total
Stress	.44	.06	.52	.88**	.65†	.81
Rhythm	.27	.72*	.26	.59	.25	.60
Intonation	.14	.38	.46	.63†	.61	.70†
Sound Change	.38	.33	.39	.63†	.32	.61
Voice Quality	.13	.35	.38	.91**	.77*	.81*
Total	.32	.43	.46	.83*	.59	.81*

$\dagger p<.10$, $*p<.05$, $**p<.01$.

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5 Discussion

The evaluation data of the pronunciations of the eight Japanese senior high students were analyzed from four viewpoints by calculating correlation coefficient. First, the correlation coefficients among the evaluations by native raters on the five pronunciation items (Stress, Rhythm, Intonation, Sound Change, and Voice Quality) were calculated. Second, the correlation coefficients among the evaluations by non-native raters on the same items were calculated. Third, the correlation coefficients between the evaluations of native raters and those of non-native raters on the same items were calculated. Finally, in order to detect the factors that may contribute to the improvement of teaching English pronunciation to students in EFL settings like Japanese students, statistical analyses were conducted on the comparison between the evaluation data of native speakers of English and those of non-native speakers. It can be said that, on the whole, the evaluation of non-native speakers was stricter than that of native speakers.

5.1 Evaluation diversity of NSE raters

In the evaluation of the NSE raters, in the first place, difference was found in each item among the three NSE except for the evaluation on the student who got full marks in each item. This difference may stem from the influence of their accent or dialect to which they have been accustomed since they were born. In other words, they may have different notions of "good" or "acceptable" English pronunciation.

To be concrete, Intonation and Sound Change have high correlations between the total score. Intonation influences the meaning of a sentence. Whether the end of a sentence is read aloud in falling or rising intonation plays a key role in making the interlocutor understand the intention of the sentence. In this study, the definition of Sound Change is that "There are change of sound when a new sentence begins or not." Therefore, it is possible for the NSE raters to have the same impression of Sound Change and Intonation.

In addition, small correlations were found both between Intonation and Stress and between Sound Change and Voice Quality. With regard to the small correlation between Sound Change and Voice Quality, it might be due to the unclearness of the author's definition of "Voice Quality".

5.2 Evaluation similarity of non-NSE raters

With regard to the evaluation of the non-NSE raters, the correlation coefficient between the evaluations of non-NSE in this study indicates that their evaluations on the five pronunciation items are quite similar because every correlation coefficient is relevant to each other. These non-NSE raters

seem to have similar notions to the image of Standard English. One reason for this similarity may stem from their English learning processes. The English pronunciation that their teachers have them listen to in class is the one that appears in IELTS or other standardized tests because these raters are the students preparing for these tests. Therefore, it can be presumed that these non-NSE raters conceive in common that such a pronunciation is the ideal one, and thereby their evaluations of the English pronunciation of the Japanese students in this research were stricter than those of the native speakers.

5.3 Significant factors between the evaluations of native and non-native raters

Rhythm and Sound Change are significant factors between the evaluations of NSE and non-NSE raters. In Rhythm and Sound Change, there exists significant correlation between the evaluation of NSE and non-NSE. In addition, this study intended to evaluate fluency by Sound Change because the definition of "fluency" was thought to be obscure for the non-NSE raters. There was a possibility that they thought "fluency was accepted in a wide range." Therefore, it can be said that Rhythm and Sound Change (fluency) are the most notable items that teachers should lay emphasis in teaching English pronunciation in class. It is also supposed that in the framework of teaching English pronunciation in class, at least at the threshold level, Rhythm and Sound Change should be taught in order to have learners acquire "better" pronunciation.

6 Conclusion

In this research, in order to identify the contributory factors for the improvement of Japanese learners' English pronunciation, the pronunciations of eight senior high students were analyzed, and the findings of this research indicate that in classroom-English, rhythm and fluency (in this research, Sound Change) should be laid emphasis because it is possible that these items contribute to the understanding of Main Idea and Details. Strictly speaking, the importance of Rhythm was found in that Rhythm is the most contributory factor for fluency. In particular, under the perspective of teaching EIL this finding would be important.

On the other hand, in order to overcome the problem that students are likely to be accustomed to typical Japanese accent of English by Japanese teachers, what is expected to Japanese teachers in teaching English pronunciation? At the present stage of this research, the following three roles can be pointed out as teachers' reminders.

1) Teachers should have enough, or at least basic, knowledge of

English pronunciation.

2) Teachers should develop the ability to identify possible problems specific to their own students and offer solutions to them in advance or timely.

3) Teachers should endeavor to improve their own English pronunciation.

Then, what kind of English pronunciation should Japanese learners acquire from the viewpoint of EIL? The author believes that in order to make themselves understood and to understand what the interlocutor says, Japanese learners should learn the basic theory of phonetics (for example, the way of pronunciation for l and r), learn to pronounce some pronunciations that do not exist in Japanese language, and acquire Rhythm that leads to fluency. Therefore, teachers should lay emphasis on these points in their teaching to Japanese learners.

However, from the viewpoint of EIL, another issue arises: Are native speakers of English ideal teachers? They are not necessarily so, because they tend to speak English as a folk language, instead of consciously speaking it as an international language. To be concrete, native speakers of English are less likely to know the specific difficulties and obstacles for EFL learners in learning and acquiring English. Moreover, they are less likely to have enough understanding of and insight into learners' cultural backgrounds. In this sense, and in this sense only, non-NSE might be the most desirable teachers.

Finally, this study has yet been completed; it is just a starting. In this study, there are some data left that have not been analyzed: the list of unnatural/awkward words for the non-native raters in this research and evaluation sheets of Main Idea, Details, and Overall Impression on which pronunciation exerts influence on pronunciation. As further research, by analyzing the data, the author is going to seek more concrete and effective factors in the field of pronunciation teaching of English as an international language.

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Appendices

Appendix A: Texts for reading aloud

Have you ever thought, "There are no other people who love rice as much as the Japanese?" Yet people in Southeast Asia also often say they can't live without rice. People in Vietnam, Myanmar, and Indonesia eat more than twice as much rice as people in Japan.   In Korea, and Taiwan, too, rice is an important staple.   Just as in Japan, they cook plain rice and eat it with all kinds of dishes.

Appendix B: Background of NSE raters

Background of NSE raters

	Age	Sex	Degree	ALT*	Sojourn**
Nationality					

no	Name	Stress			Rhythm			Intonation			Sound Change			Voice Quality			Total		
		E1	E2	A	E1	E2	A	E1	E2	A	E1	E2	A	E1	E2	A	E1	E2	A
1	◆H.K	1	1	2	1	2	1	2	1	2	1	1	2	2	2	2	7	7	9
2	◆R.S	1	0	2	2	2	2	1	1	2	2	0	2	2	2	2	8	5	10
3	M.K	2	1	2	1	2	1	2	0	1	1	1	2	2	1	1	8	5	7
4	J.F	0	1	1	2	2	1	0	1	1	1	2	1	2	2	2	5	8	6
5	M.C※	1	1	1	2	1	1	2	0	2	1	1	2	2	2	2	8	5	8
6	Y.T	1	1	2	1	2	2	0	2	1	0	1	1	1	0	1	2	7	6
7	◆A.N	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	10	10	10

Name	Voice Quality													Total												
	F	Es	K	G1	G2	S	Ec	Ch	P	L	M	Ka	R	F	Es	K	G1	G2	S	Ec	Ch	P	L	M	Ka	R
1. H.K	2	1	2	1	2	1	2	0	1	2	1	1	1	7	5	6	6	8	5	6	1	4	7	3	5	2
2. R.S	2	1	1	1	2	1	2	1	0	2	2	0	1	9	4	6	5	8	6	7	4	2	9	7	0	1
3. M.K	2	1	1	1	1	1	2	1	0	2	1	0	1	8	3	5	6	6	6	8	2	1	8	5	1	1
4. J.F	2	2	2	2	2	1	1	1	1	1	1	2	1	9	9	8	8	6	7	3	5	2	6	5	6	8
5. M.C	2	2	1	2	2	1	2	2	1	1	1	1	1	6	5	5	7	6	3	4	4	1	5	2	2	3
6. Y.T	1	1	1	1	1	1	1	0	0	1	1	1	0	4	3	4	3	4	5	2	3	4	4	3	1	2
7. A.N	2	1	2	2	2	1	2	1	2	2	2	2	1	9	6	7	9	9	9	10	6	9	9	9	10	6
8. K.M	2	2	1	2	1	1	1	1	2	1	0	1	0	7	9	6	8	6	5	6	6	8	4	3	0	2
Total														59	44	47	52	53	46	46	31	31	52	37	25	25
Average														7.38 /10	5.5 /10	5.88 /10	6.5 /10	6.63 /10	5.75 /10	5.75 /10	3.88 /10	3.88 /10	6.5 /10	4.63 /10	3.13 /10	3.13 /10

2: Good 1: Average 0: Not Good

F: From France Es: From Estonia K: From Korea G1・G2: From German S: From Switzerland Ec: From Ecuador
Ch: From China P: From Poland L: From Libya M: From Morocco Ka: From Kazakhstan R: From Russia