



**The Center for Gesture, Sign, and Language presents:**



**Study of Language and Math**

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**The Centrality of Language in Cognitive  
Development**

**Monday, March 28, 2022 @ 10:30am CT  
Join us via [Zoom](#).**

Today we report initial findings from the Study of Language and Math (SLaM) project, based at the University of Connecticut. We investigated how language modality (i.e., signed or spoken) and the timing of a child's exposure to language (beginning from birth or at some point later in development) influence performance in a number of domains of cognitive development. Even among typically hearing children, the home environment and interactions with caregivers have been found to influence many aspects of cognitive development. Deaf and hard of hearing children experience much greater variability in their language experiences; this likely affects the quantity and quality of their education and their interactions with parents, siblings, and peers.

Overall, we found that the timing of language access predicted much more variability in outcomes than did differences between children learning a sign language (American Sign Language, ASL) vs. a spoken language (English). Modality effects were rare, and tended to be associated with confounding factors, such as a child's family's socioeconomic status and the age at which they began reliably accessing language input.

We will report relatively consistent findings across a number of cognitive tasks. These tasks range from those widely agreed to depend on language input, such as vocabulary and acquiring the meanings of number words, to those that are explicitly considered to be independent of language, such as tracking small sets of objects (those containing 2 or 3 items) and standardized 'non-verbal' picture-matching tasks.

These results have both strong theoretical and practical implications. In terms of theory, these findings offer an opportunity to begin refining our theories regarding which aspects of language structure and experience are most influential in promoting development in different domains. They also highlight potential effects of language experience on domains previously considered to be independent of language. In terms of early intervention practice, these results point strongly to the need for children to experience accessible language early in development. That is, deaf and hard of hearing children must receive exposure to fully accessible sign language input as early as possible, in addition to any hearing technology aimed at improving their access to spoken language.

Free and open to the public. ASL-English interpreting will be provided. Persons with disabilities who need an accommodation in order to participate in this event should contact Zena Levan at [zena@uchicago.edu](mailto:zena@uchicago.edu).

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