The evaluation of 4 intermediate level learners' oral English by the computer program (*Versant*) and 21 advanced L2 speakers

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Abstract

Achieving intelligibility is the priority for learners. However, although the speaking test gives the scores on different criteria, it does not show the degree of intelligibility. This study compared the speaking test scores of Japanese students with the evaluation ranking by L2 speakers. 4 Japanese students' recordings from the machine evaluation test *Versant* were chosen with scores in the similar range but with different strength among the pronunciation, grammar, and vocabulary. 21 Stockholm university students ranked the recordings in terms of intelligibility and pronunciation. Then they commented on the pronunciation problems to improve the intelligibility. The results show that the L2 evaluators found good pronunciation essential but it is also necessary to have a good vocabulary size for intelligibility. Regarding segmental and suprasegmental sounds, the L2 evaluators pointed out the importance of suprasegmentals more for less fluent English speakers.

Introduction

English being used as a Lingua Franca, intelligibility should be the priority (Kachru 1992; Seidlhofer 2003; Jenkins 2000, 2002, 2005). To achieve intelligibility, it is argued that intelligibility is achieved through the interaction between speaker and hearer, rather than only through the effort of speakers or listeners (Smith and Nelson 1985; Munro and Derwing 1995; Pickering 2006). Thus the listeners' familiarity with the accents and attitude to the speaker can affect their comprehension (Varonis and Gass 1982; Rubin 1992; Levis 2005). In the multilingual and multiracial Canadian context, Derwing et al. (2002) advocated a training session for social work students to familiarize Vietnamese accent and help intelligibility for both parties involved.

From the listener's perspective, pronunciation seems to play a key role in increasing the intelligibility of learners' English (Jenkins 2000). However, in English language teaching (ELT), teaching pronunciation has drawn relatively little attention until early 90s (Derwing and Munro

2005). Even if it was dealt with in class, textbooks were not backed by research findings and thus classroom teaching was mainly based on the teachers' experience (Field 2005; Levis 2005). When research was conducted to identify learners' pronunciation problems in ELT, the data often came from the word level pronunciation and reading aloud sentences instead of conversation in the real life environment based on the L1 norms (Derwing and Munro 1997, 2005; Derwing and Rossiter 2003; Derwing 2003; Field 2005). When various activities were devised such as to ask learners to describe pictures or to video-record learners' oral presentations to elicit naturally occurring English, another problem arose as to tease out pronunciation problems from other issues such as grammar and vocabulary (Morell 2004; Pickering 2004, 2006). One solution seems to be the combination of these two types of data, which was adopted by one computer based test *Versant*. The Versant test asks test-takers not only to repeat the sentence but also create a narrative (story telling) allowing them to speak without too much constraints.

It is interesting that although intelligibility has become such an important criterion for the global communication (Kachru 1992; Crystal 2003; Jenkins 2006), speaking tests evaluate learners' oral English not in terms of intelligibility by other L2 speakers. They normally evaluate it according to various criteria such as vocabulary and grammar based on the English speakers' norms (Brown and Abeywickrama 2010).

In research on pronunciation, the most noticeable difficulty of causing intelligibility problems tends to come from the learner's mother tongue (Flege and Freida 1995a; Fleg et al. 1995b; Fleg et al. 1997a). The difficulty of pronouncing /r/ and /l/ is notorious for the Japanese speakers to cause some intelligibility problems for the interactants (Thompson 2001).

Intelligibility was also an issue when the emphasis was placed on stress and intonation in the ELT context in early 90s (Morley 1991; Celce-Murcia et al. 1996) and later in research (Derwing and Rossiter 2003; Hahn 2004; Field 2005; Kang et.al. 2010). Hahn's (2004) study showed that sentence stress errors have a negative impact on intelligibility. Field (2005) investigated recognition of 22 English words with some modification in stress only and quality of vowels among the 49 English speakers and 48 non-English speakers. He found more mistakes in words with modified stress among both native and non-native speakers, showing that listeners pay more attention to stress patterns.

Analyzing suprasegmentals at a discourse level, Kang et al. (2010) recently have shown that speakers relied on suprasegmentals for nearly 50% of the intelligibility of the conversation. It looks

The evaluation of 4 intermediate level learners' oral English by the computer program (*Versant*) and 21 advanced L2 speakers (Okamura) as though focus should be given on suprasegmentals in teaching pronunciation.

However, the teaching of suprasegmentals turned out to be more complex than previously claimed. First, although they can be important to master, there has not been agreement among the researchers about whether suprasegmentals can be taught in English language class (Culter et al. 1997; Pennington and Ellis 2000). Second, it was found that English speakers pay more attention to individual sounds than suprasegmentals (Riney et al. 2005; Kondo 2009) raising a questions about the importance of the teaching of suprasegmentals. Third, the main users of English being the L2 speakers, suprasegmentals are not considered to be essential for intelligibility (Kachru 1992; Jenkins 2000, 2002, 2005, 2006, 2007; Seidlhofer 2003, 2004). In fact, there seems to be an agreement that achieving native speaker's English pronunciation is neither realistic nor necessary when English is used as a lingua franca among the L2 speakers (Higgins 2003; Matsuda 2003; Mauranen 2003).

Nevertheless, a question still remains regarding the importance of accuracy in relation to English speakers' norms (Dauer 2005). Learners' deviant English can cause the similar effect as the disadvantage of accented English shown in the studies in social psychology and communication studies (Hosoda et al. 2007; Hosoda and Stone-Romero 2009; Gluszek and Dovidio 2010a, b; Gluszek et al. 2011). Furthermore, what learners expect from the teaching of English is not always to achieve solely intelligibility (Kashiwagi and Snyder 2010; Evance 2011; Rivers 2011). Indeed learners often set a high goal to obtain native like fluency in the expanding circle (Cutler, Dahan and van Donselaar 1997; Deterding and Kirkpatrick 2006; Kirkpatrick 2007; Kirkpatrick et al. 2008; McKenzie 2008; Swell 2009). For example, although they were not able to identify native speakers' English, Japanese university students stated that they aspire to speak like native speakers (Kashiwagi and Snyder 2010; Rivers 2011). Also Chinese students believed non-English speakers' English as that of English speakers when they were told so (Evans 2011). To maintain motivation, it seems necessary to show them not only how to achieve intelligibility but also to go beyond.

For this purpose, it seems necessary to examine how L2 speakers evaluate other l2 speakers' English speaking skills and ask for some comments on the learners' problems for the intelligibility and the pronunciation, and segmental and suprasegmental sounds. English being used more and more among the L2 speakers, their evaluation may help teaching pronunciation in ELT classroom.

The study

Evaluation of the Japanese learners' English

This study first attempts to compare the scores of four Japanese students evaluated by the computer based speaking test (*Versant*) and the intelligibility of their English by other L2 speakers at Stockholm university. This is to find a criterion that influences the intelligibility of Japanese learners judged by other L2 speakers. Then based on the L2 speakers' comments, it tries to search for the features to improve the Japanese learners' pronunciation.

Data collection

Japanese students and a computerized speaking test Versant

541 Japanese students at a regional university in Japan took the test *Versant* to measure their speaking skills in English. *Versant* is the computer based test to evaluate learners' speaking skills according to four criteria: sentence level syntax, vocabulary, fluency and pronunciation together with overall scores in a range of 20 to 80*. The students were asked about six questions with increasing difficulty over 17 minutes as follows.

Versant Speaking test questions:

- 1. Reading the sentences,
- 2. Repeat the sentences,
- 3. Answer the questions,
- 4. Sentence building,
- 5. Story telling,
- 6. Open questions

The test was taken over the phone by the students answering the questions with increased difficulties as they went along. The last question 6 consists of two open questions, which were not evaluated but recorded for the identification of the examinee. This study used the recording of this question for L2 speakers' evaluation. Thus the part that the machine program evaluated was not the same as that for Stockholm university students' evaluation. However, as the recording was part of the whole test in the sequence of the questions, it can be said that the human evaluation was conducted on the last and most difficult questions. A selection was made to have 4 students who

The evaluation of 4 intermediate level learners' oral English by the computer program (Versant) and 21 advanced L2 speakers (Okamura)

had 1) overall scores over 40 and whose scores were 2) within the same score range (41 to 46) with varied scores in grammar (31 to 49), vocabulary (27 to 49) and pronunciation (39 to 53) (see Table 1).

The recordings of the 4 Japanese students' response to Question 6 (2 open questions each: 40 seconds per question, see Appendix 1) were downloaded from the internet and were uploaded to the university course website. These Stockholm university students were asked to listen to them as many times as they needed in their spare time in two weeks to 1) rank their English in terms of intelligibility and pronunciation, 2) comment on their English problems, 3) choose both/either segments and/or suprasegments or neither that disrupt intelligibility (see Appendix 3).

The L2 evaluators: 21 Stockholm university students

They were advanced learners of English who were taking the course of Second Language Acquisition conducted in English at Stockholm University. Their nationalities were 12 Swedish, 3 Hong Kong Chinese, 2 German, 1 Austrian, 1 Finnish 1 Korean, 1 Vietnamese. They were asked to evaluate these Japanese students' spoken English as part of their course work to understand the English learners' pronunciation problems.

Results and discussion

Stockholm students' evaluation and the Versant test scores

The ranking of the four Japanese students was converted into points with the best gaining 4 points and the fourth only one. Figure 1 shows that the Stockholm university students' evaluation on the bar graph, while the Versant scores were on the line graph with their overall scores at the bottom. It shows that the Stockholm university students ranked the Japanese students in the order of D, B, C, and A in both intelligibility and pronunciation, supporting a close relationship between intelligibility and pronunciation. As D was the best in pronunciation in the Versant test (also see Table 1), his ranking as the best by the Stockholm university students also seems to confirm the importance of pronunciation (Jenkins 2000; Meierkord 2004).

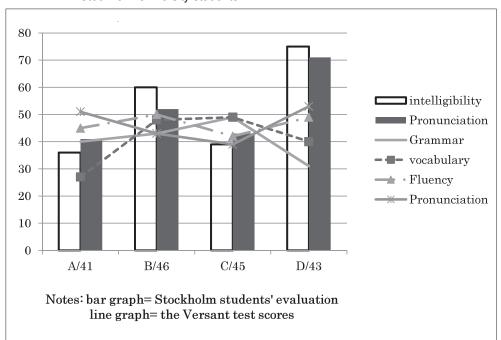


Figure 1 Versant scores of the Japanese students ABCD and their ranking by Stockholm university students

The comments also show that the Stockholm students were influenced by the pronunciation. For example, in the Versant test the student C was the best in both grammar and vocabulary, but the worst in pronunciation. When his English was commented, negative comments appeared even on his grammar and vocabulary such as "bad grammar" (twice), and "limited vocabulary" (one) as shown in Table 1.

Table 1 Versant test scores and comments on the intelligibility by the Stockholm students

	Versant scores					Types of and number of comments from Stockholm	
	Overall	SG	Vocab	Flu	Pron	students	
A	41	40	27	45	51	Lack of vocabulary 3, lack of connected speech 1, Basic grammar problem 1, rhythm 1	
В	46	43	48	50	43	Good vocabulary 3, better than A due to pronunciation and vocabulary, Good grammar but lack of accuracy 2, fluency OK 1	
С	45	49	49	42	39	Strong Japanese accent 3, better grammar 2, 1 grammar 2, vocabulary OK 2, limited vocabulary fluency OK	
D	43	31	40	49	53	Bad grammar 3, good intonation 2, good vocabulary 2, lack of vocabulary 1, fluency OK1, good accent 1	

Notes: SG: Sentence grammar, Flu: Fluency, Pron: Pronunciation

However, pronunciation does not seem to be the only criterion that the Stockholm university students used for intelligibility. Vocabulary seems to be crucial. Due to the lack of vocabulary, even if A was the second best in pronunciation by the Versant test, he was the last in both intelligibility and pronunciation. In fact, seven of them commented on his pronunciation as "too much hesitation" as shown in Appendix 3. When the role of grammar and vocabulary were compared, vocabulary seems to have played a more important role here because D's lack of grammatical knowledge did not seem to pull his ranking down.

All in all, as was shown in Table 1, the comments of the Stockholm university students on the intelligibility of the Japanese students often reflected the Versant test scores. For example, B gained higher scores in vocabulary than D in the Versant test and the Stockholm university students commented "good vocabulary" (3 times) on B. Also on D, who was the best in pronunciation but worst in grammar in the Versant test had comments such as "bad grammar" (3 times) and "good intonation" (twice) by the Stockholm students. It can be said that L2 speakers' evaluation is not far from that of the computer program based on the L1 norms.

In order to investigate how Stockholm university students evaluated Japanese students' English in more detail, the analysis was conducted on the comments on their pronunciation.

Comment on the Japanese students' problems of pronunciation

Comments were given mainly on consonants (see Appendix 3). Those on the vowels were limited to /i/ and /o/ with both referring to the pronunciation of B and D, but only /i/ to that of A, and none for C. Only D, the strongest in pronunciation had comments on vowels from three Stockholm students. One stated that the student D had problems with vowels more than consonants. It seems that comments on vowels came only when the pronunciation was good enough to identify the problem as was also found among the comments provided by English speaking teachers and non-teachers (Okamura 2011).

As consonants drew much more comments than vowels, a further analysis was conducted on the consonants. Although the Stockholm students noticed problems with 14 types of consonants in total, the four Japanese students A, B, C, D only received two types, /r, l/ and /th/ from a multiple number of the Stockholm students. As was shown by native speaking teachers and students on Japanese learners of English (Okamura 2011), the most common problem seems to be /l/ and /r/

identified by the Stockholm students (A: 9 students, B: 13 students, C: 6 students, D: 7 students). Because other sound problems were also related to the mother tongue such as /t/, /d/, /n/, /s/, and consonant clusters (see Thompson 2001), the L1 transfer seems to be the major problem (Fleg 1995, 1997). /th/ sounds were also noticed by multiple Stockholm students (A: 1 student, B: 3 students, C: 5 students, D: 1 student). It was interesting that /th/was not included in the Lingua Franca core (Jenkins 2000) because it was not considered to cause misunderstanding. However, unlike the voiced counterparts, voiceless sound of /th/ may cause some misunderstanding as it can create minimal pairs such as /think/ vs. /sink/, /worth/ vs. /worse/, /thick/ vs. /sick/. Moreover, it can be said that listeners are not always focusing on the intelligibility of the talk of L2 speakers as was found in social psychology and communication studies (Hosoda et al. 2007; Hosoda and Stone-Romero 2009; Gluszek and Dovidio 2010a,b; Gluszek et al. 2011).

Regarding the suprasegmentals, all the students except the student D received "choppy" for the description of their English from the Stockholm students. The weakest student in pronunciation, C was referred to "strong Japanese accent" by three of them, indicating the problem of prosody rather than that of purely segmental sounds. Furthermore, as C received comments to slow down from as many as eight Stockholm students, lack of English rhythm may have been interpreted as speed. Choppy English can be intelligible but it would demand an extra effort on the listener, which can be part of the reason for some negative attitude to heavily accented English (Mugglestone 1995). Thus learning the suprasegmentals can help to ease such burden from the listeners and can lead to a more positive evaluation. One wrote on D, who is the best in pronunciation, "Thanks to his reasonably good accent and intonation, he had less serious problems than the rest." It seems useful to ask the Stockholm students about the necessity of improvement in segments or/both supra suprasegmentals among the Japanese students.

The importance of improving segmental and suprasegmental sounds

The following graph shows that the Stockholm students found that suprasegmentals were more important for A and C than B and D. It is interesting to note that A and C were given lower scores in fluency by the Versant test and intelligibility by the Stockholm students than B and D. Less fluent English appear to need improving suprasegmentals such as rhythm and stress patterns. As suggested by Kang et al. (2010), suprasegmentals seem to be highly related to intelligibility, which were also in agreement with the findings by Field (2005) and (Hahn 2004) that right stress pattern would improve intelligibility. By contrast, placing an emphasis on individual segmental sounds was

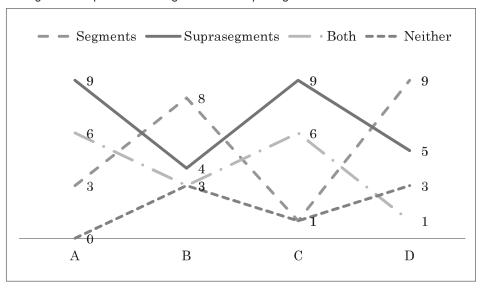


Figure 2 Importance of Segments and Suprasegments

A: individual sounds were more important for improving pronunciation

B: suprasegmentals were important for improving pronunciation

AB: both were more important

suggested to those with higher ranking in intelligibility. B and D being ranked higher in intelligibility, it can be said that improvement on individual sounds enables them to achieve accuracy rather than intelligibility.

Although a question can arise as to whether suprasegmentals can be taught before segmentals (Culter et al. 1997; Pennington & Ellis 2000), it seems that learners should at least be aware of the importance of suprasegmentals for listeners to understand their English.

Conclusions

This study attempts to investigate what Japanese learners of English need to focus on to achieve intelligibility of their English when English is used as a lingua franca. It also shows a similarity in evaluation between the machine program and L2 speakers' evaluation.

Although intelligibility can be achieved with heavily accented speech (Derwing and Munro 2005), it was found that pronunciation seems to be most important in intelligibility for L2 speakers as was shown before (Jenkins 2002). However, this study also showed that pronunciation needs to be

supported by vocabulary to increase intelligibility for L2 speakers as they can avoid the pronunciation problems through paraphrasing. By the same token, the good pronunciation with a lack of sufficient vocabulary seems to lead to unnecessary pauses, which can cause some negative impression on the speaker.

Suprasegmentals also seems to be useful for less fluent learners to improve intelligibility and possibly lessen the burden from the listeners, while segmental sounds may help to improve accuracy of speech for more fluent speakers.

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*Notes: The average scores for Japanese college students tend to be between 30 to 40 according to the Versant Japanese office.

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Appendix

1. Versant Questions 6 to the four Japanese students

Japanese student A

- 1 Is it best for family members to help children with school work, or to let children complete school work alone without help? Please explain.
- 2 After the school day is over, some families allow children to play as long as they wish, while other families believe children should continue studying throughout most of the evening. What do you think is a good method for determining how much leisure time a child should have?

Japanese student B

- 1 In your opinion, where is the best location to raise a family? Why do you feel this way?
- 2 From your point of view, is it better to work in a large organization or in a small organization? Please explain your opinion.

Japanese student C

- 1 Today, many people are living longer, and many old people are being cared for by their children or grandchildren. How does this situation affect the family?
- 2 Should parents choose the course of study for their children, or should children choose their own course of study? Please explain your thinking.

Japanese student D

- Some people think that week-ends should be spent resting and relaxing, while other people prefer to use the extra time to complete work. How do you like to spend week-end time? Please explain.
- 2 Do you think that every person in the family should help with household tasks, even very young children? Please explain your thinking.

2. Swedish students' evaluation of Japanese learners' English Evaluation

2.1. The first round: ranking in intelligibility and pronunciation

You are going to listen to six Japanese students responding to questions in English. Please evaluate the comprehensibility of the talk according to the following five-point scale:

The Economic Journal of Takasaki City University of Economics vol.55 No.2 2013

Intelligibility and pronunciation ranking

Intelligibility ranking	Speaker 1	Speaker 2	Speaker 3	Speaker 4
Pronunciation ranking				

2.2. The second round: segmentals and suprasegmentals

You are going to listen to the same speech again. This time, pay attention to their pronunciation. You may find that comprehension difficulties arise from both individual sound problems and sentence level problems (e.g....).

2.2.1. Which interfered more with your understanding?

A. Pronunciation of certain sounds such as /r/or/s/

B. Pronunciation at sentence level such as English rhythm or English intonation.

2.2.2. What do you think are the most serious problems for them in terms of making their speech comprehensible?

Pronunciation: segmental and suprasegmentals

A: Segmentals, B: Suprasegmentals, AB: Both are important: Neither

Name	A,B, AB, Neither	Their difficulties
Speaker 1		
Speaker 2		
Speaker 3		
Speaker 4		

3. Number of comments of segmental and suprasegmentals as problems of pronunciation

Category	A	В	С	D
Consonants	6 types/ 14 tokens	4 types/ 19 tokens	5 types/ 15 tokens	7 types/ 13 tokens
Vowels1	type/1 /i/	2 types/1 /i /, /o/	0 type/	2 types/3 /i /, /o/
Supra- segmentals	3 types/8 Lack of Stressed syllables (2), Choppy rhythm (3) Intonation and fluency (3)	1 type/2 Choppy rhythm (2)	1 type/3 Strong Japanese accent/ Rhythm (3)	1 type/1 Choppy rhythm (1)
Perceived speed	too slow: 1 too much hesitation: 7	fast : 1 long pause: 2	too fast: 8	Short pause: 3