

# The earliest stage of fricative acquisition among Thai learners of Mandarin Chinese

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For the learning of a second language, the existence of sounds in the first language is considered an essential factor. Lado (1957) proposed in his Contrastive Analysis hypothesis that second language learners would find the target language difficult where it differs from their mother tongue. Flege (1995), on the other hand, has argued in his Speech Learning Model (SLM) that similar sounds are more difficult to acquire than different sounds.

Most studies of fricative acquisition predict that where a given L2 fricative does not exist in the phonemic inventory system of the native language, it will be difficult to acquire (e.g. Díaz-Campos, 2004). Additionally, Major (2008) assumes that L2 learners cannot produce new sounds because they cannot perceive the differences between new sounds and old (i.e. L1) sounds though there are a few cases where L2 learners appear to do better in production. Best (1995) proposed the Perceptual Assimilation Model (PAM) whereby a new L2 sound is perceived as the nearest equivalent to the L1 sound. However, studies on the acquisition of fricatives in Mandarin as an L2 show that similar fricatives facilitate learning while new fricatives cause difficulty (Chang, Haynes, Yao, & Rhodes, 2009; Shih & Kong, 2011) thus challenging Flege's SLM and Best's PAM.

This paper investigates how speakers of Thai just beginning to learn the five fricatives in Mandarin: /f, s, ʃ, ʂ, x/ treat those which are similar (the two voiceless labiodental fricative and voiceless alveolar fricative) and those which are not (the three voiceless retroflex fricative, voiceless alveolo-palatal fricative and voiceless velar fricative). Its aim is to determine how learners treat non-L1 sounds at the very start of acquisition. The data come from a case study of three Thai speakers exposed to 14 hours of Mandarin instruction. Learners were assessed on their fricative production through the naming of 30 pictures. The production of fricatives was analysed auditorily and also acoustically, using Praat (Boersma & Weenink, 2012). Results from the auditory analysis reveal that all Thai learners correctly produced voiceless labiodental fricatives and voiceless alveolar fricatives - unlike voiceless retroflex fricatives and voiceless alveolo-palatal fricatives. These results seem to support Lado's hypothesis that similar sounds are easier to acquire. Moreover, there is only one realization for voiceless glottal fricatives for Thai learners, while Mandarin speakers usually have two variants for this sound. For acoustic analyses, we used the spectral moments analysis (Gordon, Barthmaier, & Sands, 2002; Li, Edwards, & Backman, 2009) is employed to examine production with measurements of 1) peak location, 2) centre of gravity, 3) standard deviation, 4) skewness, and 5) kurtosis. The results will demonstrate the comparison of each measurement produced by native speakers of Mandarin and Thai learners of Mandarin. The acoustic results will be discussed in detail at the conference.

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