

Acquisition of word-final English voiced stops by Japanese learners of English: A case of voiced alveolar stops

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This study investigated the acquisition of word-final English voiced stops by Japanese learners of English, a case of alveolar voiced stops. Yavas (1997) measured the voicing percentages of the final voiced stops produced by nonnative English speakers (Chinese, Japanese, and Portuguese) as well as native English speakers, and reported that the voicing percentages for 4 English native speakers and 5 Japanese native speakers were 75.8% 32.9%, respectively. The results indicate that although the word-final voiced consonants are partially devoiced, the substantial voicing portion of the voiced consonants needs to be maintained. This study analyzed 24 Japanese learners' data to see how well Japanese learners of English acquire the voicing of the word-final voiced alveolar stops in English.

The analyzed data were a subset of the sixteen minimal pairs, ending with a voiced/voiceless consonant, a total of 32 words (e.g., beat-bead, kit-kid). The target words were elicited by twenty four adult Japanese learners of English. They were instructed to pronounce each target word embedded in the carrier sentence, "Say _____ now." Each target word was presented six times in a random presentation controlled by *Praat* (Boersma and Weenink, 2013). For the analyses, miss-pronounced words such as "bead" pronounced as [bed] and "cub" as [kæb] were first excluded. Eleven target words ending with an alveolar voiced stop were analyzed.

For the measurements of voicing, we adopted the procedures in Yavas (1997). The voicing percentages were calculated by measuring the entire length of the closure period and then measuring the voiced portion in this length. The beginning of the closure period was defined as the point of vowel termination. Vowel termination (beginning of the closure period) typically is cued by sharp reductions in the amplitude of vertical striations (indicating voicing). The end of the closure period is indicated by the release of the stop, which appears as one aperiodic burst (single sharp peak) on the display. Voicing percentages were submitted for the analyses.

Preliminary results of the 5 participants' data showed that the voicing percentages were low, which replicated the Japanese participants' results in Yavas (1997). The results confirmed that acquiring the word-final stop voicing in English is difficult for Japanese learners of English.

References

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