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REVISITING THE PRONUNCIATION OF ENGLISH BY SPEAKERS FROM MAINLAND CHINA

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Pronunciation is a crucial component in achieving intelligibility and effective communication. Researchers have closely examined the pronunciation of English by Chinese speakers from various backgrounds, including Singapore, Hong Kong and Taiwan. However, less research has been conducted with Chinese speakers from Mainland China. The importance of studies of Mainland Chinese speakers cannot be underestimated as these speakers clearly make up the majority of ESL/EFL learners from this language background. This study builds on a previous study conducted with Mainland Chinese speakers. Deterding (2005, 2006) built a corpus of 19 Chinese speakers from major dialect areas of China, including northeastern provinces of Liaoning, Jilin; the eastern province of Shandong; and central provinces of Henan, Zhejiang, Jiangxi, Jiangsu, Anhui and Hunan. This study serves as a complementary study on the pronunciation characteristics of Chinese speakers from southern provinces in English. Three participants from Guangxi province were recorded reading a passage and participating in a short interview. Our goal is to compare our findings to those of Deterding (2006) and to suggest possible teaching applications for EFL in the southern provinces of China.

INTRODUCTION

Pronunciation features of Chinese English speakers from Hong Kong, Taiwan, and southern Asia have been well documented. Hung (2000) carefully studied segmental features of HK English, and confirmed that HK English has its own phonology in which the phonemic inventory is simpler than in inner circle varieties of English. Some research has also been done to document phonological features in connected speech. Deterding (2003) investigated the monophthong vowels of Singapore English using conversational vowels taken from ten Singapore English speakers, and found the distinction between [i] and [ɪ] was not maintained in Singapore English. Stibbard (2004) documented the co-occurring segmental errors, especially phonemic overlap in Hong Kong English. Apart from studies on Hong Kong English and Singapore English, Pennington & Ku (1993) examined the production of English final stops by Chinese speakers in Taiwan and concluded that the type of strategy used to produce English final stops varied according to the task type, place of articulation of final stop, age of subject, and native linguistic variety. Other studies have drawn attention to individual segmental features. For example, Wong and Setter (2002) acknowledged the possible conflation of [n] and [l] in syllable-initial position with HK English speakers. Peng and Setter (2000) analyzed in detail the alternation between the occurrence and absence of final consonants such as [t] and [d]. These studies have built up an overall image of English pronunciation of Chinese speakers, but it is yet to be completed by

adding features of Chinese speakers from Mainland China, which constitutes the largest proportion of Chinese speaking population.

Limited research has been conducted documenting English pronunciation of Mandarin speakers from Mainland China. In an early study, Chang (1987) listed features that Chinese speakers find problematic in their speech, such as vowels, consonants, clusters and intonation. However, this study did not include any recordings from Chinese speakers. Ho (2003) discussed pronunciation errors among PRC Chinese students and included students from many dialect areas, but his conclusions were based on indirect sources such as teacher observation and reflection. Hung (2005) confirmed in his preliminary study that [ʒ] was pronounced as [ɹ] by northern speakers. Qian (2011) conducted an acoustic investigation on segmental features of 12 students from northern China, identifying the absence of contrast between long and short vowels as a salient feature among the participants.

Deterding's (2005b, 2006) study on Chinese speakers is an exception, since he made the concept clear that there might be distinct differences in the English pronunciation produced by speakers of different dialects in China. Moreover, the research design captured pronunciation features in a naturalistic way. In his study, Deterding (2006) discusses extensively the English phonological features of 13 Chinese speakers from northeast, eastern, and central dialect areas of Mainland China. In the study, he concludes that there were twelve common features amongst the participants, ranging from segmental to suprasegmental features, such as extra final vowels and stressed final pronouns.

To better understand the English pronunciation of Chinese speakers from southern China, we undertook the following study. We hope that it will provide a better understanding of the English pronunciation of Mainland Chinese speakers from this area. Since Deterding's (2006) study has revealed much valuable information on PRC Chinese speakers' pronunciation features, we conducted a replication study amongst Chinese English speakers from the southern province of Guangxi. In this paper, we present some preliminary results that have distinguished southern Chinese English speakers from other speakers in China whose pronunciation features have been thoroughly discussed in Deterding's paper (2006).

METHODS

Participants

25 speakers from Guangxi, a southern province in China participated in this project (M=8, F=17). At the time they made the recordings, they were attending a one-month intensive English program in the same language institution at a local school.

In this paper, we present some preliminary results from three participants. The three participants were from three different cities (M=1, F=2). They were attending their undergraduate courses at different universities in Nanning, Guangxi at the time. The participant proficiency level was classified as intermediate (n=3) based on the fact that they had passed CET-4 exam (Note: the proficiency requirement to pass the national College English Test Level 4 is an intermediate level at minimum).

Two of the three participants reported speaking dialects of Guangxi at home, and all of them stated that they frequently used Mandarin Chinese in their school work. The dialects they used were classified under one main dialect area: Yue; which is under the same family as Cantonese.

According to the interview data and demographic questionnaire, two reported that they had never been abroad and they only use English occasionally or seldom. The other female student reported that she had been to Japan and used English during the trip.

Data Collection

Participants undertook two activities. The first activity was a passage titled "The Boy Who Cried Wolf", which was suggested by Deterding (2006) (See Appendix A). The second part was a three-minute short interview. This interview was conducted to provide some additional spoken features that might not be presented in the Wolf passage. The topics of the interview, such as participants' family and future career, were taken from the original recordings of Deterding's (2005b) corpus. (See Appendix B).

The recordings were made in a quiet room, using an Olympus digital recorder VN-5200 PC with an attached HD microphone. This ensured a high recording quality, which enabled detailed phonetic and acoustic analysis of the data on Praat (Boersma & Weenink, 2005) and a Kay Pentax Computerized Speech Lab. The readings were coded phonetically by both authors to ensure the accuracy of the transcription. There was no disagreement between the two authors regarding the coding. The analysis focused on phonetic features previously identified by Deterding (2006) and any other features that were non-standard.

RESULTS

We found similar patterns in this study to those found in Deterding's (2006) study. In Deterding's paper, he identified a number of features in his participants' speech that were different from native speakers of English, namely: extra final vowels, absence of reduced vowels, nasalized vowels, voiceless dental fricatives, voiced dental fricatives, the fricatives [v] and [z], vocalized [l], glide before [i], stress on function words and final pronouns, [h] pronounced as [x], [j] pronounced as [r], [l] and [n], and [d] or [z] as a replacement for voiced theta. We found a number of features in our three participants' passage reading that are aligned with Deterding's (2006) findings. In order for readers to compare our results, we have arranged our reporting in the same sequence as Deterding's (2006) study. Following this, we report on a number of features that do not appear in Deterding's data.

Findings Aligned with Deterding (2006)

Extra final vowels. An extra final vowel refers to "the addition of an extra vowel (an epenthetic vowel), usually a schwa, after a final plosive and before the next word" (Deterding, 2006, 179-180), therefore, *had* becomes [hædə]. This phenomenon was observed by Ho (2003) and extensively discussed in Deterding (2006). An extra final vowel was also noticed among the three participants, but it was not considered the most salient feature of their pronunciation. Although all three participants had the same problem, it was not distributed evenly. F2 and M3 had only 3 and 1 instance respectively whereas F1 had 16 instances. Two examples of F1's speech are presented here:

1. … a dark <u>forest</u> near the foot… (F1: 14.43s)

2. Raising his fist in the air…(F1: 25.32s)

When examining these examples, it became clear that all had a final plosive. In addition, 6 out of 16 of the instances with an extra final vowel ended with consonant clusters, such as *forest* (2 instances), *fist*, *feast*, and *convinced*.

Absence of Reduced Vowels

According to Deterding, reduced vowels (schwas) tend to occur in two contexts in British or American English. The first is "the unstressed syllables of polysyllabic words" (2006, p.182), such as *concern* in the Wolf passage. However, this passage only contains one instance of this. Thus, we set our eyes on the second context: "the weak force of monosyllabic function words" (ibid.), such as *that*, *than*, *to* and *of*. A total of 6 instances of *to*, and 6 instances of *of* were investigated for all the three participants. The realization of reduced vowels is as shown in Table 2, both F1 and F2 had a low rate of realization of reduced vowels on *to* (33%, 33%), and *of* (17% and 0%). M3 had an exceptionally high rate of reduced vowel production on *to* (83%), but an extremely low rate of realization of reduced vowel on *of*. These data show a clear trend of the participants producing full vowels instead of reduced vowels in function words.

Table 1

Realization of Vowel in "to" and "of"

speaker	**to (6)**		**of (6)**	
	Full	schwa	full	schwa
F1	4	2	5	1
F2	4	2	6	0
M3	1	5	6	0

Table 2

Nasalized Vowels in the Wolf Passage

speaker	**Without nasalized [m]**	**Correct**	**Nasalized but not [m]**
F1	0	2	2
F2	1	1	2
M3	0	3	1

Nasalized Vowels

Deterding (2006) noted a strong tendency of final vowels before final nasal consonants becoming nasalized or alternatively, a deletion of the final nasal consonant. Chung (2005) also discussed the tendency of English speakers in Taiwan for a tendency of deleting the final [n].

There are 4 instances of [m] in the Wolf passage, including 3 instances of *him* and 1 instance of *himself*. The full result for the 3 speakers is shown in Table 3. Of the three participants, F1 and F2 had a stronger tendency to nasalize the vowel, a 50% chance of nasalizing the vowel. Only F2 produced 1 instance with no nasal consonant [m]. Overall, only 50% of instances were produced correctly without any nasalization of final vowels or omission of nasal consonants.

Table 3

Realization of the Consonant at the Initial Voiceless Dental Fricative in the Wolf Passage

Instances	**F1**	**F2**	**M3**
thought	[s]	[s]	[s]
threaten	[s]	[s]	[tz]
Third	[s]	[θ]	[s]

Voiceless Dental Fricatives

There are three instances of [θ] in the passage, *thought*, *threaten*, and *third* respectively, making a total of 9 instances. The result shows that of the 9 tokens, 7 had clear instances of [s], 1 had [θ] and 1 had [tz]. The results of individual speakers are shown in Table 4.

Two of the speakers used [s] or [tz] with [θ] alternatively. Only F1 used [s] instead of [θ] throughout. Since there were no instances of final [θ] or middle [θ], we cannot conclude that the speakers would have the same tendency in each position. However, we can conclude is that the participants had a strong preference of pronouncing [s] instead of [θ].

Table 4

Realization of /ð/ at the Start of Words in the Wolf Passage

speaker	**/ð/**	**/z/**	**/d/**
F1	1	18	0
F2	0	0	19
M3	4	0	15

The results are similar to Deterding's (2006). Among a total of 57 tokens, only 5 tokens were pronounced with [ð]; either [d] and [z] has been used to substitute [ð]. Interestingly, although the three speakers are from the same province, they varied in their substitution of pronouncing [ð].

With regard to [ð] in middle and final word positions, all participants failed to produce [ð], instead, they tended to produce the initial and middle position [ð] with their expected pattern. However, only F1 and M3 pronounced with as [wIz] instead of [wIð], whereas F2 realized [ð] in the final position. It should also be noted that M3 did not follow the expected the pattern of producing [d] instead of [ð] in every word position. However, since there is only one representation of word final [ð], it is unclear if this is an anomaly or there is a different pattern in terms of how to pronounce word final [ð].

Voiced Dental Fricatives

There are 31 instances beginning with [ð] in the Wolf passage, 29 instances with initial [ð], 1 with middle [ð] (bother), and 1 with final [ð]. Here we considered the consonant at the start of 19 words: the (14 instances), that (3 instances), and they (2 instances). We chose these instances because each of them appeared at least twice in the reading. The result is as indicated in Table 5.

Table 5

Realization of Vocalized [l] in 4 Instances of Wolf

speaker	**Dark [l]**	**Substitution of/no vocalized/ dark [l]**
F1	0	4
F2	0	4
M3	0	4

It is very clear that none of the participants realized the vocalized [l] in the total 12 tokens. Thus, we can conclude that dark [l] is a salient feature in the three participants' reading.

Vocalized [l]

Deterding acknowledged that dark [l] should not only be considered as a characteristic unique to Chinese speakers. Rather, vocalized [l] is likely to become a trend in even standard English (Wells, 1982), just like the historical [l] is no longer pronounced in words such as walk and calm.

In this passage, there are many instances of vocalized [l]. For the sake of analysis, we chose 4 instances of *wolf* from the passage, and the result is shown in Table 6.

Table 6

Substitution of [w] with [v] in Village (2 tokens) and Villagers (2 tokens)

Speaker	**Village (2)**	**Villagers (2)**
F1	2	2
F2	1	2
M3	2	1

[w] as [v]

The last salient feature of the three students is [v] pronounced as [w]. Chang (1987), Hung (2005) and Deterding (2006) noted either replacement of [w] with [v], or omission of the consonant. In our data, a total of 12 tokens were taken from the readings. Only 17% of the tokens were pronounced as [v], and the majority of the tokens were replaced with either [w] or a very weak [v].

Listed above are the features that are aligned with Deterding's (2006) study on speakers from other parts of Mainland China. Since these features are not limited to southern speakers, we suggest that these features are shared among Mainland Chinese English speakers, regardless their varieties of Chinese.

New Features

In addition to the features discussed above, participants exhibited non-standard features that have not previously been reported. There are six categories of differences: Incorrect lexical stress, missing final stops, absence of distinction between long and short vowels, [ʃ] as [s], [v] as [f], and [s] as [k] in consonant cluster [ks]. In this section, we discuss these features in details.

Incorrect Lexical Stress

In the readings, two participants misplaced the stress in polysyllabic words. F1 and F2 misplaced the stress of *concern* on the first syllable. F1 also placed the stress of *actually* on the second syllable as indicated in the sentences below:

1. full of CONcern for his safety (F2: 52.09s)
2. It acTUAlly did come out of the forest (F1: 1:14.51s)

Although these are the only two instances examined in the reading, we will undertake further investigation in the interview data.

Omission of Final Stops

Two participants had a strong tendency to omit the final stops. In her reading, F2 omitted final stops in 15 instances, and 40% of the 15 instances comprised consonant clusters. M3 had 19 instances with this omission, and apart from instances that ended with consonant clusters (5

instances), the majority were monosyllabic words with a final stop. There was only one instance in which F1 omitted a final stop. We can infer from the data that there is a tendency for students from the southern provinces to omit the final stop in a word; however, this needs to be confirmed by further analysis with more participants.

Absence of the Distinction Between Long Vowels and Short Vowels

The absence of the distinction between long vowels and short vowels was recognized as a salient feature of pronunciation of Chinese speakers from the northern part of China (Qian, 2011). In our three participants, this is also a salient feature. For example, in their readings, the long vowel [i] was replaced with the short vowel [ɪ] in *feast* and vice versa in M3's reading.

Raising his fist in the air (F2: 36.58s) (M3: 34.20s)

And so the wolf had a feast (M3: 2:20.46s)

We also counted the number of instances each participant mixed long vowels with short vowels, and the number was quite noteworthy (F1: 5; F2: 9, M3: 5). We will undertake further analysis in the interview data.

[ʃ] as [s]

We found a total of three instances in which [ʃ] and [s] were used alternatively in F1 and M3's reading. For example, in this sentence:

…its fear of being shot, …(M3: 39.28s)

shot was pronounced as [sɔt]. Meanwhile in F1's reading, *also* was pronounced as [ɔʃəu]. Although the number of instances is too scarce to make any significant conclusion, it remains likely that it is a pronunciation feature of English in southern province.

[v] as [f]

The final [v] in the preposition *of* was pronounced as [f] across the three participants in their readings. Out of the total 18 instances of the word *of,* all of them were pronounced with either clear [f] or a weak fricative [v]. Therefore, we believe that it is a common feature among the three participants, and it could possibly be a common feature among other participants.

[s] as [k]

In the readings, there was a tendency that the participants pronounce [k] in a consonant cluster of [ks] as [s] in the word *successful* (F2 and M3). This phenomenon could be interpreted in one of two ways. The first is that speakers substituted [k] with [s] in the consonant cluster [ks] because there is no consonant cluster in Mandarin Chinese and they could not pronounce it. The second is that they omit [k] for the same reason.

This second group of features are currently identified as unique to participants from the southern province and propose a direction for future analysis.

DISCUSSION

A comparison between the study reported here and Deterding's (2006) study on which this one is based, suggests that some pronunciation features are found to be shared among Chinese speakers across Mainland China. These features include extra final vowels, the absence of reduced vowels, nasalized vowels, voiceless dental fricative, vocalized [l], and [w] as [v].Other features that were found in Deterding's (2006) study were not found thus far in this study. This may be due to the limited amount of data we have currently analyzed..Additional analysis is being undertaken with the interview data to determine if there are more features that our participants share with Chinese speakers from other parts of China. Finally, with regard to Deterding's findings, the choice of either [d] or [z] as a replacement of voiced dental fricative [ð] has been identified in the three participants' readings, which suggests that this feature may be pan-regional as opposed to region-dependent.

We also identified several features that are unique among our three participants from southern China. These features involve vowels, consonants, and stress placement, including omission of final stops, the absence of a distinction between long vowels and short vowels, misplaced stress, and three consonant replacements.

At this time, we have only included the analysis of the readings of three participants in this paper. Further analysis of the rest of the data will help us confirm some of our findings.

Concerning possible teaching applications based on our study, we would like to focus on certain segmental contrasts, such as voiceless/voiced dental fricatives and long/short vowels. We consider that using minimal pairs that contain problematic segmental contrasts will help Chinese students distinguish the individual confusing sounds. According to our data, some of the contrastive features that we can address using activities containing minimal pairs include: voiceless dental fricative [ɵ] with [s], voiceless dental fricatives [ð] with [d] or [z], long/short vowels, and [v] &[w]. By reading extensive word lists of minimal pairs that contain these problematic pairs of phonemes, and practicing with activities that are designed to drill the minimum pairs, we hope students can maximize their chance to produce these sounds correctly.

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APPENDIX – A

The Boy who Cried Wolf

There was once a poor shepherd boy who used to watch his flocks in the fields next to a dark forest near the foot of a mountain. One hot afternoon, he thought up a good plan to get some company for himself and also have a little fun. Raising his fist in the air, he ran down to the village shouting 'Wolf, Wolf.' As soon as they heard him, the villagers all rushed from their homes, full of concern for his safety, and two of his cousins even stayed with him for a short while. This gave the boy so much pleasure that a few days later he tried exactly the same trick again, and once more he was successful. However, not long after, a wolf that had just escaped from the zoo was looking for a change from its usual diet of chicken and duck. So, overcoming its fear of being shot, it actually did come out from the forest and began to threaten the sheep. Racing down to the village, the boy of course cried out even louder than before. Unfortunately, as all the villagers were convinced that he was trying to fool them a third time, they told him, 'Go away and don't bother us again.' And so the wolf had a feast.

APPENDIX – B

Informal interview script taken and modified from Deterding (2005b). The following are the range of topics that were covered in the interview:

1. Tell me something about your family.
2. What is your subject/major?
3. What do you want to do in the future?
4. What do you like to do in your free time?
5. Have you ever communicated with native speakers? Do you understand them? Do you think they understand you?