Picture naming in deaf children from deaf and hearing families compared with spontaneous gestures produced by hearing children: the influence of iconicity

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Abstract

Hearing toddlers in different cultures sometimes produce spontaneous gestures in place of, or in combination with spoken labels when naming pictures (Stefanini, Caselli & Volterra, 2007; Stefanini, Bello, Caselli, Iverson & Volterra, 2008). These gestures depict how objects are manipulated or how movements are carried out (e.g. Combing hair gesture for a comb picture, turning steering wheel movements for car picture). In these studies gesture was argued to provide a cognitive/sensorimotor link between the object or action depicted and the spoken word. This link between the real world and the semantics of words has also been observed in recent studies of sign language use and learning. Deaf native signers show a benefit of iconicity during processing tasks both at the level of semantics and phonology (Thompson, Vinson & Vigliocco, 2009, 2010) and this iconic influence extends to vocabulary development in young native signing children (Thompson, Vinson, Woll & Vigliocco, in press). We hypothesize that children learning spoken and sign language exploit the action biases in gesture and signs in a similar way in order to break into particular meaning categories. We therefore investigate how deaf and hearing children of similar ages, but with different experiences of sign language compare on the same naming task. In the current study 20 deaf children of hearing parents learning English and BSL, 20 deaf children of deaf parents acquiring BSL and 20 hearing children of deaf parents acquiring English and BSL (with mean age 36 months) were tested on their receptive and productive vocabulary skills compared with hearing children's spoken and gesture productions (Stefanini, Caselli & Volterra, 2007) There was no significant difference in comprehension abilities across all groups. However, deaf children of hearing parents produced fewer recognisable signs compared with deaf and hearing children from deaf families, instead producing many idiosyncratic representational gestures that were similar in form and meaning to those gestures reported in hearing children on the same task. We will discuss these gesture and sign responses both in terms of their relationship with the iconicity of language and parental input.

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