Towards a grounded cognition account of conceptual development

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We propose a theoretical account of how conceptual development unfolds within a grounded cognition conceptual system. A growing body of research in the field of grounded cognition argues that conceptual representations are composed of abstractions of sensorimotor information. Thus far, the majority of work in the field has focused on the compositional nature of representations and the adult processing of concepts and language with little published developmental work. Given that constructivist accounts of development place sensorimotor input as a key catalyst for developmental change, grounded cognition offers constructivism a mechanism of how sensorimotor input becomes instantiated in conceptual structure: A 'schematic' diagram of a representational 'brick' from which a rich and flexible and conceptual system can be constructed.

In this presentation, we describe how complex conceptual structures can unfold within a grounded system through sensorimotor interaction with the physical environment and the assimilation of a culturally instantiated linguistic system. When conceptual development is conceived within a grounded system, a theoretical path is formed that treads neatly within Neuroconstructivist notions of partial representation and context-dependence, Vygotskian cultural entanglement, usage-based accounts of language development and connectionist learning mechanisms. Supported by existing empirical work and supporting contended views of cognitive processing, a grounded account of development also offers novel mechanisms for the emergence of perceivable mental representations and the development of conceptual structures abstracted from concrete sensorimotor experience.