Acoustic production of ‘new’ and ‘similar’ vowels: the case of /u/ and /y/ in French by Japanese-speaking learners

Takeki Kamiyama
Laboratoire de phonétique et phonologie (UMR 7018), 19, rue des Bernardins, 75005 Paris, France

French /y/ (F2/F3 close around 2000 Hz for males) does not have an equivalent phoneme in Japanese and English, whereas /u/ (F1/F2 close < 1000 Hz) has a phonemic counterpart (high back) in both Japanese and English, but its phonetic realization is different from French /u/, with a higher F2. Flege (1987) found out that it was easier for American English speakers to acquire a native-like production of French /y/ (“new” phone) than that of /u/ (“similar” phone). Our recording of two groups of adult Japanese-speaking learners of French (JLF) shows a similar tendency. We measured the formants of isolated vowels embedded in a carrier sentence read 3 times by JLFs. In the first group, consisting of 3 elementary learners who volunteered for the task, 2 learners pronounced /y/ with close F2/F3, but none of them produced a low F2 (< 1000 Hz) for /u/. In the second group, consisting of 50 JLFs in 4 different classes and levels (elementary to upper intermediate), only 4 of them, who had all lived in a French-speaking country except one, produced /u/ with a low F2 (< 1000 Hz), whereas a dozen of them pronounced /y/ with close F2/F3.