

# The effect of text type on German Sign Language referential expressions – A corpus study on signed retellings and conversations

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Referentiality is one of the most universal properties of language and one that is shared across modalities: whether language is spoken, written, or signed, it is full of references. That is not to say, however, that there are no differences between the modalities and between text types within the modalities. The study presented here investigates referential expressions (RefEx) in German Sign Language (DGS) and their use in two text types, retellings and free conversations.

Using the framework of Accessibility Theory (Ariel 1990, 2001), Toole (1996) disproved the claim of genre-specific factors influencing the choice of RefEx in English by looking at four different text types. With very few exceptions (Grosso 2017, Hansen 2008), studies on RefEx in sign languages have thus far focused on retellings and narratives (e.g., Ferrara et al. 2022, Frederiksen & Mayberry 2016, Perniss & Özyürek 2014) and were confronted with a distinct lack of pronouns, leading researchers to suggest that sign languages feature less pronouns than spoken languages.

In a quest to find the missing pronouns, this study goes beyond the investigation of RefEx in retellings by comparing the use of DGS RefEx in retellings and conversations, using the framework of Accessibility Theory. The data comes from the DGS-Korpus project (Konrad et al. 2020) and comprises 13 transcripts with a total of 37 minutes of video data, comprehensively annotated for a variety of accessibility factors (e.g., part of speech, discourse status, type of referent, and number of competitors).

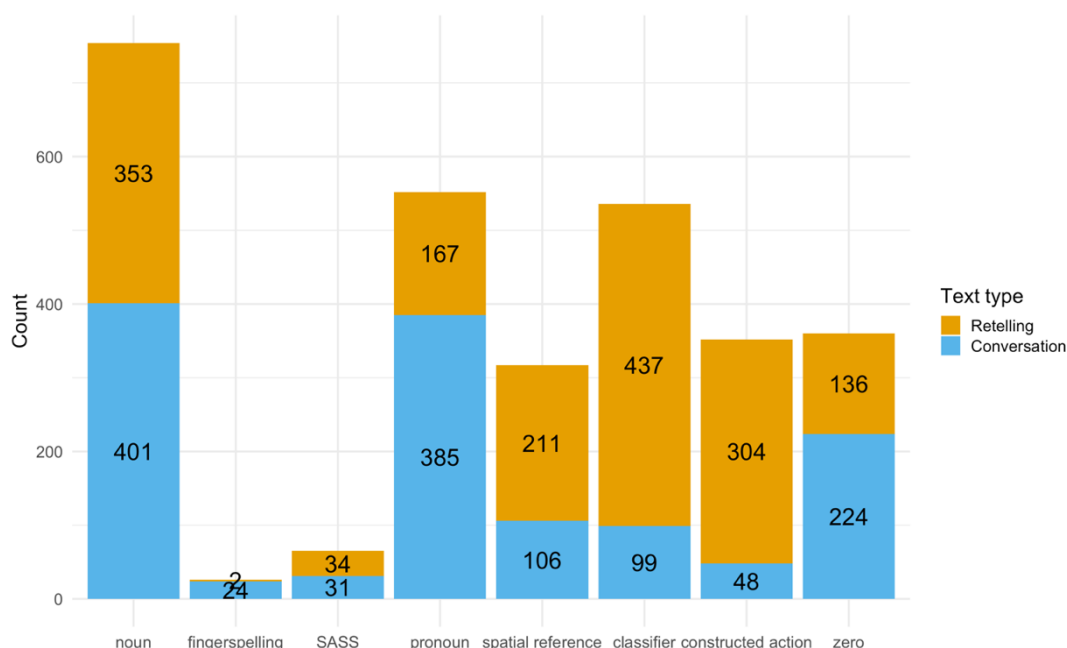


Fig 1: Absolute frequencies of referential expression types in DGS retellings and conversations<sup>1</sup>

In this data set, slightly more RefEx occur in retellings than in conversations (1654 out of 3006 RefEx). Conversely, conversations contain slightly more referents than retellings (286 out of 501). This means that signers refer to more distinct referents using less RefEx in conversations. As a consequence, the mean reference chain is longer in a retelling (7.69 RefEx) than in a conversation (4.73 RefEx). On a descriptive level, the absolute frequencies (see Fig. 1) show that

<sup>1</sup> Referential expressions with under 25 total occurrences were excluded from the graph for readability. These include the categories “proper noun”, “list”, “mouthings”, and “other”.

there are RefEx that occur at about the same rates in both text types (nouns and size-and-shape specifiers (SASS)), while some are preferably used in retellings (agreement verbs, classifiers, and constructed action), and others are used more frequently in conversations (fingerspellings, pronouns, and zeroes).

A Bayesian model was build based on the data of the six most frequent RefEx (2871 observations) due to the other categories having too little data to facilitate the calculation of valid estimates. The model shows that there are significant<sup>2</sup> differences in the use of pronouns, spatial references, classifiers, and constructed action between retellings and conversations.

These differences between the text types may be due to the stylistic emphasis of visuality and iconicity that is typical for the storytelling culture in Deaf communities, which may increase the use of certain RefEx, such as classifiers, CA, and spatial references. Another potential explanation for the text type-specific tendencies seen above lays in the interactions between text type and various accessibility factors that can be observed in the data:

- Person: Retellings contain a lot more third person referents and fewer first and second person referents than conversations.
- Referent type: Retellings have a stronger tendency to feature animate, specific, and concrete referents, while abstract and non-specific referents are more common in conversations.
- Discourse status: While re-introduction contexts occur at about the same rate in both text types, more references appear in introductory contexts in conversations, while retellings contain more references in maintained contexts.

All of these factors are known to have an effect on the choice of RefEx. It would thus be expected that the text types represented in this data set contain different kinds of RefEx at different rates and that the reference chains that are constructed in the texts may look different overall.

At least for the DGS data considered in this study, the missing pronouns have been found: they were being used at a high frequency in conversations and only seemed rare due to the focus on narratives in previous research. The findings presented here show the importance of considering text type when researching the use of referential expressions, at least for sign languages. Looking to the future, studies exploring whether spoken languages show some of the same tendencies would tell us more about whether they are caused by modality-specific factors such as the use of space and visual iconicity. The potential of differences in the use of RefEx in different text types would certainly be worth exploring in the spoken modality: not, as Toole (1996) did, to show that Accessibility Theory applies to all genres, but rather considering text type within Accessibility Theory as another influence on the choice of RefEx in a complex interplay with long established accessibility factors.

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<sup>2</sup> Significance in this context refers not to a p-value < 0.05, but to one of the estimate validity checks established in Bayesian analysis. In this case the selected measure is that the 95% CI of the posterior must have no overlap with the region of practical equivalence [-0.18; 0.18].

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