The IPA training on the pronunciation of difficult English words for Cantonese speakers

Sunyoung Oh

Department of Chinese, Translation and Linguistics, City University of Hong Kong,
Hong Kong

<https://doi.org/10.36505/ExLing-2010/03/0033/000153>

Abstract

This study examined English pronunciation by Cantonese speakers in Hong Kong with the International Phonetic Alphabet (IPA) to see how the application of IPA can be used in language education. Twenty university students, divided into two groups, one with the IPA training and the other without the training, were asked to read 30 English words (5 controls) that contain challenging sounds (e.g., *liaison*, *knead*) with and without the IPA transcriptions. Words were divided into three categories - difficult vowels, silent sounds, and ambiguous sounds. Results showed that the pronunciations by the IPA trained group improved greatly for all categories when IPA was provided; however, the response time was longer compared to the non-trained group. No significant improvement was found in the non-trained group though the pronunciation of the words with silent sounds improved with the IPA. The study suggests that the IPA training can be an alternative way to assist ESL learners to have access to proper English pronunciations when resources are limited.

Key words: Phonetic alphabet, pronunciation, second language acquisition, English, Cantonese

Introduction

English has been used in Hong Kong for many decades. While Cantonese, the first language largely spoken in Hong Kong, Macau, and Guangdong regions of the Southern China, has been a dominant language in daily use, English has played a role as an instructional language in education. With a recent increase in the use of Putonghua (Mandarin Chinese) after the 1997 handover, the use of English has been rather reduced to classroom language, and, contrary to what many people think, most students in Hong Kong, except for those who go to international schools, do not have enough exposure to native English during their primary and secondary education. Lack of native English speakers and/or trained ESL teachers in the language learning environment in addition to the interference with Cantonese phonology has been a barrier to a certain degree to mastering correct sounds, and, as a result, incorrect perception of English sounds and pronunciation errors are very common among Cantonese speakers (Chan & Li 2000; Yip & Oh, *forthcoming*). The International Phonetic Alphabet (IPA) can be used as an alternative way to provide an optimal learning output in order to minimize incorrect input of English sounds under the circumstances of a shortage of trained teachers and

ExLing 2010: Proceedings of 3rd Tutorial and Research Workshop on Experimental Linguistics, 25-27 August, Athens, Greece

native English speakers in the language learning environment in Hong Kong. IPA has been widely used in linguistics such as phonetics, phonology, language documentation, and child language transcription and suggested that the IPA could help second language learners to master the correct forms of words in a target language (IPA 1999, Pullum & Ladusaw 1996). However, not much study has been done on its actual application to language education or the effects of the IPA training in language learning in Hong Kong. Thus, the current study investigates how IPA training can be used to assist language learners to improve their pronunciations of difficult English words.

Methods

Participants

Twenty speakers of Hong Kong Cantonese participated in the study. The participants were divided into two groups, based on their knowledge of IPA: One group with previous IPA training (nine female and one male) and the other group with no IPA training (three female and seven male). The mean age of the IPA trained group was 23 years ranging from 21 to 28; and the mean age of the non-trained group was 24 years ranging from 22 to 29. All participants were born and raised in Hong Kong, went to local schools taking English courses since Form 3 (equivalent of grade 9), and had no foreign friends at the time of the study. None of them, except one speaker with a short-term stay, had studied or travelled overseas at the time of the study. All participants were undergraduate students.

Stimuli and Procedures

Twenty five English words that are difficult to read were selected along with five control words from Kwok (1993). Test words consisted of three categories: (1) words with a silent sound (e.g., *debris*), (2) words contains an ambiguous sound 'g' or 'ch' (e.g., *analogous*), and (3) words with double vowels (e.g., *quay*). The target words were presented twice to the speakers. In the first trial, the test words were shown without the IPA transcriptions; and in the second trial, the same words were presented with the IPA transcriptions (e.g., *debt* [det]). The speakers were recorded individually, producing all thirty words twice (20 speakers x 30 words x 2 repetitions). The recordings were made using a MP4 recorder with a built-in microphone in a quiet room. Data of total 1200 tokens were digitized and sampled at 44010 HZ for acoustic analysis.

Results

Findings were presented for each trial for the two speaker groups (non-IPA, IPA) in three word categories (double vowels, silent sounds, ambiguous sounds). Comparisons were made for overall performance by category, improvement rate and response time for the speakers. The ANOVA showed that the means for Speaker Group, IPA transcriptions (before, after) were all significant ($p < .0001$, $p < .0009$).

Word Category

Results showed improvements in pronunciation for all three categories for the IPA-trained group after IPA transcriptions were provided. For the non-trained group, no effect of the IPA on the pronunciations was found; however, the pronunciations of the words with a silent sound (e.g., *receipt*) improved with the IPA transcriptions. The performance by the groups were significant for both trials with ANOVA and *t*-test ($p < .0001$).

Figure 1. The performance of the correctly pronounced words by the two groups of speakers are shown in three word categories without (left)/with (right) IPA transcriptions.

Response Time

While the pronunciations by the trained group improved for all categories with the IPA transcriptions, the increase of response time to the target words with the IPA was greater for the trained group than the non-trained group.

Table 1. Response Time to the test words (in second).

	Non-trained Group	IPA-trained Group
Trial 1	8.39	9.75
Trial 2	6.85	9.82

Discussion and Conclusion

The effect of the IPA on the pronunciation was significant for English words with challenging sounds. The IPA-trained group benefited from the IPA for all categories with which showed above 60% of improvement, but the words with double vowels received the most improved pronunciations with the IPA, as shown in Figure 1. On the contrary, the non-trained group did not show any improvement in pronunciation with the IPA, and the words with double vowels were the most difficult ones to pronounce correctly. This suggests that the IPA training is effective to learn different vowel sounds as the IPA symbols can specify various vowels that cannot be learned from the English alphabet. Moreover, the IPA transcription was useful even to the non-IPA trained group: absent consonant symbols in the transcription had helped the speakers realize that those were silent sounds.

The first language learners are naturally exposed to a target language whereas the second language learners are not given such an environment and face interference with their first languages. For effective learning of pronunciation, enough exposure to a target language is necessary for words to be stored in one's lexicon for the correct use; however, when such resources are limited or not available, IPA could assist ESL learners to acquire correct pronunciations of English. This study provides a foundation for the application of the IPA in language education.

Acknowledgements

This project was supported by Grant 7002192 from City University of Hong Kong. The author thanks to Amy Yip and Carmen Suen for data collection.

References

- Chan, Y.W, Alice, Li, C.S. David. 2000. English and Cantonese Phonology in Contrast: Explaining Cantonese ESL Learners' English Pronunciation Problems. *Language, Culture and Curriculum*, Vol. 13, No 1.
- International Phonetic Association. 1999. *Handbook of the International Phonetic Association: A Guide to the Use of the International Phonetic Alphabet*. Cambridge; New York: Cambridge University Press.
- Kwok, D. 1993. *Practical English Phonetics and Phonology*. Hong Kong: International Phonetic (H.K.) Association.
- Pullum, G.K, Ladusaw, W.A. 1996. *Phonetic Symbol Guide*, 2nd edition. University of Chicago Press.
- Yip, L., Oh, S.Y. forthcoming. English pronunciation teaching with IPA in Hong Kong.