Framework:

In 2014 we started to collect audio and supplementary data from 61 children from 3rd and 4th grade reading several types of texts. Since then, most of these children (now in grade 5 and 6) have been recorded again at regular intervals using the same as well as additional text stimuli. The audio corpus consists of more than 500 recordings so far. In my talk I would like to present the study described in the following abstract and a few follow-up considerations.

Abstract (SSSR-Meeting):

Prosodic reading skills appear to reflect many aspects of children’s access to literacy in general, but the quantification of those skills is problematic: Ratings often are not sufficiently fine grained, agreement among raters is poor, and it is not clear what the acoustic correlates of prosodic reading skills exactly are. This study introduces two approaches to quantification differing in explanatory power and operational effort and applies them on the same set of children (N_C = 13). The main question is how much variance in the “expensive” rating data can be explained by the “cheap” phonetic data with a view to large scale screening. Further interest concerns development in a critical phase with special emphasis on the heterogeneity of individual learning biographies. The children were recorded reading two texts in grade 3 and again in grade 4 (= 52 audio samples of approximately 1 minute). The rating procedure was conducted with the Text 1 recordings (entry from children’s lexicon), involving expert raters (N_R = 88 primary school teachers). The measures were taken from the Text 2 recordings. This stimulus is special in that it is a dialogue with all turns marked nonverbally by small pictures. Note that this challenges the reader to mark every turn switch prosodically alone (e. g. via pause duration or absolute difference in mean fundamental frequency between utterances).

The results show high correlation between ratings and measures and thus represent a considerable step towards automated quantification of prosodic reading skills using Text 2-like stimuli and according measures.