Novel sign learning in young deaf children: the role of referential cues and visual attention

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Introduction

When mapping words to objects, children interpret adult gaze¹ and points² as reliable referential cues in spoken language.

Deaf infants learning sign language follow caregiver gaze beginning at an early age³.

Deaf mothers are sensitive to their child’s focus of attention and monitor child gaze when providing sign input⁴,⁵.

Deaf children exposed to sign language from an early age are adept at gaze shifting to alternate attention between linguistic and visual information⁶.

Gaze and pointing cues should be timed to direct a child to an object without missing key linguistic input in signed interactions.

Current study

→ Do referential cues (point and gaze) support novel word (sign) learning in young deaf children?
→ Does the timing of the cue (before or after the sign label) affect gaze patterns during novel word learning?
→ Do children show changes in gaze behavior with age?

Methods

Training phase: 6 novel sign-novel picture pairs introduced, 4 exposures each

Test phase: novel sign presented with target and distractor pictures

Measures: Proportion of gaze to sign and picture during training and test

Participants: Deaf/hh children ages 18-60 months

Exp 1: M = 43 mos, n = 32; Exp 2: M = 44 mos, n=33

Exp 1: One-picture training

Exp 2: Two-picture training

Training Conditions:

No-cue (NW) (Exp 1): SEE WHAT? NOOP. COOL! SEE WHAT? NOOP!
Word-Point (WP): NOOP WHAT? POINT. COOL! NOOP WHAT? POINT.

Results

Test phase:

• From 600-4000ms after target onset, most looks to target (vs. distractor) in word-point condition (ns)
• Age is a significant predictor of target looking during test across conditions

Exp 1: Target (vs. Distractor) preference by condition (NW, PW, WP)

Exp 2: Target (vs. Distractor) preference by condition (PW, WP)

Discussion

• Referential cues support novel sign-novel picture mapping in ASL
• Deaf children learning ASL are highly sensitive to the timing of input, and shift gaze in a way that optimizes perception of critical linguistic information
• Providing the sign before the gaze shift may lead to increased learning of novel signs, as the label is fully perceived before shifting attention to the object

References


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Thank you!