

The Speech Learning Model (SLM) account of how Japanese speakers learn English /r/ and /l/

An enormous amount of research has focused on the acquisition of English liquids by native speakers of Japanese. I will summarize some of that research here, focusing on /r/ and /l/ in the initial position of English words.

Acquisition of word-initial English liquids has been of special interest because Japanese has a single liquid (designated here as “R”) in the portion of phonetic space where English has two, designated here as “r” and “l”. For native Japanese speakers first exposed to conversational English in adulthood (“Late learners”) phonetic learning proceeds slowly and is usually less successful than for individuals first exposed to English as children (“Early” learners). Laboratory training leads to improved perception of English /r/ and /l/ by Late learners. Moreover, the effects of training may persist over time and transfer to speech production. However, even the most effective training procedures do not normally yield native-like levels of performance in Late learners. This has led some to wonder if complete learning is ever possible and, in particular, if Late learners will ever manage to acquire perceptual sensitivity to the F3 dimension used by native English speakers to distinguish /r/ from /l/.

According to the Speech Learning Model (SLM), the creation of new categories for L2 vowels and consonants (“sounds”) not found in the L1 is a necessary but not sufficient condition for native-like production and perception of L2 sounds not found in the L1. Also needed is as much native speaker input for the sounds represented by the new L2 categories as is needed by monolingual children learning the target L2 as their native language. According to the SLM, perceived cross-language phonetic dissimilarity is an important determinant of whether new phonetic categories will or will not be established for L2 sounds. The greater the perceived dissimilarity of an L2 sound from the closest L1 sound(s), the greater is the likelihood that learners will establish a new category for the L2 sound. English /r/ is perceived to be more distant phonetically from /R/ than English /l/ is and so the SLM predicts that phonetic category formation is more likely for /r/ than /l/. The evidence reviewed here supports this prediction. Japanese adults who are highly experienced in English acquire sensitivity to the F3 cue, and manage to produce and perceive English /r/ accurately. Performance on English /l/, on the other hand, is limited even in highly experienced Japanese Late learners because this sound remains perceptually linked to Japanese /R/.