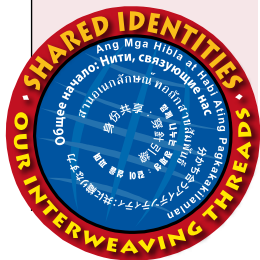**Shared Identities: Our Interweaving Threads**

Speaker effects on perceived EFL foreign accent

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The present study aims to examine the foreign accent in the EFL speech of Taiwanese college students. Three individual speaker variables were found to be significant predictors of foreign accent, including participants' major, participants' oral mimicry ability, and percent of time to use English at home. Moreover, the study proposed that there was a significant positive correlation between the perceived comprehensibility ratings and the accent ratings. Results of the study can provide empirical descriptions on the foreign accents of EFL learners, and offer some implications for EFL speech instruction.

今回の研究の目的はEFLスピーチ教育には台湾の大学生の外国訛りを調べることである。対象の専攻、オーラル模倣能力と家での英語使用率が、外国訛りの重要な指標となる三つの個人的変数であるとわかる。そのうえ、この研究によって、理解度と発音の正確度は明らかに正の相関がある。この研究の結果は、EFL学習者の外国訛りについて、経験的説明を提供した。EFLスピーチ教育に関する考えられるべき問題も出た。

Of all aspects of human language, pronunciation seems to be the most immediately observable. A listener usually does not need much time or linguistic sophistication to detect a foreign accent. Accentedness refers to the extent to which a listener judges second language (L2) speech to differ from native speakers' norm (Derwing, Munro & Wiebe, 1998). As indicated by Nishi (2002), many L2 learners wish to communicate as native speakers do. However, due to their foreign accent, L2 learners may be misunderstood. According to Thompson (1991), foreign accent is the pronunciation pattern that is perceived as being different from those of native speakers of the language. Those who learn a second language are often perceived to speak it with a foreign accent. A number of researchers have pointed out the features of foreign accent. For instance, degree of perceived foreign accent increases with the number and severity of segmental misarticulations (Major, 1987). Foreign accent may be influenced by divergences

from L2 phonetic norms for implementation of stress and emphasis (Varonis & Gass, 1982). It may also be affected by divergences from L2 rhythmic and intonation patterns (Flege & Eefting, 1987). In addition, a relationship exists between perceived accent and ethnic group loyalty (Magid, 2004). Generally speaking, foreign accents can be associated with low intelligibility and negative personal evaluations of non-native speakers (Flege, 1987a).

Studies of L2 phonology have identified a number of factors that influence the acquisition of a new sound system. These factors include exposure, gender, motivation, mimic ability, musical ability, modality preference, L2 speaking proficiency, extraversion, careful versus spontaneous speech, and raters. With regard to most of the factors, no consistent findings and conclusions have been proposed. For example, there has been the widely held belief that a foreign accent in adults' speech stems from a loss of flexibility of the speech organs since a critical period exists for human speech learning. However, Flege (1987b) asserted that there is no conclusive empirical basis to support the critical period hypothesis because it does not take into account a variety of confounding factors. Derwing, Munro and Wiebe (1998) further indicated that research has repeatedly shown that even heavily accented speech can be highly comprehensible. Thus, the present study aims to look into the complex links between these factors and the foreign accents in the EFL speech produced by Taiwanese college students.

The purpose of the present study is to investigate the effects of speaker factors on the perceived foreign accent in the EFL speech of Taiwanese college students. The major research questions explored in the study include: (1) Is there any significant relationship between foreign accent and individual speaker variable? (2) Is there any significant relationship between foreign accent and comprehensibility?

Literature review

There have been a number of studies conducted to examine foreign accent in L2 speech. The following research has investigated the effects of various factors on foreign accent. These variables included both speaker/talker and listener factors. For example, Purcell and Suter (1980) studied the correlations between English pronunciation accuracy scores and a battery of 20 variables for 61 nonnative speakers of English. They found that only four variables are useful in accounting for the variability. *First language* was the most important predictor that significantly contributed to the explanation of the criterion's variance, *aptitude for oral mimicry* was the second most important factor, followed by *length of residency in an English speaking environment*, and the last was *strength of concern for pronunciation accuracy*. A study by Flege (1988) used interval scaling to assess degree of perceived foreign accent in English sentences spoken by native and non-native talkers. Results show that native English listeners gave significantly higher pronunciation scores to native speakers of English than to Taiwanese adults who began learning English at an average age of 7.6 years. It was also found that the more experienced Taiwanese listeners differentiated native and non-native speakers to a significantly greater extent than a less experienced group, even though the subjects in both groups spoke English with equally strong foreign accents.

Moreover, Thompson's study (1991) investigated factors associated with the acquisition of L2 pronunciation and methodological problems associated with the study of foreign accents. They suggested that factors affecting the acquisition of L2 pronunciation depended on the type of primary exposure to L2, and that perception of a foreign accent depends on language samples presented for judgment and on the linguistic experience of listeners. In a study by Flege and Fletcher (1992), four experiments were carried out to examine listener- and talker-related factors that may influence degree of perceived foreign accent. Findings revealed that the degree of accent was influenced by a range of effects. The larger the proportion of native speakers included in a set of sentences being evaluated, the more strongly accented listeners judged sentences spoken by non-native speakers to be. Foreign accent ratings were not stable. Listeners judged a set of non-native-produced sentences to be more strongly accented after they became familiar with those sentences. Flege and Fletcher (1992) also found that adults' pronunciation of an L2 may improve over time. Late L2 learners who had lived in U.S. for an average of 14.3 years received significantly higher scores than late learners who had resided in U.S. for 0.7 years. Besides, Piske, MacKay, and Flege (2001) studied the factors related to the foreign accent of Italian-English bilinguals. They found that both age of L2 learning and amount of continued L1 use affected degree of foreign accent. On the other hand, gender, length of residence in a L2-speaking country and self-estimated L1 ability were not found to have a significant effect on overall L2 pronunciation accuracy.

The literature reviewed above has established the predictors of pronunciation accuracy. Among them, very few studies have been found directly related to the current study. Although Flege (1988) rated the foreign accent of adult native Taiwanese learners of English and Munro (1995) studied native speakers of Mandarin, the subjects were EFL learners residing in U.S.A. and in Canada, rather than in Taiwan. Recently, there has been substantial research on English pronunciation of Taiwanese students. However, these studies did not look into the perceived foreign accent of Taiwanese EFL learners, and most of their subjects were high school students. Thus, it is the aim of the present study to fill in the gap for the research literature by examining the foreign accent of EFL college students.

Methodology
Participants

There were two groups of participants in the current study, including 60 speakers and six raters. The speech samples used in the present study were elicited from 60 college students in Taiwan. There were approximately equal numbers of male and female participants. They came from two universities in northern and southern Taiwan, respectively. Among the 60 participants, 30 were English majors, and the other half were non-English majors.

For the past 40 years, most of the English textbooks in Taiwan have adopted the phonetic symbols from *A Pronouncing Dictionary of American English* by Kenyon and Knott (1953). Therefore, in the current research, the rating criteria of foreign accent in EFL speech were mainly

based on the pronunciation standards of American English. A group of six raters were included in the present study. They were native speakers of American English and have taught EFL in Taiwan for one to three years.

Materials

In the present study, the speakers were instructed to perform two tasks as follows. One was *sentence reading* which included a list of five specially prepared sentences (see Appendix 1). They were seeded with English sounds known to be difficult for Chinese students to pronounce and have been adopted in the previous research which also aimed to examine the degree of foreign accent in English sentences (Flege, 1988; Thompson, 1991; Flege and Fletcher, 1992). These sentences could best be described as phonetic mine fields designed to elicit the most heavily monitored speech sample. The other was *passage reading* which consisted of a 111-word English story, the North Wind (see Appendix 2). The text was a modified version of one used by Gass and Varonis (1984) in their study for investigating the comprehensibility of nonnative speech.

Instrument

To examine the speaker effects on perceived foreign accent, a questionnaire was designed based on the related variables which have been proposed in research literature (Suter, 1976; Purcell & Suter, 1980; Thompson, 1991; Flege & Fletcher, 1992; Munro & Derwing, 1995). The questionnaire consists of 17 items designed to assess the speaker factors affecting foreign accent. There are four parts in the questionnaire:

Background Information (Item 1~5), Percent of English Use (Item 6~10), Importance of English (Item 11~13), and Related Aptitude (Item 14~17). The information of each item and its abbreviation is shown in Appendix 3.

Procedures

Before the experiment began, subjects were told in detail what they were required to do in the study. Individual recording sessions were held in a language lab with high fidelity audio equipment. Participants were instructed to read at their normal rate and volume and were allowed to look over the printed materials before reading them into the microphone. Only one attempt at recording was made. After finishing the recording task, participants filled out the questionnaires of foreign accent. Then, an individual interview was held with four participants in each of the two universities to probe their perceptions of foreign accent in EFL speech.

The rating task was conducted separately by six raters of native speakers. Global foreign accent was calculated for both EFL speech materials. Raters were asked to determine the degree of foreign accent by marking on a 9-point scale of foreign accent. In addition, raters assessed their comprehensibility of the speech sample by marking on a 9-point scale of comprehensibility. They were instructed to listen only to pronunciation and to ignore any other mistakes or deviations. A practice session with five speech samples randomly selected from the participants' recordings followed. Then, raters listened to the speech samples in random order on four separate sessions. Inter-rater reliability was calculated by deriving an average of all correlation coefficients.

Data analysis

In this study, data analysis involved three stages. First, participants' answers to the questionnaire of foreign accent factors were analyzed with descriptive statistics. Next, Pearson product-moment correlation was conducted between the mean scores of accent rating and the scores of comprehensibility rating. Finally, a multiple regression analysis, which finds the best one-, two-, *n*-variable model, was carried out with accent as the dependent variable, using forward stepwise inclusion of independent variables.

Results

Scores on rating scales of accent and comprehensibility

In the current study, six raters who were native speakers of American English were asked to determine the degree of foreign accent by marking on a 9-point scale of foreign accent. Besides, they assessed their comprehensibility of the speech sample by marking on a 9-point scale of comprehensibility. The inter-rater reliability of the two ratings was assessed by computing intraclass correlations. The correlations were very high for both the accent ratings (r=0.87, p< 0.01) and the comprehensibility ratings

r=0.86, p< 0.01), indicating that the six raters tended to agree with one another on both. The scores of all raters were averaged to give each participant mean accent and comprehensibility scores.

Among the six raters, half of them had lower comprehensibility ratings than accent ratings, and the other half had lower accent ratings (see Table 1). On the whole, the

six raters had lower comprehensibility ratings (Mean= 6.05) than accent ratings (Mean= 6.13). Furthermore, the Pearson product-moment correlation was conducted to assess the relationship between the two sets of ratings obtained from the raters. For all six raters there was a significant positive correlation between the perceived comprehensibility ratings and the accent ratings.

Table 1. Pearson product-moment correlation between accent ratings and comprehensibility ratings

Rater	Accent	Comprehensibility	r
1	7.57	7.67	0.836**
2	6.73	7.37	0.863**
3	6.85	6.60	0.878**
4	4.98	4.50	0.642**
5	5.85	5.95	0.913**
6	4.80	4.23	0.808**
Average	6.13	6.05	0.931**

**p<0.001

Relationship between accent ratings and independent variables

To explore the relationship between foreign accent and the 17 questionnaire variables, a multiple regression analysis was carried out by SPSS (Version 10.0) with accent as the dependent variable, using forward stepwise inclusion of

independent variables. Table 2 summarizes the result of stepwise multiple regression analysis. The variable first entered into the regression was participants' academic major, which accounted for 32.7% of the variance in accent scores. The variable entered next was participants' oral mimicry ability (MIM), which added another 9.3% to the R^2. Together these two variables accounted for 42% of the variance in the ratings. The third variable was percentage of time they use English at home (PEH), which improved the regression coefficient by another 5%, bringing up the total R^2 to 47%.

Table 2. Multiple regression analysis of accent ratings

Variables	R2 change	F	p
Major	0.327	28.209	0.000***
Oral mimicry	0.093	9.179	0.004**
Percent of time to use English at home	0.050	5.341	0.025*

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

Discussion

Based on the results of the current study, three individual speaker variables were found to be significant predictors of foreign accent, including participants' academic major, participants' oral mimicry ability (MIM), and percent of time they use English at home (PEH). In terms of major, among the 60 participants from two colleges, 30 were from English Department and the other half were engineering students. Participants' major can be mainly regarded as

representing their EFL proficiency, an independent variable which was also significant correlated with major and accent ratings in the present study. By assessing degree of foreign accent in English sentences spoken by native and non-native talkers, Flege (1988) found that native speakers of English got significantly higher pronunciation scores than Taiwanese adults did. Moreover, Thompson (1991) indicated that factors affecting the acquisition of L2 pronunciation depended on the type of primary exposure to L2. Therefore, results of previous research as well as the present study seem to support the common belief that L2 proficiency is significantly related to the degree of foreign accent.

In addition, the study reveals that there is significant relationship between participants' oral mimicry ability and their foreign accent ratings. This result is consistent with the research finding of Suter (1976) and Purcell and Suter (1980), which proposed that Aptitude for Oral Mimicry was the second most important predictor of pronunciation accuracy. In Thompson's study (1991), Ability to Mimic also emerged as one of the predictors of pronunciation quality. It is suggested that oral mimicry ability appears to facilitate the acquisition of accurate pronunciation in L2. As proposed by Purcell and Suter (1980), aptitude for oral mimicry seems beyond the instructors' control; some people simply have better ears and mouths for pronouncing languages.

Besides the two previous variables, percent of time for participants to speak English at home (PEH) was the third important factor for predicting pronunciation accuracy. This finding is similar to Tahta, Wood, and Loewenthal's (1981) that the variable emerging most strongly was the extent to which English was experienced in the home. They

suggested that the use of English at home is symptomatic of a shift of identification from L1 to L2 culture. The mastery of accent-free English can be seen as an expression of a desire to sound and to be English. Moreover, the statistical significance of the variable PEH may be partly due to the explanation of practice. Since participants reported that they spent less time speaking English at home than speaking English at school or with friends, it seems that the variable PEH becomes the main factor of determining the amount of time for participants to practice oral English. With the additional time of speaking English, no wonder PEH emerged as one of the useful predictors of pronunciation accuracy.

Moreover, the study proposed that there was a significant positive correlation between the perceived comprehensibility ratings and the accent ratings. Results of the questionnaire of foreign accent perceptions also reveal that the raters disagreed that they had little difficulty understanding people who speak English with a foreign accent. That is, the English native speakers in the present study may have difficulty comprehending accented English. This finding is somewhat different from that of Munro and Derwing (1995) which suggested that although strength of foreign accent was correlated with perceived comprehensibility, a strong foreign accent did not necessarily reduce the comprehensibility of L2 speech. Because there were only six raters in the current study, it is advised that future research recruit more raters of English native speakers to clarify the complex link between comprehensibility and foreign accent.

Conclusion

In summary, by providing empirical descriptions on the perceived foreign accents of Taiwanese EFL learners, the present study is expected to contribute to our understanding of the relationship between foreign accent and speaker variables. Furthermore, this study can also offer some implications for EFL speech instruction by looking into the factors which affect the degree of perceived foreign accent. Since oral mimicry ability is found to be a significant factor of foreign accent, students can be provided more chances to read aloud with CD, audiotape, or teachers in order to imitate the native speakers' pronunciation and intonation. Moreover, EFL teachers can encourage their students to watch TV or movies as well as listen to CD or podcasts in English. Thus, students can have more exposure to oral English in their free time. The old saying *practice makes perfect* suggests that Taiwanese college students can make efforts to achieve the goal of speaking more comprehensible English with less accent.

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Appendix 1

List of sentences

I can read this for you.

The good shoe fits Sue.

The red book was good.

The singer sang a nice song.

They lived through thick and thin together.

Appendix 2

Text of the north wind story

The north wind and the sun were arguing one day about which of them was stronger, when a traveler came along wearing a heavy jacket. They agreed that the one who could make the traveler take his coat off would be considered stronger than the other one. Then the north wind blew as hard as he could, but the harder he blew the tighter the traveler wrapped his jacket around him and at last the north wind gave up trying. Then the sun began to shine and right away the traveler took his jacket off and so the north wind had to admit that the sun was stronger than he was.

Appendix 3

Questionnaire of foreign accent factors

1. The subject's sex (Sex)
2. The subject's major (MAJ)
3. The subject's native language (L1)
4. The subject's present age (Age)
5. Age at which the subject started learning English (AOL)
6. Number of months the subject has stayed in English speaking countries (MESC)
7. Percent of time for the subject to use English at school (PES)
8. Percent of time for the subject to use English at home (PEH)
9. Percent of time for the subject to use English with friends (PEF)
10. Percent of the subject's teachers who were native speakers of English (PTNS)
11. The subject's perceived importance of English for work (IEW)
12. The subject's perceived importance of English for school (IES)
13. The subject's perceived importance of having a good accent (IGA)
14. The subject's perceived level of EFL proficiency (EFL)
15. The subject's perceived ability of oral mimicry (MIM)
16. The subject's perceived level of musical ability (MUA)
17. The subject's perceived degree of extroversion (EXT)