A comparative study of the perception and production of Estonian vowel categories by Estonian and Spanish speakers

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According to the Speech Learning Model (SLM) the acquisition of L2 categories that are new compared to L1 is easier than the acquisition of such categories that are similar to those of L1 (Flege 1995; Flege, Bohn & Jang 1997). Spanish has 5 vowels /i, e, a, o, u/ that are symmetrically spread over the vowel space (Hualde 2005; Navarro & Merín 2012; Maddieson 2013). The Estonian vowel system is more crowded, including 9 vowels /i, y, e, ø, æ, ɑ, o, ɤ, u/ that additionally interact with the three-way quantity (Asu & Teras 2009). The vowels /i, e, o, u/ are identical in their quality in Estonian and Spanish. The Estonian vowels /æ, ɑ/ are similar to the Spanish /a/ but the Estonian vowels /y, ø, ɤ/ do not have counterparts in Spanish.

A vowel categorization task and a vowel production task were conducted in order to investigate the perception and production of Estonian vowels by 22 Spanish L1 and 10 Estonian L1 speakers.

The results of the categorization task show that Spanish L1 listeners find it difficult to categorize new (/ɤ, ø/) and similar (/æ/) vowels. Also, Spanish L1 listeners’ reaction time was longer than that of the Estonian L1 listeners. Contrary to what was expected the duration of study of Estonian of the Spanish L1 listeners and the time of residence in Estonia did not have a significant effect on the results.

It is expected that in the production study, the Spanish L1 speakers find it difficult to also distinguish the vowels /ɤ, ø/ that might be produced as an ambiguous mid-vowel. It is also likely that the Spanish L1 speakers merge the Estonian low vowels /æ/ and /ɑ/ into /a/.

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References


