Exploration of temporal structures by qualitative and quantitave text analysis

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Abstract. The topic we will address in this lecture/study is the analysis of time and temporal structures by the means of computational linguistics. Our research is based on the analysis of 2170 composition (600,000 words) written by students between the ages of 10-16, who were selected from different parts of the country. The data collection was initiated and carried out by University of Szeged. Our study is connected both to the Doctoral Program in Education at the University of Szeged and the Applied Linguistics Program at the University of Pecs. The goals of this study are to analyze the temporal structures in the collected texts and through this describe a specific age group's attitude to time, as well as to create a verifiable classification system based on the collected material and compare it with the independent variables of the study. Our independent variables are: type of settlement, type of school, class, gender, genre of writing. The dependent variables are different text attributes discovered through quantitative and qualitative analysis. We applied word counts as part of the quantitative analysis and content analysis as part of the qualitative analysis. By our assumptions in the school compositions there is appearing the universal attribute of the language, and the description of the temporal structure of texts makes possible to show the attitudes to time. This is important from social and pedagogical point of view. Using word count we proved the validity of the Zipf's law on the investigated corpus. In the course of the qualitative analysis of temporal structures we described a special classification as a method for content analysis.

Keywords: text analysis, word count, Zipf's law, quantitative content analysis, temporal structures