

論文の内容の要旨

論文題目

The perception and production of English voicing contrast by Mandarin-Japanese bilinguals

(中国語・日本語バイリンガルによる英語の破裂音知覚と生成)

氏名 青木 理香

The current research focuses on the investigation of whether mastering two languages facilitates or impedes the perception and production of a newly acquired language (L3) and whether the first language (L1) or second language (L2) affects the L3 performance. The present study conducted experiments to answer these questions and evaluate L1, L2 and L3 production, and bilingual's perception of L3. The participants were Mandarin-Japanese bilinguals who were L3 learners of English. They immigrated to Japan before or around puberty, and their varying age of arrival (AOA) in Japan was from 0 to 15 years old. They were divided into two groups based on their AOA to investigate AOA's effect in their L3 perception and production. The bilinguals who arrived in Japan between ages 0 and 6 years were called early bilinguals, while the ones whose AOA was between 10 and 15 years were late bilinguals. The results of the experiments were compared to the predictions made by the Bi-Level Input Processing (BLIP) model (Grenon, 2010).

In the production experiments of English, the voice-onset-time (VOT) values produced by bilinguals were measured and compared with those of English, Mandarin, and Japanese monolinguals. The production experiments were also conducted on L1 (Mandarin) and L2 (Japanese) to understand the difference between monolinguals and bilinguals. The results suggest that, regardless of their AOA in Japan, bilinguals produced L3 VOT similar to that of English monolinguals without being significantly influenced by L1 and L2. These results are compatible with the prediction inferred from the BLIP model, which I supposed would predict the following: provided that the bilinguals have forged a new neural map and phonemic category for the Japanese [+voice] feature, they should have all the neural maps or categories to produce the plosive contrasts in all three languages.

Thus, knowing two languages helped them to produce a wide range of VOT and therefore enabled them to produce L3 VOT accurately too. The patterns of the L1 and L2 production of bilinguals were also identical to those of Mandarin and Japanese monolinguals. There were some exceptions in the results, however, based on the place of articulation.

In the perception experiment of English, the bilinguals listened to a VOT continuum of the words *back* and *pack* ranging from lead VOT to long-lag VOT, and had to classify each word as corresponding to the word *back* or *pack*. The results show that there was an L1 influence on L3 perception pattern of bilinguals despite the fact that L2 perception pattern of Japanese monolinguals was much more similar to the L3 perception pattern than the L1 perception pattern of Mandarin Chinese monolinguals. Here, it is indicated that in L3 perception, bilinguals had difficulty in associating the underlying features with VOT neural maps at the phonological level, because of the difference in the number of underlying features among L1, L2, and L3. Thus, knowing two languages did not help bilinguals to perceive L3 stop contrast native-likely.

Hence, it can be concluded that bilinguals can produce L3 VOTs with a native-like norm without L1 or L2 transfer; on the other hand, their L3 perception pattern was distinct from a native-like norm, and was influenced by L1 or L2. Differences between perception and production results may, however, partly be due to differences in the features that the tasks measure. While the production tasks evaluate the mean VOT values, the perception task evaluates the categorical boundary along the VOT dimension. In addition, the present study also showed that the predictions on L3 production inferred from the BLIP model, which was originally a model of speech processing in perception with implications for the study of language acquisition, were compatible with the results of the production experiments. In other words, the present study suggests that the BLIP model has the potential to be extended to predict speech processing not only in perception but also in production. Implications of these results for a better understanding of L3 production and perception have been discussed.