

## **Effects of rate, phonetic training and gender on vowel reduction in the speech of non-native speakers of English**

Małgorzata Kul and Bogna Brzezicha (Faculty of English, Adam Mickiewicz University)

The study investigates phonetic reduction in the speech of non-native speakers of English. In defining reduction, the paper follows Johnson (2004): "a large deviation from the citation form such that whole syllables are lost and/or a large proportion of the phones in the form are changed" (Johnson 2004: 1).

The aim of the study is to unravel the links between reduction and rate, phonetic training and gender. We hypothesize that (i) the higher the speech rate, the higher the reduction degree (Shockey 2003), (ii) subjects with phonetic training reduce more than those lacking it (iii) men have higher reduction degree than women (Byrd 1994).

In order to realize these aims, acoustic analysis of 5 hours of speech considering the spectral dimension of vowel centralization (Lindblom 1963) was performed on the speech of 12 Polish speakers of English. Relationship between rate (measured as Words Per Minute) was captured by Pearson's correlation. Additionally, a questionnaire was conducted to verify the subject's training. The subjects were divided into the experimental group A, consisting of 6 students of English and the control group B with 6 speakers of English who had no phonetic training. The speech material was elicited by means of visual prompts of the fairy tale "Cinderella", resulting in fully spontaneous speech, very much in line with the following definition of casual speech: "unscripted, unprepared [...] different by definition from a read text, a prepared but unscripted talk, or an acted dialogue" (Barry & Andreeva 2001:55).

The obtained results reject the relationship between rate and reduction which is a surprising outcome. In similar vein, the group B outperformed group A, pointing to the role of exposure in acquiring native-like reduction patterns. Finally, the study corroborates Byrd's (1994) findings that men reduce more than women.

### References:

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