



Baby Sign with Hearing Infants: Interactions with Spoken Language Development

Child Speech Lab

Anna Vogel Sosa, M.A. and Carol Stoel-Gammon, Ph.D.

University of Washington, Department of Speech and Hearing Sciences

Introduction

What is 'baby sign'?

•The use of manual gestures with pre-lingual hearing infants. Gestures used include American Sign Language (ASL) signs and naturally occurring symbolic gestures.

Why use 'baby sign'?

•Based on the premise that speech motor control is the rate-limiting factor in the onset of language use, sign learning is meant to allow infants to express their thoughts before they are able to speak.

•Parents are eager to engage in activities that may advance their infants' development.

Claims made by manufacturers:

•'Baby sign' programs are heavily marketed in parenting magazines and on the internet and the companies make numerous claims regarding the benefits of using sign with infants:

- 1) Improve language development
- 2) Stimulate intellectual development
- 3) Strengthen parent-infant bond
- 4) Enhance infant self-esteem
- 5) Reduce tantrums and frustration
- 6) Facilitate learning a second language later in life
- 7) Increase IQ (1,2)

But:

"The research evidence...fails to support these claims due to insufficiency of scientific methods."⁽³⁾

Current Study

This study was motivated by the observed prevalence of the use of 'baby sign' while collecting data for an unrelated study. The participants displayed unusually slow language development, causing us to question whether 'baby sign' had impacted their language development profile.

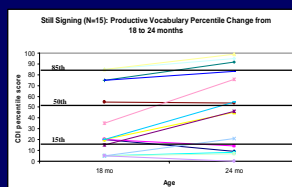
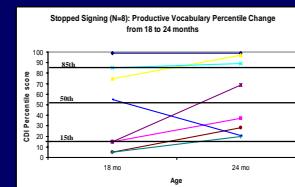
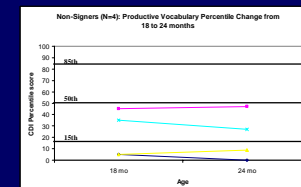
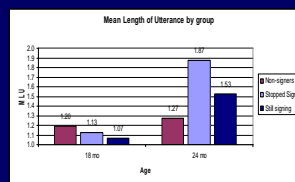
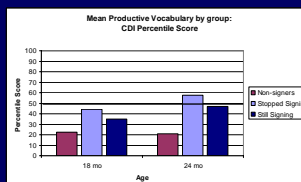
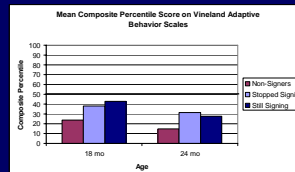
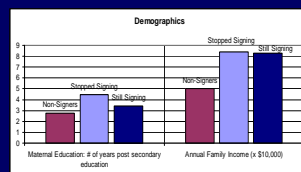
Data and Analysis

Participants: 27 children, aged 7-24 months (17 boys & 10 girls), followed longitudinally. Subset of 39 typically developing children originally enrolled in a study of speech, communication, hearing, motor, and perceptual development at the University of Washington (5 dropped, 5 excluded due to missing data, 1 excluded due to suspected oral-motor problems, 1 excluded due to atypical language environment).

Measures: (1) Demographic information (2) Information about use of baby sign (3) Productive vocabulary at 18 and 24 months (MacArthur-Bates Communicative Development Inventories: CDI) (4) MLU during free-play session with caregiver at 18 and 24 months (5) Vineland Adaptive Behavior Scales at 18 and 24 months

Results:

- 85% (23/27) were taught baby sign
- Baby sign materials used by parents: 57% used books, 22% used videos, 17% attended a workshop, 13% attended a class (many used a combination of materials)
- Mean number of signs used by child per parent report: 10.65 (SD=15.58, range 1-75)
- Average age of infants when sign instruction started: 6.8 months (SD=2.4, range 3-12)
- Average age at use of first sign: 9.5 months (SD=2.5, range 5-15)
- 65% (15/23) of infants taught sign were still signing at 24 months



Discussion

- The use of baby sign is very popular among certain groups in the U.S. (high income, well-educated families).
- Overall, the children in this study exhibited slow oral language development: 41% (11/27) were below 15th %-ile at 18 months.
- The signers, as a group, had slow oral language development: 39% (9/23) were below 15th %-ile at 18 months.
- Non-signers had "level" development: no noticeable change in percentile scores between 18 and 24 months
- Signers had "rising" trend in development from 18 to 24 months: only 3 of original 9 were still below 15th %-ile at 24 months
- All children below 15th %-ile at 24 months were still using sign; suggesting that 1) sign may be used to compensate for poor language abilities or 2) continued signing may inhibit oral language development
- Trend for children still using sign at 24 months to have lower productive language abilities at both 18 and 24 months (not statistically significant)
- These findings do not support the claim that teaching sign enhances language or cognitive development.
- Further controlled research is necessary to determine true impact of 'baby sign' on early oral language ability

References

- [1] Baby Signs®, Inc. (2005). <http://www.babysigns.com/index.cfm/fuseaction/institute.benefits/benefits.cfm>.
- [2] Signing With Your Baby® (2000-2004). <http://www.signingbaby.com/advantages.html>
- [3] Topshee Johnston, J.C., et al. (2003). Training hearing infants to use sign language. *Baby Talk!* Canadian Language and Literacy Research Network, October 2003.