

**LAQM Meeting 2**  
June 26<sup>th</sup> 2018, 3 pm – 6 pm

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**Abstract**

L2 irregular verb morphology.

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

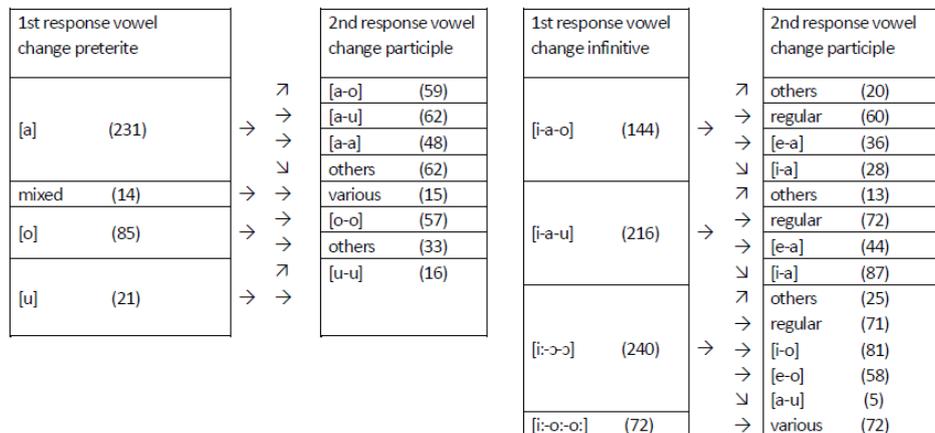
A current paper examines possible psycholinguistic mechanisms governing stem vowel changes of irregular verbs in intermediate English learners of German as a Foreign Language (GFL). In experiment 1, nonce-infinitives embedded in an authentic fictional text had to be inflected for German preterite, thus 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  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:

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> head(dat_LAQM, n = 10L)
  id  testitem onset nucleus coda target preterite      participle1      participle2      pattern
1  1  biechen    C      i: s,ch i:-o-o regular preterite vowel + t preterite vowel + t no vowel change
2  1  schrimmen schC    i m,n i-a-o regular preterite vowel + t preterite vowel + t no vowel change
3  1  stiechen   schC    i s,ch i:-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  striessen schCC    i: s,ch i:-o-o regular preterite vowel + en preterite vowel + en no vowel change
6  1  fiessen    C      i: s,ch i:-o-o o-ablaut preterite vowel + en      o-o      i:-o-o
7  1  frinken    CC     i nk i-a-u a-ablaut infinitive vowel + t      others  new pattern
8  1  schinnen   s      i m,n i-a-o a-ablaut infinitive vowel + t      others  new pattern
9  1  schringen  schC    i ng i-a-u a-ablaut infinitive vowel + t      others  new pattern
10 1  spingen    schC    i ng i-a-u a-ablaut 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:

