CALCULATING MLU IN SIGN LANGUAGES

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BACKGROUND

- Since Brown (1973), Mean Length of Utterance (MLU) has been an important concept in child language acquisition research.
- Many factors complicate its use and interpretation:
  - variability due to discourse characteristics (Johnston, 2001)
  - variability due to the nature of the sample (Bornstein, Painter, & Park, 2002)
  - simple re-test reliability (Chabon, Kent-Udolf, & Egolf, 1982)
- Interpretation of MLU is especially difficult for cross-linguistic comparison (e.g., Devescovi et al. Dromi & Berman 1982; Klee et al. 2004). Languages vary with respect to morphological richness, optionality of arguments, obligatory presence of determiners, etc.
- Still, MLU has remained a commonly-used control measure for comparing children at different points of development (e.g., Rice et al. 2006)
- MLU can be seen as a measure of overall linguistic development (see, e.g., Dethorne et al. 2005).

Previous research – sign languages

- A few sign language researchers have reported analyses of MLU (e.g., Hoffmeister, 1978; Kantor, 1982).
- Baker, van den Bogaarde and Wolf (2009) mention MLU as a grouping strategy, but provide no methodological guidance.
- Van den Bogaarde (2000) presents data on MLU in signs for children acquiring Sign Language of the Netherlands. This count includes pointing, which may be considered a sign or a gesture in young children’s utterances.
- Richmond-Welty and Siple (1999) excluded points in their counts of MLU for children acquiring American Sign Language. They specified that “pointing gestures and responses, yes/no gestures and responses, imitations, unintelligible utterances, and utterances including a participant that was not visible were excluded”.
- More detailed procedures and examination of problematic issues is needed.

PROCEDURES

Overview

When calculating MLU, we obtain three counts:

A. The number of utterances in a session. This includes all potentially analyzable utterances, whether included in the MLU analysis or not.
B. The MLU in words (MLU\textsubscript{w}). This analysis applies to a subset of all utterances. The mean number of words per MLU-analyzable utterance is calculated.
C. The MLU in morphemes (MLU\textsubscript{m}). This analysis applies to the same subset of utterances used for MLU\textsubscript{w}.

Sign-Specific Procedures

- For the purposes of coding MLU, Syntactic Units are used. A Syntactic Unit may include a single main clause, with any number of embedded or adjoined clauses, but not conjoined clauses. Clauses that might be analyzed as conjoined are treated as separate Syntactic Units.
- IX signs used in isolation are not counted; IX used with other signs is counted as one morpheme.
- Emblems are considered signs; gestures are excluded.
- Non-manual marking is not counted as morphemic.

Comparison Measures

Spontaneous longitudinal production data from 3 children – two acquiring ASL (JIL, SAL, one Libras (LEO).

- MLU\textsubscript{m}: MLU in morphemes following our procedures
- Omit 10: MLU in morphemes starting after the first 10 analyzable utterances (to test Brown’s suggestion of skipping the first page)
- Include IX: MLU in morphemes if IX-only utterances are included

REFERENCES


CONCLUSIONS

The goal of this work is to offer our methods to the research community for commentary and the eventual adoption of a systematic, uniform, comparable set of standards.

Summary of findings

- MLU increases with age, though not sharply
- MLU for sign languages is closer to that obtained for Cantones to that obtained for English (due to null arguments, lack of determiners, etc.)
- For our familiar spontaneous contexts, it is not necessary to skip the first few utterances
- IX-only utterances may artificially decrease MLU

Future directions

- Further examination of the relationship between MLU and age – especially considering later-emerging structures
- Comparison with older children and adults
- Examination of the potential relationship between MLU and vocabulary size
- Consideration of other measures of language growth

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