A longitudinal study of speech rate and pauses in non-native Finnish
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The temporal properties of speech affect both fluency and, to some extent, the perceived strength of foreign accent especially at the early stages of second language (L2) learning (Derwing, Rossiter, Munro, and Thomson, 2004). However, relatively few studies deal with phonetic characteristics larger than a segment. There is a considerable lack of research on the speech of low-proficiency L2 speakers as most studies have been conducted with intermediate or advanced learners, e.g., university students. Moreover, there are extremely few longitudinal studies of L2 acquisition (Ortega and Iberri-Shea, 2005) although the development of L2 phonetic features can only be investigated through a longitudinal approach.

In a cross-sectional study, Trofimovich and Baker (2006) examined fluency related temporal factors in immigrant speech. They found no effect of L2 experience on speech rate, and the only factor related to the learners’ amount of L2 experience was stress timing. However, pause duration and speech rate contributed to foreign accent more than pause frequency, stress timing or peak alignment. A two-year study was conducted by Derwing, Munro, and Thomson (2008) on the development of oral fluency and comprehensibility of two groups of adult immigrants (native speakers of Mandarin vs. Russian or Ukrainian). According to the ratings made by native speakers of English, the fluency and comprehensibility of the speakers of Russian and Ukrainian improved somewhat, whereas the Mandarin speakers showed no progress. Later, Derwing, Munro, Thomson, and Rossiter (2009) used the same data for measuring the temporal factors of speech over the two-year period.

Until now, there are no experimental studies of the temporal aspects of non-native Finnish speech apart from the research conducted by Toivola, Lennes, and Aho (2009). The present longitudinal study focuses on the articulation rate and the number and duration of pauses in the read-aloud and conversational speech of nine adult immigrants with low proficiency of Finnish (native speakers of Thai, Chinese, Russian, and Vietnamese). All the speakers were adult learners of Finnish with no prior experience of the language before immigrating to Finland, although their length of residence in Finland varied slightly. By the time of the present study, two follow-up recordings had been completed at six-month intervals from the first recording.

The preliminary results indicate that, on an individual level, the articulation rate of the speakers increases in both the read-aloud and the conversational material over the period of observation. The number of pauses in read-aloud speech decreases, whereas pause duration increases. In their previous comparative study, Toivola et al. (2009) found that native Finnish speakers tend to make longer pauses in read-aloud tasks than non-native speakers of Finnish. Hence, the results seem to imply that the acquisition of Finnish speech entails mastering the use of pauses of context-dependent size.

This work is a part of the research project ProoF – Pronunciation of Finnish by immigrants in Finland (2008-2011), during which a corpus of second-language Finnish speech is being collected at the University of Helsinki, Finland.

References: