

A Study on English Pronunciation Problems at Segmental Level of College Students from Mainland China

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English pronunciation at segmental level plays a very significant role in learning and teaching of English pronunciation. This paper aims to investigate into the most salient pronunciation problems at segmental level by college students from Mainland China (Mandarin L1 speakers) through a close study, and it is found that the problems identified in the segmental aspects of English pronunciation are corresponded with the phonological features of the pronunciation of Chinese English. Moreover, in order to help college students improve their pronunciation and achieve the pronunciation of Standard English, this study provide some pedagogical implications and suggestions about teaching strategies aimed at the most salient problems discovered in the research findings.

Keywords: English pronunciation problems, segmental level, College students, implications and suggestions for teaching

Introduction

The segmental features of English language (e.g. consonants, vowels, etc.) play a significant role in the speakers' appropriate pronunciation of English, which can be regarded as the core elements in English language pronunciation. In addition, there are a large communities of English speakers whose mother tongue is Mandarin Chinese. For these reasons, as a college English teacher, it is well-worth investigating into the English pronunciation features in segmental aspect by college students from Mainland China.

Therefore, this paper firstly examines the pronunciation problems at segmental level of six college students from different parts of mainland China (Northeast China, Central China and Eastern China) and provides college English teachers suggestions about teaching strategies aiming at the most salient problems discovered in the research findings for the purpose of helping students improve their pronunciation while learning English.

Literature Review

The pronunciation of Cantonese English spoken by people from Guangdong Province and Hong Kong has a large number of research findings already. However, as Deterding (2006) claimed, there were few researches into the English pronunciation features among the Mandarin speakers. For example, in a book concerning Chinese

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Englishes (Bolton, 2003), no discussion of the English pronunciation of speakers from other parts of China except Hong Kong. In previous researches on the English pronunciation by speakers from China, Chang (2001) provides a list of vowels and consonants that are problematic among Chinese speakers and also cover the suprasegmental features of Chinese speakers. Ho (2003) summarizes the perceptions of teachers in Singapore about the most serious pronunciation of Chinese students based on thirty nine audiovisual recordings. As Ho (2003) mentioned, the pronunciation of English speakers from different regions in China is different. However, there are some features that are in common and distinguish China English from other varieties of English.

So this paper sets out to investigate the segmental features of English pronunciation of college students from Mandarin speaking regions in Mainland China, in an attempt to offer teachers teaching strategies addressing the most acute pronunciation problems among college students.

Participants

Six participants selected for this study are educated college students aged between 18-26, including 4 undergraduate students from Huashang College Guangdong University of Finance and Economics, and 2 studying for their master or doctoral degree in Guangdong University of Finance and Economics. They come from different provinces in the Northeastern, Eastern and Central part of China (with two subjects from each part of China respectively) and speak Mandarin as their mother tongue. Therefore, they are selected in this study for the investigation into whether their English pronunciation has been affected by their L1, Mandarin Chinese, and whether their pronunciation shares similar phonological features of English by Mandarin speakers from Mainland China. All six participants were asked to perform the task of reading a passage aloud excerpted from Celce-Murcia et al, 2001, p. 398. The background information of six participants can be shown in Table 1.

Table 1

Age and Hometown of Participants

Student	Age	Hometown	Student	Age	Hometown
1	18	Heilongjiang	4	17	Hunan (Yueyang)
2	21	Jilin	5	20	Shanghai
3	23	Hubei(Wuhan)	6	26	Jiangsu

Note. Student 1 and 2 are from Northeastern China

Student 3 and 4 are from Central China

Student 5 and 6 are from East China

Material

All six participants were invited to read aloud the same text (attached in Appendix) derived from a book named *Teaching Pronunciation, A course book and reference guide (2nd ed.)* by Celce-Murcia et al and their spoken data was recorded. The following seven sentences were chosen in this study as the material for in-depth analysis of participants' pronunciation features.

1. Why do people usually have an accent when they speak a second language?
2. Several theories address this issue.
3. Most native speakers of English can, for example, recognize people from France by their French accents.
4. Does this mean that accents can't be changed?

5. But old habits won't change without a lot of hard work, will they?
6. In the end, the path to learning to speak a second language without an accent appears to be a combination of hard work, a good ear, and a strong desire to sound like a native speaker.
7. You also need accurate information about the English sound system and lots of exposure to the spoken language.

These seven sentences have been selected in that they contain some phonological features that are supposed to be the most difficult ones for Chinese speakers to pronounce correctly e.g. /ð/ /θ/ /ŋ/ /ʒ/ etc, and the reasons why they mispronounced those phonemes.

Methods

The recordings of the six participants have been collected and their pronunciation is analyzed in details in terms of English segmental features. There are some mismatches between subjects' pronunciation and the native model, e.g. RP and GA. Some words are mispronounced too. Therefore, the error analysis was adopted in this paper. The transcription of the text on the speakers' recording is conducted and IPA symbols are adopted as a measurement to examine whether the participants' pronunciation is correct or not. Some features can be figured out through this process, which can be used to generalize into some common phonological features by Mandarin speakers from Mainland China.

The recording data of the six participants were available on *the Spoken Corpus of the English of Hong Kong and Mainland Chinese learners Faculty of Humanities, The Hong Kong Institute of Education*: <http://corpus.ied.edu.hk/phonetics/>

Data Analysis

The data was analyzed by identifying the mispronunciation patterns that are deviated from the correct pronunciation according to the International Phonetic Alphabet symbols and the most serious problems can be identified at the segmental level (consonants and vowels), as can be seen in Table 2 and 3:

Table 2

Vowels

speaker	/æ/→/e/	Shortening of diphthong			/e/→/aɪ/	/ʌ/→/a:/	/a/→/eɪ/	/aʊ/→/ʌ/
		/eɪ/→/e/	/ʊə/→/ə/	/eɪ/→/aɪ/				
1	Accent: S1, S3	Change:S5	Usually:S1		When: S1			
2		Native: S3 Native: S6						
3	Language: S1	Changed:S4 Changed:S5				Does: S4		
4	Accent: S1	Changed:S4						
5	Accent: S1, S3						Path: S6	
6	Accent: S1, S3, S4			They: S5				Sound: S7

Note. "S1, S2....S7" are adopted respectively representing "Sentence 1, Sentence 2 to Sentence 7" as can be seen in Material part.

From this table, we can see the most salient feature in terms of vowel can be the substitution of /æ/ with /e/ and the shortening of diphthong.

Table 3

Consonants

speaker	/ð/		/θ/		/ʒ/		/ʃ/->/s/	/ŋ/->/n/	/z/->/s/	/l/->/n/
	/ð/->/d/	/ð/->/z/	/θ/->/s/		/ʒ/->/r/	(/ʒ/->/z/)				
1	Their: S3		Theories: S2		Usually: S1		Issue: S2	English: S3	Example: S3	English: S3 Old: S5
2	This: S2 This: S4 That: S4	With out: S5 With out: S6		Path: S6			Exposure: S7	Issue: S2	English: S3; English: S7	Theories: S2; Example: S3
3		With out: S5 With out: S6	Theories: S2	Path: S6		Usually: S1				
4				Path: S6		Usually: S1				Language: S1
5		With out: S6	Theories: S2							
6	Without, they: S5	With out: S6	Theories: S2	Path: S6	Usually: S1 (uncertain)		Exposure: S7			

Note. "S1, S2....S7" are adopted respectively representing "Sentence 1, Sentence 2 to Sentence 7" as can be seen in Material part.

From this table, we can see the most salient feature in terms of consonants can be the substitution of dental fricative using similar sounds in Chinese and the difficulty in discerning /n/ and /ŋ/, etc.

Findings

Substitution with a Similar Sound

Among the most difficult sounds for Chinese learners to pronounce, a pair of dental fricative sounds /θ/ and /ð/ would be the one that is fairly problematic for most of the students. According to the result of this research, most participants, like many other English learners whose mother tongue is Mandarin Chinese, had difficulty in pronouncing the correct sound of voiceless dental fricative /θ/ and its voiced counterpart /ð/, usually adopting the substitution strategy to use a near sound in Mandarin Chinese e.g. /s/ to substitute for the voiceless dental fricative sound /θ/ in English. While for the voiced dental fricative sound /ð/, the most common substitution would be the voiced alveolar stop /d/ and voiced alveolar fricative /z/, as these sounds can be derived from *Hanyu Pinyin*. This findings is in agreement with Ho (2003, p. 144). Chang (2001) also pointed out that it is a shared problem among Mandarin Chinese speakers as both the /θ/ and /ð/ sounds do not occur in Chinese. In addition to this, another

convincing reason provided by Ho (2003) is the fact that “there is a *si* in the Chinese *pinyin* transcript but not the voiceless /θ/”.

The English consonant sounds that cannot be found in Chinese language also include voiced palatal fricative /ʒ/ and voiced velar nasal /ŋ/, where participants in this study would like to use voiced alveolar fricative /z/ and voiced alveolar nasal /n/ respectively as their replacement, e.g. the word usually /'ju:.ʒu.ə.li/ is pronounced as /'ju:.zu.ə.li/ and the word *English* /'ɪŋɡlɪʃ/ is pronounced as /'ɪŋɡlɪʃ/.

Whereas for the vowels, there is no corresponded /æ/ sound in Mandarin Chinese, as Chang (2001) mentioned. So it poses a great challenge to learn the phonetics of this sound for beginners learning English, especially adult learners. The subjects in this study, therefore would normally adopt the sound /e/ as a substitution for /æ/.

This is due to the reason that there are many differences between the Chinese phonological system and the English counterpart, so there is no exact and corresponded sounds of these phonemes that can be found in Mandarin Chinese. For this reason, the speakers usually find another similar sound in their native language for easier pronunciation of these phonemes (Hockett, 1972; Lado, 1957).

Failure to Distinguish between Voiceless Consonants and Voiced Consonants

English, the most important second language in China, has become a greatly important subject and even a necessary communication tool to be learned and mastered by Chinese students since they enter primary school. However, though most of the college students have learned English for more than 6 years, they are still confused by the distinction between the voiced and voiceless consonants when pronouncing English words that contain those particular phonemes. For example, they would substitute voiced alveolar fricative /z/ with its voiceless counterpart /s/ in pronouncing /ɪg'sɑ:mpl/ as the word *example* /ɪg'zɑ:mpl/ or use voiced alveolar nasal /n/ as a replacement for voiced alveolar liquid /l/ in the pronunciation of the word *language* /'læŋɡwɪdʒ/ as /'næŋɡwɪdʒ/. Therefore, it is one of the particular kinds of English pronunciation features that is existed among Mandarin speakers in Mainland China.

It is noted that the above-mentioned phenomenon is due to the fact that learners tend to transfer some of the sounds in Mandarin Chinese to English language for the ease of articulation and pronunciation. However, this affects their correct pronunciation in English language, leading to some phonological features of pronunciation problems that are peculiar to Chinese learners.

Shortening the Diphthongs

The case of shortening the diphthongs also occurs frequently in this reading aloud task. Examples can be found in the substitution of /eɪ/ with /e/. This is because of the fact that the pronunciation of diphthongs in Chinese is usually shorter and it requires smaller tongue and lip movement than their English counterparts. Consequently, English learners from Mandarin speaking areas in mainland China often commit the mistakes of making the sounds of diphthongs as short as monophthongs, without adequate distinction between the two component vowels (Chang, 2001).

Pedagogical Implication and Suggestions for Teaching

This study aims at identifying the most problematic sounds with English segmental features by Mandarin speakers in order to inform teachers the most salient pronunciation problems among Mandarin Chinese speakers and possible reasons behind this. Teaching and remedial instructions of these particular phonemes are suggested in an attempt to help students to learn the correct sounds of words more effectively as well as correcting their fossilized mistakes. Therefore, the strategies adopted to help Mandarin speakers to improve their English phonetics are highly-valued.

Pronunciation drills could be adopted in order to focus on targeted pronunciation problems for effective correction and improvement. As Ho (2003, p. 149) listed, there are several useful strategies suggested by teachers in the CELC (Center for English Language Communication) in his study, e.g. explicit phonetic instruction on the places and manners of articulation, encouraging students to identify his own errors of pronunciation or other students' pronunciation errors, incorporating funny poems, drama, etc into the articulation exercises to make pronunciation teaching meaningful and memorable, offering tongue-twisters exercises for students to teach them difficult sounds, etc.

In this paper, a certain kind of pronunciation teaching approach aimed at difficult sounds e.g. /ə/ and /ð/ will be provided in details. First, teachers should demonstrate the manners and places of articulation to students in an explicit way. This kind of explicit teaching can help them have a clear and concrete understanding how the sound is actually pronounced, as a result of which, it would be easier for them to imitate and memorize the correct pronunciation as well. Second, lists of words that contain this kind of phonemes should be chosen as pronunciation teaching materials for students to discriminate between the correct sound and the similar sound which is used by a majority of Chinese students for substitution. For instance, the “then/ ðen/” and “zen/zen/” and the “sink/sɪŋ/” and “think/θɪŋ/”. By contrasting the differences of pronunciation of these pairs, students will gradually come to realize the fact that whether they normally pronounce is deviated from the correct pronunciation according to the International Phonetic Alphabet symbol. Therefore, they can be cultivated a sense of awareness of whether their own pronunciation is correct or not. After that, students can be asked to identify the only one correct sound that teachers are reading each pair of the sound aloud to them. At later stage, students can be asked to do some production activities e.g. making a dialogue in pair work and focusing on the proper pronunciation of the target words that contain /ə/ and /ð/. By doing so, students can be trained to have a better understanding of these particular sounds and therefore improve their phonetic accuracy of the shared difficult sounds (e.g. /ə/ and /ð/ etc) among Mandarin Chinese students.

For other students that have already fossilized this kind of mistakes, remedial instruction can be adopted by asking students “resetting your tongue on your teeth” and showing tongue position with diagrams.

Conclusion

In conclusion, this study has achieved its aim to examine the specific pronunciation weaknesses in terms of segmental level among Mandarin speakers from different parts of China (except from the southern part of China such as Guangdong and Guangxi Province that are less influenced by Mandarin Chinese). The findings was well corresponded with the most salient English segmental features among Mandarin Chinese speakers, such as use of substitution of /s/ for /θ/, /d/ or /z/ for /ð/ that appear very common among the mistakes made by Mandarin

Chinese speakers. In terms of the phonological feature of vowels, the shortening of diphthongs, e.g. from /eɪ/ to /e/ is also very common for Mandarin speakers for greater ease in pronouncing words. In light of this, the pedagogical implication and suggestions were offered to English pronunciation teaching aimed at addressing the most serious problems of English pronunciation by speakers from Mandarin speaking regions in mainland China. In future studies, it is hoped that both the reading aloud tasks as well as interviews will be adopted to examine the pronunciation problems when speakers pronounce words in both controlled and authentic speech environment. In addition to this, the participants from Cantonese speaking regions could also be included in the study to examine whether their mispronunciation of some English sounds could also be due to the influence of Mandarin Chinese and the differences between English pronunciation features by speakers from Mandarin and Cantonese speaking regions in Mainland China.

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Appendix

Passage 1 (excerpt from Celce-Murcia et al, 2001, p.398)

If English is not your native language, people may have noticed that you come from another country because of your "foreign accent." Why do people usually have an accent when they speak a second language? Several theories address this issue. Many people believe that only young children can learn a second language without an accent, but applied linguists have reported cases of older individuals who have mastered a second language without an accent. Another common belief is that your first language influences your pronunciation in a second language. Most native speakers of English can, for example, recognize people from France by their French accents. They may also be able to identify Spanish or Arabic speakers over the telephone, just by listening carefully to their pronunciation. Does this mean that accents can't be changed? Not at all!! But old habits won't change without a lot of hard work, will they? In the end, the path to learning to speak a second language without an accent appears to be a combination of hard work, a good ear, and a strong desire to sound like a native speaker. You also need accurate information about the English sound system and lots of exposure to the spoken language. Will you manage to make progress, or will you just give up? Only time will tell, I'm afraid. Good luck, and don't forget to work hard!