A study on phonetic features in the acquisition of English stop consonants by Korean, Thai and Chinese speakers

This study examines phonetic features that Korean, Thai and Chinese ((Mandarin) speakers exhibit in acquiring stop voicing contrasts in English as a second language (L2). These languages are known to have different voicing contrasts from English. Korean has a three-way contrast of stop consonants, and so has Thai, and Chinese has a two-way contrast of voiceless unaspirated and aspirated stops.

The contrast in these languages has been of interest among phoneticians, since it involves several modes of vocal fold adjustments, and has been studied in detail from physiological, acoustic, and phonological points of view. Through these studies, phonetic characteristics of stops in these languages have been known and well-documented. But the studies have been scarce how these speakers exhibit the characteristics of English stops in their learning English as an L2.

The phonetic experiments were carried out for the speakers of these languages to examine phonetic features which are functional in distinguishing the voicing contrasts in these languages and which are also functional in English as an L2. The subjects were 7 Korean (Seoul dialect), 4 Thai and 2 Chinese speakers. Acoustic measurements were made on VOT (voice onset time) of the initial stops in the languages and in English as an L2.

Through the acoustic analysis, it can be said that VOT values are functional in distinguishing the stop voicing contrasts in Korean, Chinese (Mandarin), and Thai. In Korean, however, the value ranges overlap in two out of seven speakers, though the mean values can distinguish the contrast. Korean speakers closely align their tense stops with English voiced ones, while they do their aspirated stops with English voiceless ones. Further, Thai and Chinese ESL learners produce voiced – voiceless categories in English with the VOT values which are close to their own categories. From these results, it can be said that VOT is a major cue to distinguish the voicing categories, and in acquiring English as an L2.

In learning L2 speech sounds, there have been several models such as speech learning model and perceptual assimilation model. In these models, phonetic distance of stop categories in the source languages with English ones is a major cue in learning new L2 sounds. The subjects in these languages try to find L1 stop consonants whose VOT values are close to L2 ones.