Nods, headshakes and the perception of multimodal constructions in child language

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Background

- Emblems are gestures often claimed to have a verbal equivalent (word or phrase) [e.g., 1, 2]. In this emblem, differents from so-called co-speech gestures [e.g., 3, 4, 5]. Emblems are also less explored from a developmental perspective.

- Nodding = “yes” and Headshakes = “no” are two early emblematic gestures in child communication but little is known about their functions and trajectories in different contexts and for different ages [6, 7].

- In laboratory settings and dyadic child-parent interaction, the following uses for nods and headshakes have been documented [6, 7, 8]: i) Willingness or refusal to carry out a requested behavior; ii) Agreement or disagreement with substantive claims or with a behavior performed (including backchannel responses); iii) Answer to yes/no-questions; and, iv) Reinforcing a statement (negative or affirmative).

Research questions

1. How frequent are nods and headshakes in naturalistic child interaction?
2. How do children use nods and headshakes in naturalistic interactions with siblings and parents?
3. How are nods and headshakes related to children’s age?

Methodology

Participants
11 Swedish children, 0-9-10 years old, 5 families. 7 girls/5 boys. In all 22 hours.

Design
4-6 rec.child, longitudinal study 2½ years, home environment. One video camera were used, the researcher followed the children.

Coding
Transcribed in ELAN. All verbal and vocal utterances were transcribed orthographically. Something was regarded as 1 verbal/vocal utterance if it was preceded and followed by silence, change of turns, etc.

All nodding and head shaking movements the children made were tagged NOD or HEADSHAKE respectively. A nod was defined as at least one up-down movement of the head, a head-shake as at least one back-and-forth turn of head sideways (sound was turned off during this part of the annotation process). One coder.

Analysis
All NODs and HEADSHAKEs were analyzed in context for “yes”/”no” meaning or possible other semantically/interactionally related function. The children were divided into age groups for simplicity reasons. Adult gestures are not included in this study.

Results

Frequencies
There were 116 nods and 136 headshakes. In total (including all 11 children) there were 5,3 nods per hour and 6,2 headshakes, equaling a nod every 11th minute and a headshake every 10th minute.

Functions
Nods: “yes”; feedback-signal; emphasis (non-speech); question; co-speech but not “yes”; other.
Headshakes: “no”; feedback-signal; emphasis (non-speech); question; co-speech but not “no”; mismatch; other. The majority of headshakes appears to be atypical, whereas the opposite relation holds for headshakes.

Development
No statistical analysis has been done yet (but at least headshakes appear to be a mess).

Discussion

The functions found in this data corresponds to those observed in 32 months olds children [6] and to the mothers head gestures while interacting with their young children [7]. However, there were also a few mismatches of the headshaking gesture. There were also quite a few Other-gestures. These were partly grooming behavior (among the older children), partly “unknown”: 22% of the nods and 25% of the shakes were of co-speech character, either beats or more off-rhythm movements (nods) or of unclear function (headshakes). Do the nods carry semantic meaning or are they interactional spans? If the shakes negate, they negate larger chunks of discourse or they indicate a personal (emotional) stance.

Going abstract: most prototypical nods/shakes are found in adjacency pair constructions. These constructions are also the reason we regard nods/headshakes as emblematic gestures. Outside these stable interactional frames, it appears we either do not notice the nodding/shaking movements [Gerholm, in prep] or they take on the semantics of the concurrent - or closest - verbalizations. Will we find the same if investigating other emblems in naturalistic settings?

Further studies

- The relation between form and meaning for emblems such as nods and headshakes need be investigated further. The description of emblems as equivalent to specific word/s meanings holds only for particular contexts.
- Naturalistic settings need be compared more systematically to laboratory settings. The difference in frequencies and functions could be larger.
- The contexts in which the present gestures were found need be studied more in depth, e.g. including the interlocutors’ gesture-speech behavior. Are there an imitation tendency for nods/shakes?

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References