

Effects of L2 English proficiency on perception of coda [m]  
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Second language (L2) learners' L2 perception, in general, is affected by the knowledge of their first language (L1). They perceive L2 sounds through their L1 knowledge, fixing phonotactically illicit L1 strings into licit L1 strings. For example, among various strategies, L1 speakers of Japanese utilize perceptual epenthesis and phone substitution.

A previous study shows that epenthesis is a rather natural process for Japanese to employ for patching up illicit strings. Japanese are not only inserting vowels, but also actually hearing non-existing vowels (Dupoux et al, 1999). At the same time, the nature of Japanese coda /N/ reasonably brings out phone substitution as an adjustment strategy. Japanese coda /N/ is said to be underspecified in place feature, and coda /N/ is realized as bilabial [m] at the word final position naturally (Nogita, Yamane 2014).

Kilpatrick (2018) reports that while Japanese listeners prefer epenthesis at the word medial position (75%), they prefer phone substitution at the word final position (68%) in processing coda [m]. However, another study conducted with advanced English (L2) learners shows that, almost all the time, they choose epenthesis over substitution (Aoyama, 2003).

The present study is carried out as replication and extension of the preceding Kilpatrick experiment to find out if L2 learners' English proficiency affects the choice of strategies they make between epenthesis and substitution when they encounter coda [m]. Twenty-five students mainly from Sophia University are recruited and divided into 3 groups from B1 to C1 according to Common European Framework of Reference for Language (CEFR). Participants were assigned to 2 Alternative Forced Choice (2AFC) tasks; e.g. to choose between 「えとん(/etoN/)」 and 「えとむ(/etomu/)」 upon hearing the stimulus [etom].

Contrary to Kilpatrick's findings, we found that the phone substitution was a preferred strategy in both word medial and final positions. In addition, the difference in positional preference was significant; vowel epenthesis is preferred by 79% at word medial position and 58% at word final position. In the extensional experiment, we found that as L2 learners' proficiency level rises, they tend to utilize vowel epenthesis more than phone substitution in both word medial and final positions. Especially, L2 learners with higher English proficiency level, similar to Aoyama's results, strongly preferred vowel epenthesis over substitution as phonotactic adjustment strategy. Interestingly, both the word medial and final results from the Kilpatrick experiments fell between our B1 and B2 levels, possibly suggesting that English proficiency of Kilpatrick's participants' were between B1 and B2 level of CEFR.

Japanese L2 learners identify word final coda [m] better than distinguishing [n] or [ŋ] from other nasals (Aoyama 2003). Taking into consideration that vowel epenthesis is a natural procedure for repairing illicit tokens together with above fact, it is reasonable that vowel epenthesis is preferred method of patching in general. At the same time, it is also quite natural to interpret [m] as one allophonic variety of /N/ at the word final positions.

The result showing that as L2 learners' English proficiency rises, they tend to prefer epenthesis over substitution, might have been elicited by the fact that coda [m] contrasts with [ŋ] and [n] in English, while [m] along with [ŋ] and [n] are allophones of Japanese moraic nasal /N/. L2 learners with more linguistic experiences are forced to distinguish [m] from [ŋ] and [n]. This might have driven them to where they cannot just ignore the perceived coda [m] and cannot simply assign [m] to /N/ and choose vowel epenthesis [mu] instead.