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# Early gestures and signs in French Sign Language acquisition

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## BACKGROUND

From prelinguistic to linguistic communication: **same developmental time course in speech- and sign-exposed children** : (Newport & Meier, 1985; Volterra, Iverson & Castrataro, 2006)

Children of Deaf Parents: **both gestural and linguistic development in the visual-gestural modality**



Communicative gestures precede and coexist with first signs

Early studies: *Sign advantage?* Precise criteria needed to distinguish signs from communicative gestures when studying SL development in sign-exposed children (Petitto, 1988; Volterra & Caselli, 1985; Volterra & Iverson, 1995)

## CURRENT STUDY

The overall aim is to explore the gestural and linguistic development in French Sign Language (LSF) in children from deaf signing parents from birth to 3 y.o. by:

- Studying the gesture-sign continuum centering on: a) the transition between prelinguistic and linguistic stages, b) the way children reorganize their gestural system (from conventional signals to linguistic conventions),
- Focusing on the similarities and differences between Representational Gestures and Signs to propose fine-grained criteria distinguishing them.

## METHODOLOGY

Corpus-based study: longitudinal design

Participants: 4 sign-exposed children

NAME	SEX	HEARING STATUS	BIRTH ORDER	NUMBER OF VISITS
Maya	female	hearing	1st	14
Soline	female	deaf	2nd	13
Robin	male	hearing	2nd	10
Paul	male	hearing	3rd	9

Data collection:

- Spontaneous child-caregiver interactions at home
- Video recording with 2 cameras
- 45-minute sessions at monthly intervals (2 years)
- Notes: contextual information per session

Coding procedure: ELAN software: 10-minute sample per session

Focus on manual behaviours: identifying and categorizing DEICTIC and NON DEICTIC behaviours. Deictic subtypes are coded on a separate tier.

All NON DEICTIC types are then coded as:

- SIGNS (LSF and Sign-like)
- REPRESENTATIONAL Gestures
- CONVENTIONAL Gestures
- G/S? (unclear ones)

+ Annotation of functional aspects:

(Acredolo & Goodwyn, 1988; Petitto, 1988)

- Meaning
- Manner of use
- Gaze direction
- Caregiver's response

+ Annotation of formal aspects: (adapted from Bressem, 2013)

Phonetic-based notation per parameter: Location, Handshape, Orientation, Movement (+ contact).

## PRELIMINARY RESULTS

Results from one deaf child: 3 sessions at 10, 12, 14 months

Analysis in terms of frequency of occurrence: results show an increase in the number of communicative behaviours produced over the study period (gestures and signs conflated) and that:

- DEICTICS are the most frequently used gesture type in the 3 sessions,
- POINTING is the most frequently used gesture among deictics and increases in frequency in all 3 sessions,
- Among NON DEICTIC gestures, results show a significant increase in frequency of SIGNS (both SIGNS and Sign-like types).

Figure 2. Proportion of pointing gestures among deictics

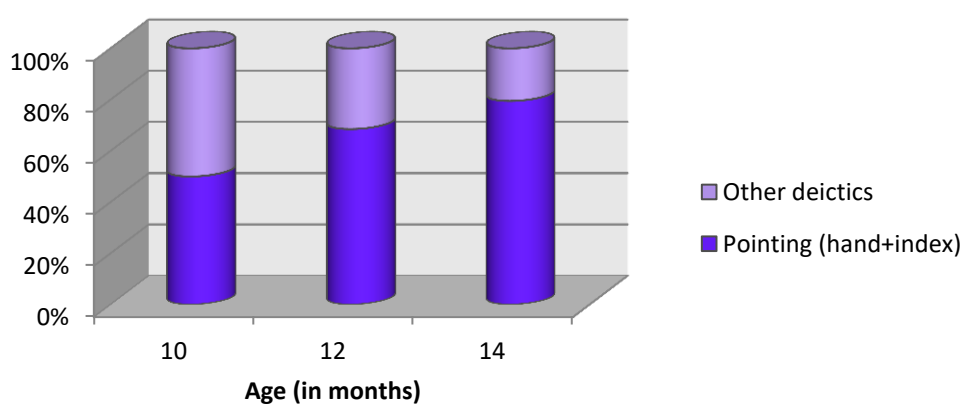


Figure 1. Manual activity per type

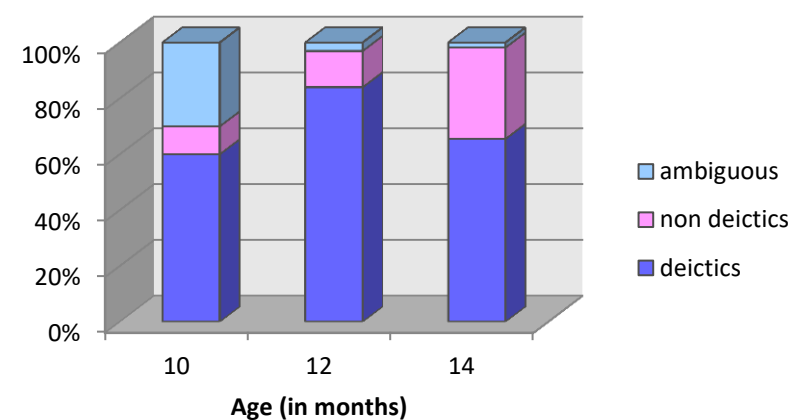
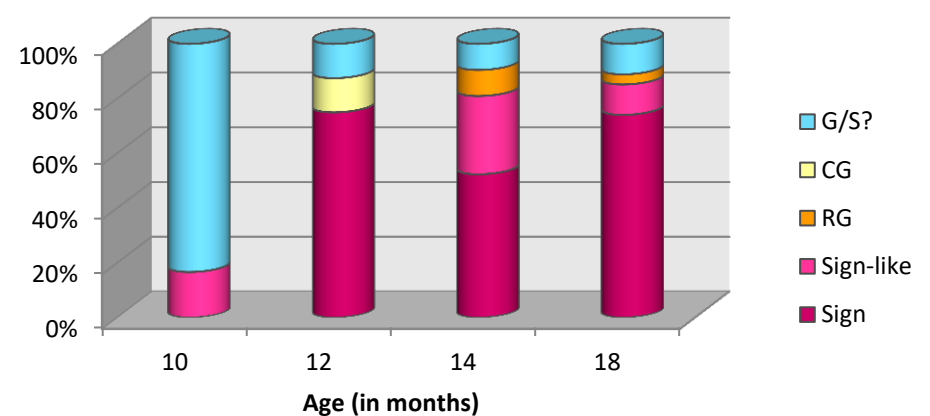


Figure 3. Proportion of manual production types



## CONCLUSION AND PERSPECTIVES

From a qualitative perspective: so far, our results are consistent with previous studies in SL development. The types of gestures used by the child change over time. Both pointing gestures and signs increase continuously.

Increase the annotated data volume for each participant to 1) improve the analysis from a quantitative perspective and 2) compare developmental trajectories and milestones for each gesture type. Develop inter-rater reliability and complete annotation guidelines.