LAQM Meeting 2
June 26th 2018, 3 pm – 6 pm

Thomas Wagner
University College of Education Upper Austria

Abstract

L2 irregular verb morphology.

Exploring behavioural data from intermediate English learners of German as a Foreign Language

A current paper examines possible psycholinguistic mechanisms governing stem vowel changes of irregular verbs in intermediate English learners of German as a Foreign Language (GFL). In experiment 1, nonce-infinitives embedded in an authentic fictional text had to be inflected for German preterite, thus testing possible analogy-driven pattern associations. Experiment 2 explored the psycholinguistic reality of the so-called *apophonic path* by prompting two inflections for one given nonce-word. Data in experiment 1 were analysed using generalised mixed effects models, thereby accounting for within-subject as well as within-item variance.

The issue for the LAQM meeting is the adequate analysis of the data from experiment 2a and 2b, namely assessing the consistency behind the two responses participants gave in each experiment. In experiment 2a, learners provided 2 separate inflections for given infinitives, while in experiment 2b they complemented given preterites with infinitives and participles. The main question relates to potential metrics, indicators, or statistical measures that could be calculated in order to quantify either the degree of coherence between first and second response or model the paths that the actual responses created. In other words, how can I statistically verify in how far participants’ response strategy followed an expected path or not. Ideally, the discussion in the meeting could make reference to applications within the R environment.

The data set in experiment 2a, for instance, is coded in the long format and contains replies from 24 learners responding to 29 items. 11 items had to be removed, so in total we have 684 data points. The first ten lines of the data frame look like this:

```r
> head(dat.LAQM, n = 10)
id sex item onset nucleus code target preterite participle1 participle2 pattern
1 1 kitchen C Li s,Ch Li-o-o regular preterite vowel + t preterite vowel + t no vowel change
2 1 schicken schC i m,n i-e-o regular preterite vowel + t preterite vowel + t no vowel change
3 1 stecken schC i s,Ch Li-o-o regular preterite vowel + en preterite vowel + en no vowel change
4 1 stinnen schC i m,n i-a-o regular preterite vowel + en preterite vowel + en no vowel change
5 1 striesen schC i s,Ch Li-o-o regular preterite vowel + en preterite vowel + en no vowel change
6 1 friessen C i s,Ch Li-o-o e-ablaus preterite vowel + en no vowel change
7 1 trinken CC i nk L-a-u e-ablaus infinitive vowel + t others new pattern
8 1 schinnen s i m,n i-a-o e-ablaus infinitive vowel + t others new pattern
9 1 schaingen schC i ng L-a-u e-ablaus infinitive vowel + t others new pattern
10 1 spingen schC i ng L-a-u e-ablaus infinitive vowel + en others new pattern
```

A graphical representation of the observable paths from experiment 2a (left) and experiment 2b (right) looks like this:
So far I have cross-tabled both responses, looked at the cell frequencies, and visualised their relationship in mosaic diagrams based on conditional independence, chi-square, or log-linear models with residual-based shadings, like this:

![Mosaic diagram for both responses](image-url)