Guidance of Computer-aided Self-teaching and Practice of English Pronunciation for Chinese Adult English Learners

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Abstract. As the difference of pronunciation between English and Chinese are huge, it is difficult for Adult English Learners to correct their pronunciation and get better communication results. This passage has provided very basic but necessary phonetic knowledge, the methods of practice aided by computer and some software, which are all very helpful for the adult English learner who want to improve their pronunciation.

1. Introduction

The most frequently used communication tool in daily life is language. It is said to be the most important gift for human beings. The study for language has existed for a very long time and we call it linguistics. Usually, it focuses on the study of three very important elements of language, namely, phonetics, lexicon and grammar. And among these, phonetics is the most important element for human daily communication.

Phonetics is not an extra equipment or decoration. Along with the start of language, the development of phonetics has existed in speaking, listening, reading and writing[1]. Saucer has once pointed out that language is the thoughts organized by sound. So the correctness of pronunciation when speak a language can directly influence the quality of communication. In verbal communication, pronunciation contains the most important information and sometimes almost 100% of the information. A.C.Gimson, the famous English phonetics once said, if a person want to learn a language and use this language to communicate, the person must grasp 100% of the phonetics and 50% to 90% of the grammar and 1% of the vocabulary. So, phonetics teaching and learning should be a very important part of language teaching.

2. The Problem of English Pronunciation Teaching.

However, pronunciation teaching has long been neglected in China and there are two reasons. First, in the past, English is learnt for the purpose of passing the National College Entrance Exam, but this test is only a written test, without speaking and for a long period even without listening test. So, the pronunciation and verbal communication had not been placed importance by learners, teachers and parents in the past. Second, as the differences between English pronunciation and Chinese pronunciation are many and huge, without very professional training of the pronunciation, even most English teachers don’t have standard English pronunciation. So, it is very unlikely to focus on and teach pronunciation to their students.

And as what has been suggested by fossilization theory, the acquisition of standard pronunciation
can only be fulfilled under teenage years. So without sufficient and adequate training at teenagers years, it’s very hard for adults to pick up standard pronunciation.

Take all the above factors together into consideration, it can be predicted that for adult English learners it is very difficult to change the pronunciation habit and make self-correction. So computer aided learning and a careful and professional plan is needed.

3. A general plan for self-teaching and learning of English pronunciation

3.1. To know the phonetics knowledge is very helpful to adult learners as adult learners can take advantage of their advanced cognition ability to shorten learning procedure.

3.2. To ensure adequate practice, as the phonetic difference between Chinese and English are huge, after the learners systematically understand the difference the learners should master the pronunciation through practice. And generally speaking, the pronunciation practice can be separated into two parts, the practice of phonemes and prosody.

3.3. If it is possible, ask professional pronunciation tutors to give guidance and suggestions about pronunciation or use mobile phone app to check your correctness.

4. A detailed explanation and some supplements of the above plan.

4.1. The very basic and must-know knowledge of English phonetics for pronunciation learners.

4.1.1. Vowels.
For Chinese there are only six vowels, namely, a, o, e, i, u, ü, but English has 12 vowels, which is twice of the Chinese vowels. And according to articulation phonetics the difference of vowels only caused by the difference of the position of tongue, lower the tongue a little or drawback the tongue a little bit all can cause the change of the quality of vowels and make it a different vowel[2]. So when the Chinese learn English the most difficult part is to learn vowels. The following picture shows the position of the tongue when pronounce the English vowels.

Figure 1. the position of the tongue when pronounce the English vowels.

At same time, the above table also showed that these are long vowels in English but Chinese doesn’t have long vowels. And it is a noticeable mistake that the Chinese learners often shorten the duration of English vowels.
4.1.2. Consonants

In articulation phonetics, a consonant can be determined by the way of articulation and place of articulation. Like the following picture (the English Consonants).

| Place of articulation | Two lips | Teeth | Tongue tip | Tongue tip | Tongue tip | Tongue tip | Tongue tip | Glottal |
|-----------------------|----------|-------|------------|------------|------------|------------|------------|--------|
| Stops                 | p        | b     | t          | k          |            |            |            |        |
| Fricatives            | f        | v     | s          | r          | j          |            |            | h      |
| Affricatives          | tʃ        | d     |            |            |            |            |            |        |
| Nasals                | m        | n     | s          | n          |            |            |            |        |
| Lateral               | l        |       |            |            |            |            |            |        |
| Semi-vowels           | w        |       |            |            |            |            |            | j      |

According to the “Negative Transfer” theory, the learners’ mother language can influence the learning of a new language and the learners will replace the new phonemes of the learning language by the already familiar mother language phonemes by not advanced learners. After compare the consonants between Chinese and English, the following consonants should be paid attention to when practicing English consonants, for example, for /w/, /v/, /ŋ/, /θ/, /ð/ these five consonants only exists in English but not in Chinese, so when the Chinese learn the English pronunciation, special attention should be paid to these five consonants. Another consonant /h/, in English it is a glottal voiceless fricatives but in Chinese it is a Velar voiceless fricatives, so the places of articulation are different. This is often ignored by Chinese learners.

At the same time, according to some other experimental and phonetic research, the following are the pairs which often mix-used by Chinese English learners, they are: /t/&/d/; /p/&/b/; /s/&/z //z/ /θ/. And /θ/ is often replaced by /s/ or /ʃ/ and /ð/ is often replaced by /z/ [4]. And among these the most difficult for Chinese speakers is to make distinctions among /θ/, /s/ and /ʃ/. The following picture shows the different air flows of these three consonants. From /θ/ to /ʃ/, the tongue of the position draws back and forms more stops in the mouth, at the same time, from /θ/ to /ʃ/, gradually more power is used in pronunciation.

For adult learners, the spectrogram can help to understand better. When the three consonants are read into computer by Praat, the sound spectrograms are like the following picture. The picture the red arrow points to are the sound spectrogram the darker the picture, the more energy was used when
pronounce.

4.1.3. Prosody.
English is a rhyme-based language but Chinese is a stress-based language, so for Chinese it is difficult to catch the rhyme of English.

First, when the Chinese read an English passage, the speakers spend less time than native speaker and this time span difference is significant [5] there are two reasons for this. First, as what have been said Chinese is a stress-based language, the time duration in between every stress is the same. So when the Chinese read English they tend to treat no matter the longer meaning chunk or the shorter meaning chunk with the same amount of time. Then, the time which should be spend on the longer meaning chunk is squeezed; Second, as what have been mentioned in 4.1.1, the English long vowels is not read long enough, so the whole duration is shortened. So, when practicing reading English, long vowels and time duration of meaning chunks should be paid attention to.

Second, when the Chinese read the English words they tend to stress each and every word, but this is not the pronunciation law of English, so learners should pay attention to the English stress system and notice the difference.

Combine the Two for English prosody, two points should be especially trained the first is “chunk the meaning group” the second is put the stress at the right position. And with the aid of computers, the change of the prosody can be visualized.
4.2. How to practice.
To practice English pronunciation, mimic is the basic method and when you use mimic you should always record yourself and make a comparison after you make the recording. When compare, try your best to notice the difference and make a correction in the next mimic and recording.

4.3. The recommendation of software.
If the learner want to have more phonetic knowledge you can download the app: 中国大学生 MOOC, then search for 上海师范大学 ——— 英语语音学。

If the learners want to make a recording, any smart phone can come to help. But here is an APP which is especially designed for mimic and record making: 英语趣配音. In this App, the learner can make recordings sentence by sentence, and if registered and paid as a VIP member, the learner can get a score of each sentence and get a recording for each one.

If the learner want to focus on prosody to practice, software Better Accent Tutor is recommended to use visualize and facilitate the practice of prosody[6].

5. Conclusion
Adult English learners can first take advantage of cognitive skills to understand pronunciation and phonetics from a science perspective and then to facilitate the practice of pronunciation. Second, the right methods of practice and the help of some software all can be very helpful to get a better English pronunciation.

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