This study investigated effects of learners’ first language (L1) and pitch patterns (high vs. low, pitch fall vs. high level tone) on their identification of Japanese phonological vowel length in the second language (L2) by examining the relationship between pitch as a cue for the L1 phonological contrast and its use in the L2. Native listeners of Japanese (NJ) and four groups of learners of Japanese with L1 backgrounds in Mandarin Chinese (NC), Seoul Korean (NK), American English (NE), and French (NFr) participated in a perception experiment. Participants identified word-final vowel length of naturally spoken stimuli produced by native speakers of Japanese (260 tokens).

The results were as follows. First, the accuracy rate of NJ was significantly higher than that of the other four groups. Second, long vowels with a high pitch were easier for all groups of L2 learners to identify as long compared to those with a low pitch. Finally, it was easier for NC to identify long vowels with a pitch fall than those without it, i.e., a high level tone. The lower accuracy seems to be caused by the lack of experience using vowel duration for the length contrast in the L1 as the Feature Hypothesis (McAllister et al., 2002) suggests. The effect of pitch height could be a universal pitch effect as previous studies interpreted as a ”psychoacoustic effect.” However, stimulus duration per se was longer for long vowels with a high pitch, so we cannot exclude the possibility that L2 listeners were sensitive to this durational difference. Finally, NC might have used pitch fall, an important cue in their L1, in length identification in the L2.

References:


Keywords: speech perception, L2 learners of Japanese, L1 influence, phonological vowel length contrast.