The thesis deals with short vowel changes in different level of articulation rate in Czech. Read texts in three levels of articulation rate from 13 people were used. The duration of vowels and the frequencies of F1–F3 were measured, the frequencies in Hertz were normalized using Lobanov's normalizing method. The data were analyzed with Student's t-test. The duration of the vowels was shortened with the higher level of articulation rate. The vowels were systematically centralized and the vowel space shrank with the higher level of articulation rate. The centralization was strongest at the edges of the vowel space – /i/, /a/, /u/. The least changes were found in /e/. Particularly the frequencies of F1 and F2 were influenced, no systematic changes were found in F3. Even the vowels strongly influenced with preceding consonant were centralized, and there was no difference between stressed and unstressed vowels. The centralization was stronger when the vowels were chosen with regard to their duration (compared to the level of articulation rate). The centralization was stronger in the speakers with higher differences in articulation rate levels.

Keywords: articulation rate, vowel formant frequencies, duration, reduction, centralization, coarticulation