A Study on the Interlocutor's Pronunciation in TOEIC Listening Comprehension Section: Item Analysis Using Rasch Model

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ABSTRACT

The purpose of this study is to analyze TOEIC Listening Comprehension with Winsteps 3.68, the test tool using Rasch model. It is to see the appropriateness of the thirty question items of Part 3. To measure listening ability, TOEIC Listening Comprehension section is used because it is the most taken certified English test in Korea. Since ETS does not provide the actual monthly TOEIC test results, the test results of 117 participants who had taken simulation TOEIC test developed by a private company is used. Thirty question items of TOEIC Part 3 are analyzed with Rasch model. It is found that the pronunciation and accents of the English do not have effect on the item difficulty.

Key words: English pronunciation, TOEIC listening comprehension, Rasch analysis

I.Introduction

This study aims to see whether the difficulty of the listening test items is affected by the different pronunciation and accents of the native English speakers. In this study, the conversation sets of TOEIC listening comprehension Part 3 will be analyzed with the Rasch model, since TOEIC is the most taken English proficiency test in Korea.Research question to fulfill the objective of this study is as follows:
Do the different English pronunciation and accents (American English / non-American English) have effect on the test takers' difficulty awareness in TOEIC listening comprehension?

II. Background

1. Factors which make listening difficult
It is definitely true that every language has its own inventory of sounds. Some sounds occur uniquely to only one language, some commonly in some languages, and some may occur in different combinations. One of the reasons Ur (1984) introduced why L2 learners have difficulty in listening to the target language is that the learners cannot perceive sounds correctly if the sound is not in their native language system. So the learners need to learn to pronounce the sounds which does not exist in their mother tongue first if they want to improve L2 listening. Another reason which makes L2 listening difficult is the unfamiliar stress and intonation patterns in the target language. In other words, features oflanguage which are familiar to the learner make listening less difficult.

2. Rasch model
Rasch model is a kind of Item Response Theory which assumes the response of test takers to test items with mathematical solution. However, the feature which distinguish Rasch model from others is that it

only uses item difficulty to measure test takers' ability. The basic logic of the Rasch model is that a probability will be higher when test takers answer correctly on easier items, and lower when they answer correctly on more difficult items. And when the test takers' ability and the difficulty of the items are given, the dichotomous model, which is the simplest model of the Rasch models, predicts the probability of a binary outcome (correct and incorrect). This model can express the probability of obtaining a correct answer as a function of the size of the difference between the test takers' ability and the item difficulty (Bond and Fox, 2007).

III. Methodology

The subjects of the present study were 117 participants of simulation TOEIC test held by Language Education Center of Chonbuk National University in Jeonju, Korea. Almost all participants are university students who are in diverse range of majors. To all participants, English is a foreign language and they had studied English for at least six years throughout their secondary education.

In this study, part 3 is uses because the format is more similar to the real life communication settings than other parts of TOEIC Listening Comprehension section. The answers of 117 test takers are analyzed with Winsteps 3.68, which is a test tool using Rasch model. In Rasch model, reliability figure corresponds to Cronbach's Alpha Coefficient, which indicates high reliability if the figure is 0.8~0.9, and normally accepted when the figure is over 0.7 (Chi and Chae 2000). Also, it is read as fit items wheninfitMNSQ is ranging from 0.7 to 1.3, and ZSTD is ranging from -2.0 to 2.0 (Ji and Chae, 2000; Bond and Fox, 2007). The Item Person Map shows the distribution of the item difficulty and person's performance in a 'map' form. Items numbers indicate each item, and an "X" represents each person's performance. Persons and items are located on the map according to their ability and difficulty (Bond and Fox, 2007). And if a person who is located on the same point on the scale with a certain item, it means that the person has a 50% probability to answer the item right.

IV. Results

This study is to find out whether the different English pronunciation and accents have effect on the L2 listening comprehension and item difficulty. In this study, the difference in pronunciation and accent does not seem to affect the listening comprehension. There is no significant ground to discriminate the difficulty of the question items with the pronunciation and accents of the speakers in the conversation.

As shown in Table 1, item reliability 0.93 indicates that the items have reliability in measuring what is supposedly to be measured, and is higher enough to proceed with the analysisAlso these question items are seen to have appropriate difficulty, judging from theinfit MNSQ figures ranging from 0.78 to 1.30, and ZSTD from -2.9 to 1.8 (Bond and Fox, 2007).

[TABLE 1] Summary of 30 Measured Items

	Infit	
	MNSQ	ZSTD
Mean	1.00	- .1
S.D.	.11	1.0
Max.	1.30	1.8
Min.	.78	-2.9
Item Reliability .93		

In TOEIC Part 3, the conversation sets are composed with two people, a man and a woman, talking to each other. The Table 2 shows the pronunciation and accents used in each conversation of the TOEIC test in this study. For American pronunciation and accents, an American man and a woman recorded the conversation. For non-American, a British man and an Australian woman did the recording. And the distribution of each item in Item Person Map is shown in Figure 1. (The pair of letters shown in the parentheses next to the each question number is the pronunciation and accents of the man and the woman. n: non-American, A: American)

[TABLE 2] Pronunciation and Accents of Question Sets

Questions	Speech order man(m)/woman(w)	Pronunciation and Accent	
		man	woman
41-43	w-m-w	American	non-American
44-46	m-w-m-w	non-American	American
47-49	w-m-w-m	American	American
50-52	w-m-w	non-American	American
53-55	m-w-m-w	American	American
56-58	m-w-m-w	non-American	non-American
59-61	m-w-m-w	non-American	American
62-64	m-w-m-w	American	American
65-67	m-w-m-w	non-American	non-American
68-70	m-w-m-w	American	American

[FIGURE 1] Item person map of different pronunciation and accents

The most difficult item is question 65, which is the conversation between two people both using non-American pronunciation and accent. However, the other question items from the same conversation set are shown as easy items, question 66 and 67. Also, another conversation for question set 56-58, which is composed with two non-American pronunciation and accents, shows variety in difficulty. Question 56 is second difficult item among thirty questions, but question 58 is under the average difficulty and question 57 is listed on the lowest part except for two questions.

The easiest conversation is the question set 62-64 which uses both American pronunciation and accent. However, both of the speakers of question 55 and 69, which are listed as the third difficult questions, also use American pronunciation and accent. The conversations between speakers of a non-American and American pronunciation and accents, as well as speakers of either non-American or American pronunciation and accent, do not show the consistency in item difficulty.

V. Conclusion and Suggestion

The aspect which affects the difficulty of TOEIC test is no longer the pronunciation and accents. More and more exposure to the Englishes other than General American English occurs thanks to the recognition of World Englishes, the concept that English should be considered and used as an international communicator, not just a language from a certain country. So the test takers of TOEIC

became more familiar with non-American pronunciation and accents. And when ETS develops TOEIC questions, they follow the norms to use the pronunciation and accents of various countries such as US, GB, Canada, Australia, New Zealand in Listening Comprehension section (www.ybmsisa.com).

This study is to find out whether the different English pronunciation and accents have effect on L2 listening comprehension and item difficulty. But, the pronunciation and accents of the conversations are only categorized in American and non-American in this study. The further study could be done with more subdivided pronunciation and accents in World Englishes.

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Taeyoung Kim received an MA in English Education from Chonbuk National University, Korea. Currently, she is in the doctoral course at the same university.