

## Difference in L1 and L2 speakers' temporal realizations of Swedish stressed syllables

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According to Fant and Kruckenberg (1994) duration is the major perceptual cue for stress in Swedish. The language has a trading temporal relation between the vowel and consonant in stressed syllables (in either form of /V:C/ or /VC:/), and its native speakers pronounce all stressed syllables long, by making clear temporal contrast between stressed and unstressed syllable and realizing quantity category clearly. Realizing this stress feature correctly can be one important condition for L2 speakers of the language to be well understood (Abelin & Thorén, 2015).

The paper examines whether there is difference in the pronunciations of L1 and L2 Swedish speakers, in terms of the duration ratio between the phonologically long segment and the whole word. This measure is suggested here to be relevant for both stress and quantity realization. It was predicted that the minimum value of the ratio would be greater among L1 speakers than L2 speakers, and that L1 speakers would exhibit a greater "upwards" variation than L2 speakers.

We used data from two studies, comprising the recordings of short carrier sentence reading by thirty two Swedish L1 speakers and sixty two L2 speakers from 19 different L1 backgrounds. Most L1 speakers read sentences more than once, in normal, solemn or poetic styles. This was intended to effectively create variation among these speakers. On the other hand, the L2 speakers were divided into two groups: one group read sentences with different markings for long and short vowels, and the other group read a text in which letters for long, stressed vowels and consonants were underlined. For the comparison, we particularly looked at the difference in the pronunciations of two /VC:/ quantity words, *kaffe* ['kaf:ə] 'coffee' and *åtta* [ɔtʌ] 'eight'.

The results confirmed the prediction: the native Swedish speakers have a significantly higher mean value for the subjected duration ratio than non-native speakers, and both minimum and maximum values among L1-speakers are higher than the corresponding values among L2-speakers. This value distribution indicates that L1 Swedish speakers pronounce stressed syllables longer than L2-speakers do. In addition, when comparing the two L2 speaker groups, those who followed markings for phonologically long sounds performed significantly better than the other. Based on these findings, the study suggests that L2 speakers need to be facilitated to learn to pronounce stressed syllables long, for which duration exaggeration of phonologically long segments can be used, raising their awareness of both stress and quantity distinctions.

### References

- Abelin, Å., & Thorén, B. (June, 2015). What affects recognition most – wrong word stress or wrong word accent? Paper presented at the Fonetik 2015, Lund, Sweden.
- Fant, G., & Kruckenberg, A. (1994). Notes on stress and word accent in Swedish. *STL-QPSR*, 35(2-3), 125-144.