

Observation of the preceding consonant of voiced stop consonant clusters:

In the case of Japanese native speakers of different English proficiency

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Abstract

Previous research on the perception and production of consonant clusters by Japanese native speakers has revealed that they are likely to perceive and produce epenthetic vowels between the consonants (Dupoux et al., 1999; Fujimoto & Funatsu, 2008). This is due to the syllabic structure of Japanese: while Japanese is an open-syllable language (VCVCV), languages such as English allow consonant clusters (VCCV). Therefore, the English word “strike” is pronounced as [sutoraiku] with vowels inserted between the consonants. Such phenomenon is due to the influence of native language on non-native sounds.

Fujimoto & Funatsu (2008) has stated that epenthetic vowels are more likely to occur between voiced consonants, and even if there is a vowel inserted, the vowel is likely to be devoiced. Therefore, this research aims to observe the preceding consonant of voiced stop consonant clusters taken from pseudo-words of Dupoux et al.’s study: “abge”, “egdo” and “ibdo”. The present research also investigates the differences between two groups of Japanese native speakers: speakers who have experience of living abroad for more than 2 years (hereafter bilingual), and speakers who have experience of living abroad for less than one month (hereafter monolingual).

The levels of epenthetic vowels within consonant clusters were categorized as “full”, “partial” and “no” insertion by using the waveform, voice bar, and formants as the criteria. Results revealed that bilinguals were unlikely to produce epenthetic vowels (78% no insertion, 21% partial insertion) and monolinguals were likely to produce epenthetic vowels (77% full insertion, 9% partial insertion).

Moreover, observation of the preceding consonant in the consonant clusters show that the preceding consonant of bilinguals were likely to become devoiced (45%) while monolinguals were likely to become spirantized (33%).