

Acquisition of grammatical gender and number agreement in Italian as a second language - A statistical analysis

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Abstract

In this bachelor thesis we aim to achieve knowledge of which factors that can explain the difficulties with correct use of number and gender agreement while learning Italian as a second language. Previous studies has looked at different factors, such as measures of lexical diversity and the availability and reliability measures, in an univariable way. Aim of this thesis is to investigate these factors in a joint statistical model to answer a given number of hypothesis directly related to the considered factors. The collected data are the binary outcomes of correct or incorrect use of number and gender agreement in transcribed interviews of Swedish students studying Italian at the university. Due to the way data has been collected it possess an unbalanced nested structure which in combination with the binary outcome suggests a rather complex hierarchical modelling approach. But the question whether it is even possible to fit complex model using maximum likelihood estimation arises from the fact that the majority of outcomes are cases of correct use why we most likely will face the numerical problem of separation. In the analysis we thereby adopt the strategy of fitting a less complex base model to investigate the limits of a maximum likelihood approach and to get an idea of which covariates to include in a more complex model. The results of the final base model in terms of the hypothesis are presented but the interpretation of the results should be cautious due to the violation of the model assumption of independent samples. From the fitting of the base model we can conclude that we are not able to proceed with a extended analysis using maximum likelihood estimation. Ideas and suggestions for further analysis based on Bayesian inference are discussed but not explicitly presented.

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