ASL IPSyn: A new measure of grammatical development

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The Need

- Few existing instruments for measuring ASL development in 2- to 4-year-old children
- No existing longitudinal descriptive data on month-by-month syntactic development
- Researchers need ways to compare across children
- Available checklists (e.g., VCSL, Simms et al. 2013) based on disparate studies
- No comparative measure focusing on production of syntax
- Need information on native signers to compare later learners

IPSyn = Index of Productive Syntax

- Originally developed for English 2- to 4-year-olds by Scarborough (1974)
- List of English morphosyntactic structures in four subscales:
  - Noun phrases, Verb Phrases, Questions/negatives, Sentence structure
  - Structures organized according to typical acquisition sequence
- Child is awarded up to 2 points for using the structure in a 100-utterance sample of free speech
- Subsequently used in hundreds of studies, including:
  - Typically-developing speakers of mainstream English
  - Children who speak African American English
  - Children with SLI
  - Children with autism
  - Deaf children using cochlear implants
- Highly correlated with MLU, particularly for younger children

ASL-IPSyn

- Our adaptation is based on grammatical structures found in ASL
- The addition of a subscale for DS (depicting/classifying)
- We have gone through several iterations aiming to enhance the measure’s ability to distinguish between more and less advanced children
- Current version has max score of 146 on 5 subscales
- Coding reliability (current version): exact coding agreement of 87% by items on 6 sessions

Participants

- Four Deaf children with Deaf, signing parents (middle class, educated parents)
- Observed longitudinally over the age range 1;06-4;00
- 400 utterances from each child
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- Data now being prepared for sharing with other researchers under the CLESS project (Lillo-Martin & Chen 2012)
- Data collection under the CLESS project (Lillo-Martin & Chen 2012)
- Children with SLI (Iverson et al. 2003)
- Children with autism (Sigal et al. 2007)
- Children with cochlear implants (Nicholas & Greens 2006)

Procedure

- A sample of spontaneous speech is collected (~60 mins)
- Interlocutor should be familiar to child; prompt as needed but encourage child to sign
- Videos are fully annotated (we follow ASL SLAAASh conventions, modified from Chen Pichler et al. 2010, including ASL SignBank)
- Utterances are searched for 1-2 instances of each structure type
- Points are calculated and filed automatically

Results

- Available checklists (e.g., VCSL; Simms et al. 2013) based on
- Few existing instruments for measuring ASL development in 2- to 4-year-olds

Order of Acquisition

We determined order of acquisition by noting the earliest age at which structures were used by all participants.

Sample Score Sheets

Noun Subscale

Verb Subscale

Depiction Subscale

Question/Negation Subscale

Sentence Type Subscale

Next Steps

- We will complete coding of monthly sessions for ABY, JIL, NED, SAL
- We will also coding data from at least 3 additional Deaf native signers at 24, 30, 36, 42, and 48 months
- Further revisions to the form will be made as needed
- We welcome other researchers interested in using the current version of IPSyn

Selected References