

Access to Language and Cognitive Development in Young Children

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ABSTRACTS OF PRESENTATIONS

Overhearing a second language and cognitive development

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Despite its significance for understanding language acquisition, the role of early language experience has been examined almost exclusively in linguistic deprivation studies focusing on what cannot be readily learned beyond childhood. Our research focused instead on long-term effects of what can be learned best during childhood. We focused on adult learners of Spanish/Korean who had spoken Spanish/Korean as their native language before age 6 and only minimally, if at all, thereafter until they began to re-learn the language after age 13 years. They were compared with native speakers, childhood (over)hearers, and typical late-second-language (L2)-learners of Spanish/Korean. Although far from native-like, childhood speakers of Spanish reliably outperformed childhood overhearers and typical late-L2-learners on measures of grammar. Both childhood speakers and overhearers spoke Spanish with a more native-like accent than typical late-L2-learners. To date, we have documented benefits of childhood experience with Korean only in the domain of phonology. In a new line of investigation, we explore access to very early linguistic experience by focusing on adults adopted under age 12 months from Korea by families in the U.S. Preliminary findings suggest early learning about ambient language can be accessed in adulthood upon re-learning.

Development of spatial strategies for numerical tasks:

Evidence from indigenous Australia

Brian Butterworth (University College London)

Here we describe the nature and use of spatial strategies in a standard non-verbal addition task in two groups of children who speak only languages in which counting words are not available, as compared with children who were raised speaking English. We tested speakers of Warlpiri and Anindilyakwa aged between 4 and 7 years old at two remote sites in the Northern Territory of Australia. These children used spatial strategies extensively, and were significantly more accurate when they did so. English-speaking children used spatial strategies very infrequently, but relied on an enumeration strategy supported by counting words to do the addition task. The main spatial strategy exploited the known visual memory strengths of Aboriginals, and involved matching the spatial pattern of the augend set and the addend. These findings suggest that counting words, far from being necessary for exact arithmetic, offer one strategy among others. They also suggest that spatial models for number do not need to be one-dimensional vectors, as in a mental number line, but can be at least two-dimensional.