## Recursion in Brazilian Sign Language

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## **ABSTRACT**

The investigation of recursive constructions in sign languages in general and, more specifically, in Libras, is still in its infancy. Within this context, the present study aims to investigate the use of recursive structures in narratives signed in Libras. In this paper, recursion is defined as the infinite use of finite resources of the language or as Roeper (2010, p.47) states "an operation which takes its own output as an input". To reach such an aim, a video-recorded corpus of signed narratives produced by three deaf people (aged 35, 40 and 46) after watching a short film was analyzed. These videos make up a larger corpus of Libras (http://www.corpuslibras.ufsc.br/). The data collection was carried out in Florianópolis - SC, Brazil, by researchers from the Federal University of Santa Catarina – UFSC. The setting for the data collection consisted of four camcorders positioned in distinct locations to capture different points and perspectives of the participants signaling their narratives, so that it was possible to analyze the participant's use of manual and nonmanual markers (Quadros, 2017). Participants were selected considering the following criteria: (a) being deaf; (b) being from the south or southeast regions of Brazil, to control for linguistic variation; (c) having acquired Libras until the age of fifteen; (d) having completed higher education; (e) having produced the narrative from the same stimulus video. The specific goals of the study were: (a) to identify the presence of recursion in Libras; (b) to verify the extent to which manual markers were used by the participants to express recursion in Libras; and (c) to verify the extent to which non-manual markers were used by the participants to express recursion in Libras. For the transcription and analysis of the data, the ELAN software, which enabled the creation of specific tracks, was used. The analysis shows that, among the signed narratives made by the three deaf participants, a total of fifty-two constructions were found, being thirty-six coordinate clauses and sixteen subordinate clauses, which seem to have been used by the participants to manifest recursion. In addition, manual and non-manual markers were analyzed, described and identified as possible markers of recursion in Libras. The manual markers, which occurred less frequently than the non-manual markers in the corpus, were 'because', 'igual', 'if' and notes (performed with an index finger or thumb, of referents in the sign space). The non-manual markers identified were: eye gaze, movement of the body forward and backward; shoulders elevation; incorporation; head movement; mouth movement and eyebrow movement. From the elements found in the analysis, it is possible to claim that there is recursion in Libras and that this manifestation is related to the visual spatial modality of the language, which involves the use of elements such as manual and non-manual signaling simultaneously. Finally, it is necessary to investigate the use of pragmatical markers in the narrative discourse and its relationship with recursion in future studies, focusing on the relationship between prosody and recursion in Libras.

Keywords: recursion; Libras; manual markers; non-manual markers; spatial visual language.

## References

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