
Challenges in the development of a procedure for annotating non-manual markers at the clausal level

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Non-manual markers (NMM) are very important in sign language structure, and in clause-type marking in particular (see e.g. Wilbur 2021). NMM are challenging to annotate, which stems from two main issues. The first is that there is not a standard procedure for annotating NMMs in experimentally obtained sign language data. It is exceedingly difficult to achieve high inter-rater agreement for NMM annotations, which as a result also makes it difficult to compare annotations. A second issue is that there is not a standard method to quantify the validity of annotations. These are major challenges in the field of sign language linguistics and more broadly in research on multimodal communication.

In Oomen et al. (2023) we report on a first version of an annotation guideline (and its application), addressing the first issue. Here, we are interested in the second issue of quantifying the validity of the annotations made using these guidelines, for which we present a procedure. We already took a preliminary step in Oomen et al. (2023) by assessing inter-annotator agreement of the test data, using ‘eyebrows’ as a test case. The discussion of inter-annotator agreement was based on a confusion matrix as generated by a frame-based approach, and using Cohen’s Kappa as an agreement index. We have extended this evaluation to include a confusion matrix of an event-based approach, as well as another agreement index, Krippendorff’s Alpha. Using both frame- and event-based approaches allows us to match labels given to NMMs on a frame-by-frame basis, and to compare whether annotators identified the same ‘events’ in the data. The agreement indices provide a simple and objective score that we can compare across iterations of the guidelines.

The extended procedure for the quantification of the validity of the annotations gives comprehensive insight into specific issues the annotation guidelines present in their current form, which allows us to formulate recommendations for improving them. We are currently working on incorporating these recommendations into a revised version of the annotation procedure, which will again be subject to evaluation, after which we expect to see considerable improvements in inter-annotator agreement. The materials will be freely available for researchers.

References: • Oomen, M., de Ronde, T., and Roelofsen, F. (2023). A procedure for annotating non-manual markers in question sentences in sign languages. Poster presented at North East Linguistics Society (NELS 53). • Wilbur, R.B. (2021). Non-manual markers – theoretical and experimental perspectives. In J. Quer, R. Pfau & A. Herrmann (eds.), *The*

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