

ACQUIRING A SIGNED LANGUAGE AS A FIRST LANGUAGE

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Ideas about sign language: true or false?

- Signed languages are universal.
- Signed languages are derived from spoken languages.
- The lexicon and grammar of signed languages are less complex than that of spoken languages.
- Signed languages are slower than spoken languages.
- Signed languages only emerged in the 1960s.

Is signing mime?

- The signs used in different deaf communities are different
- only 15% of signs are transparent in meaning
- sign languages have a grammar; mime does not

Sample of Swedish Sign Language

ECHO 2004

This movie may be used freely for
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Please acknowledge the source:

Stockholm University

<http://www.let.kun.nl/sign-lang/echo>

*So, what is your name? My name is Jenny Ingvarsson and this is my name sign. Oh, how come? Why that particular name sign? Well, first of all it indicates my curly hair, and when I was a small I always emphasized the ** when I fingerspelled my name, with real emphasis. My preschool teachers wanted to have a sign that only indicated my curly hair, but I wanted to add the ** so that is the combination. Oh, it looks nice. Where are you from? I was born in Stockholm. Did you grow up here? So you are a real Stockholmer then? Yes, I grew up in Stockholm and I still live in Stockholm. Could you tell us a bit about your family and the time when you grew up? Well, my father is hard of hearing and my mother is deaf. I have two brothers, one who is eighteen who is deaf, and one who is fifteen who is hearing.*

Language acquisition follows universal pattern

- Deaf children have full access to a *signed* language
- Language acquisition proceeds globally just as for spoken languages re timing
- Universal properties of language acquisition but specific differences in specific languages

Are deaf children just like hearing children in their first language acquisition?

- **Yes**, because deaf children of deaf parents learn a sign language in the same natural environment
- **No**, because deaf children of hearing parents have more difficulty in learning a sign language (95% of deaf children) because it is not offered.
- **No**, Deaf children have a different social, perceptual, cognitive and neuropsychological background

Rate and milestones in signed language development

Same stages as in a spoken language:

- Babbling before 1 year
- One-sign stage around 1 year
- Two-sign stage around 1 year 6 months
- Multi-sign combinations from 2 years
- But variability between signed languages as to when specific structures are learned

Some claim that a sign language is learned more quickly

METHOD

- Longitudinal database 0-8 years at Universiteit van Amsterdam
- 3 deaf mothers with 3 deaf children:
Carla, Laura and Mark
- 3 deaf mothers with hearing children:
Jonas, Alex and Sander
- 10 minutes of interaction transcribed from children 1 to 3 years for grammatical analysis.
- All NGT and Dutch utterances analysed as well as mixed utterances from mothers and children.

Input

- Amount and type of input has an effect on acquisition.
- More variation since parents can be native signers or not.
- Language environment can vary since siblings can be deaf or hearing.
- Always a bilingual environment: both a sign language and spoken language offered.
- Continuum between sign language and spoken language.

Babbling

- Deaf and hearing children are not comparable in babbled vocalizations: not all deaf children babble.
- There is a relationship between the amount of vocalized babbling and the production of spoken language in deaf infants. *Clement (2004)*
- Manual babbles are the precursor of signed utterances.

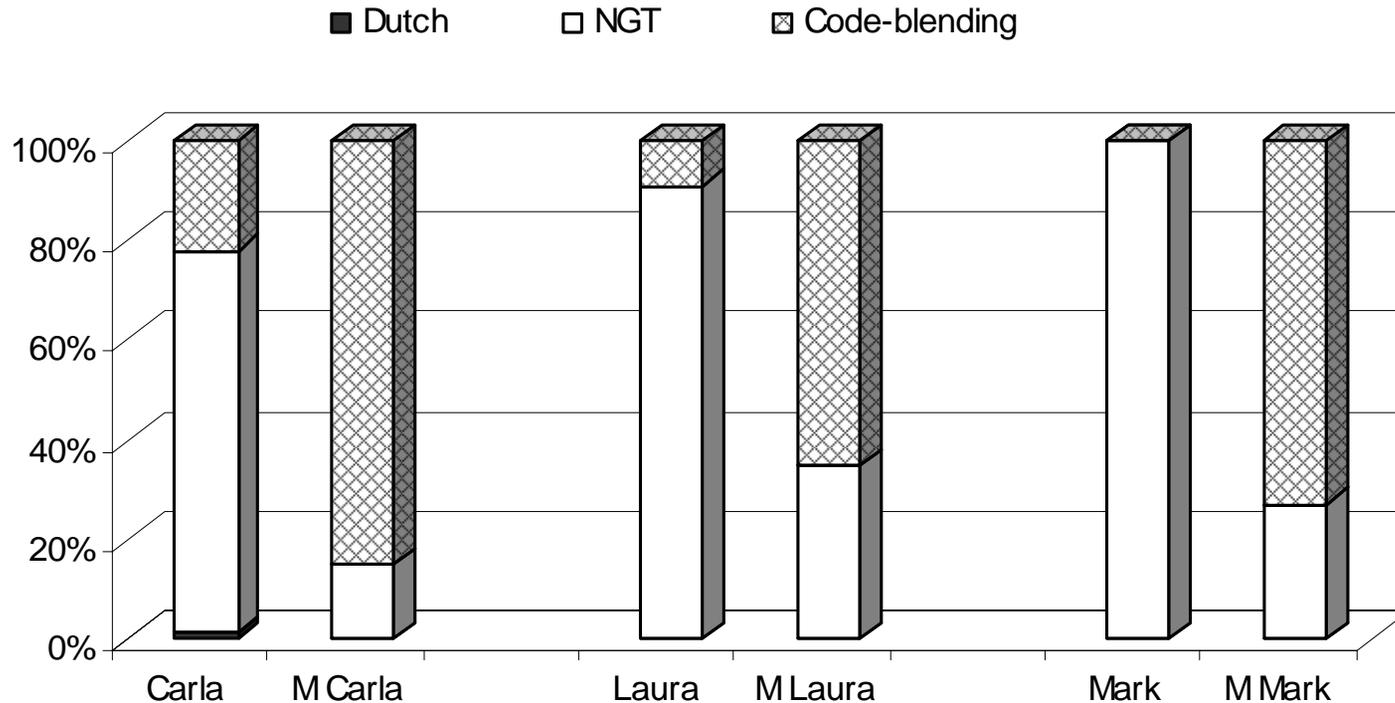
Example of babbling

- Laura (0;11, Deaf) and her mother (Deaf) are looking at a picture book with animals: PANDA, DUCK, ZEBRA

Use of mouth actions in signed languages

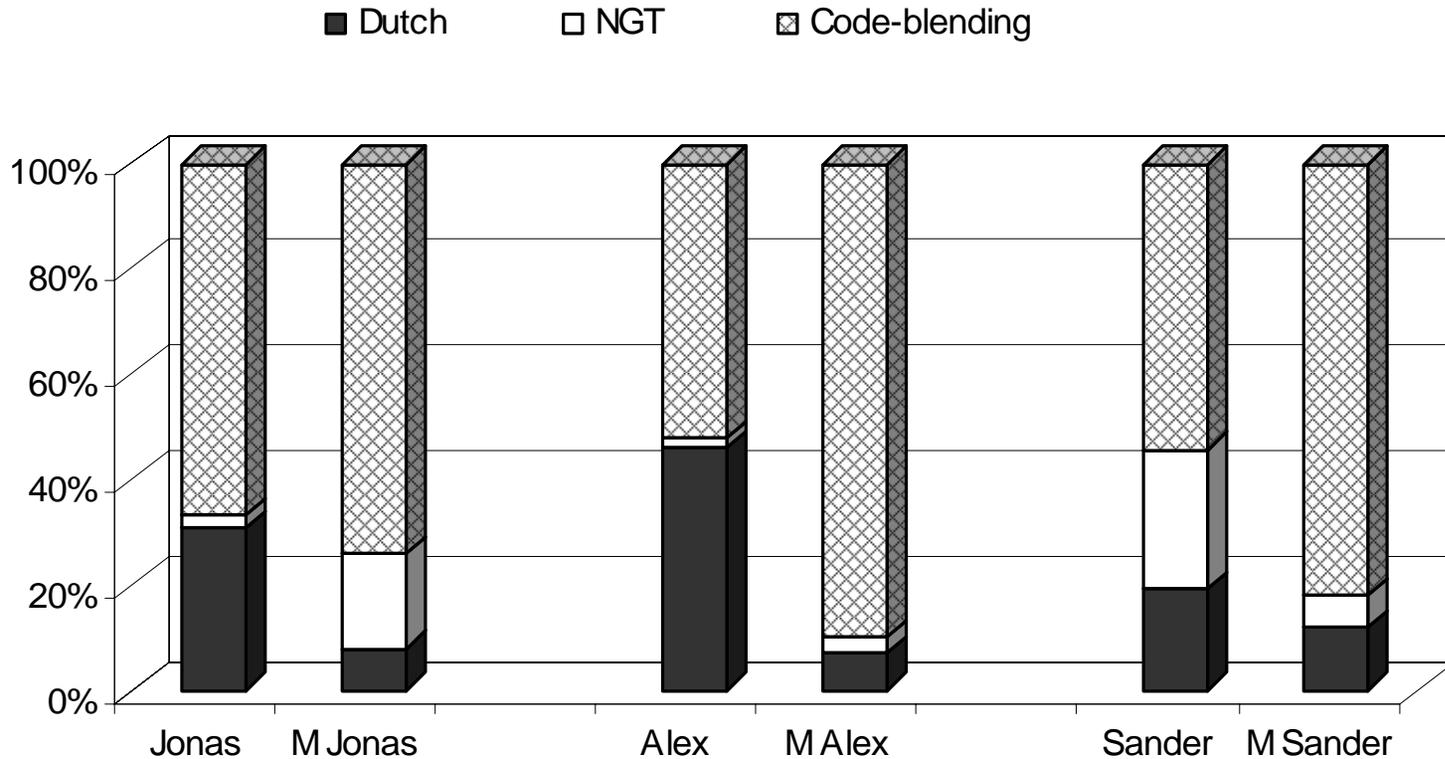
- Signs with **mouth gestures** not derived from spoken words
e.g. “fa” in NGT sign FINALLY UNDERSTOOD
“pa” in sign THROW AWAY
- Signs with **mouthings**, i.e. derived from spoken words
e.g. “bal” in NGT sign BALL
- Latter can be seen as a form of code-blending.

Languages produced



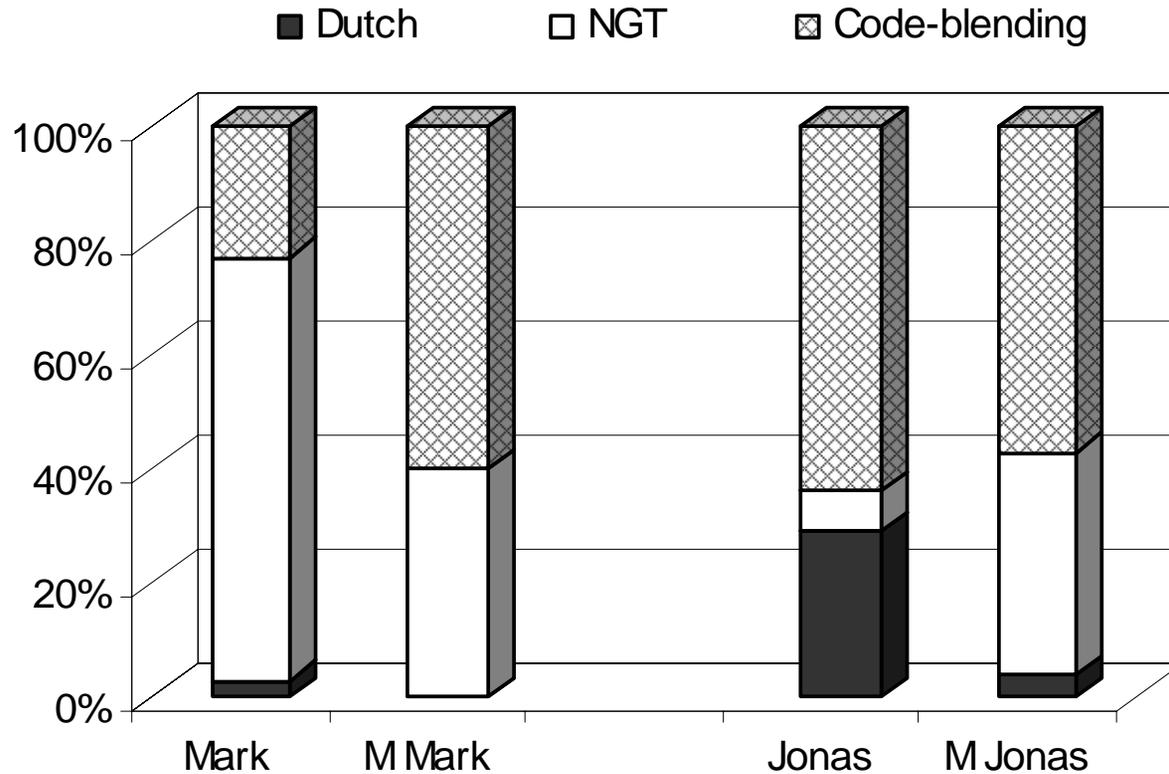
Utterances from the mothers and **deaf** children age 3;0

Languages produced



Utterances from the mothers and **hearing** children age 3;0

Languages produced



Utterances from the mothers and children age 6;0

Acquisition of sign phonology

- Handshapes are acquired in an order reflecting frequency and articulatory complexity e.g. 5 hand, 1 hand first, R-hand late.
- Movement is proximal before distal (articulation)
- Location is approximate
- Substitution and assimilation present, not deletion.

Accessibility and Visual Attention

- Both sign language and spoken language only **visually** accessible to deaf children
- Input is not always intake
- Parents use attention strategies to get visual attention
- Children have to learn to give visual attention
- **SIGNS** visible for children around 80% between 1-3 years
- **WORDS** increasingly visible for the children up to 60-80% at age 3 years

Mark at age 2;0 is teasing his mother about colour terms: YELLOW, RED, GREEN

Complexity

Length of utterance

- MLU increases in input over time in both NGT and Dutch
- MLU increases in time for children for NGT
- MLU increases for children in Dutch minimally up to age 3;0: delayed compared to Dutch hearing children

Length of utterances

	NGT	NL	Co-bl
Carla	1.8	1.0	2.5
Laura	1.8	1.4	4.0*
Mark	2.3	*	*
Jonas	1.0*	2.1	4.2
Alex	1.0*	1.5	3.0
Sander	1.4	1.7	2.7

Asterisk means no utterances or less than 10

Table 1 MLU of NGT, Dutch and code-blended utterances at age 3;0

Verb morphology in adult NGT: examples

Subject-Object marking

a:woman TEASE_{b:man}

translation: she teases him

Aspect Durative

a:woman TEASE_{durative} b:man

translation: She is always teasing him

Negative Verbs

_____ neg

CANNOT INDEX_I

translation: I can't

Verb morphology

in **Dutch** mostly correctly inflected verbs in input

- in children almost no Dutch verbs - no inflection

in **NGT** present in input from age 1;0 or 1;6
(simple)

and increase in types of inflection over time.

- children have relatively slow development in this aspect of NGT as in other signed languages.
- Mark has produced 6 types: manner, 1-loc, S/O, auxiliary+infl, negative, class-incorp by age 3;0

Lexical acquisition

- CDI for signed languages shows no great differences in lexicon.
- But **Noun/Verb Ratio** is different

MC	.74	Carla	.92
ML	.30	Laura	(.33)
MM	.30	Mark	(-)

Mothers vary in Noun/Verb Ratio in the input

Children reflect variation, result of activity (*Tardif 2001*)

Frequent use of verbs appears to influence the acquisition of different types of inflection.

- Expression of taxonomic relations, categorial terms and ability to define is dependent on schooling.

Strategies in turn-taking

- Adults wait for eye contact before signing (Harris 1987, van den Bogaerde 2000), but sometimes start signing to gain attention
- In Child Directed Signing adults shift the signing space into visual field of child
- Waving or tapping used to attract attention or sometimes to signal desire to take turn
- Collaborative floor (simultaneous signing) occurs easily in adult sign language interaction (Coates & Sutton-Spence 2001)
- Overlap functions above all to give feedback, often using repetition of (part of) the utterance.

Development of turn-taking in NGT

- Child: increases visual attention at start of turn after 2;0
- Amount of overlap **increases** with age
- More overlap by mother than child across all ages
- Increase in frequency and length of sequences of consecutive overlaps

Collaborative floor clearly increasing !

Mark at 3:6 in conversation with his mother about picking apples and then about a diver under water

SUMMARY

- Main phases of SL acquisition are comparable.
- Code-blending is common.
- Phonology follows articulatory complexity and frequency.
- Learning to pay visual attention is an extra task in acquisition.
- Morphology acquisition is slower, but more complex than many languages.
- Lexicon is similar but noun-verb ratio different.
- Turntaking moves towards shared floor; acquisition moves in that direction.

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