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Parent-child interactions scaffold action segmentation in infancy and early childhood

Abstract:

Humans are cultural learners and engage in cultural learning already from infancy. An important question remains whether and why children learn better in pedagogical interactions with adults, compared to observational learning. In my talk I want to argue that child-directed interactions are particularly suitable for teaching purposes, because they support the segmentation and chunking of actions into appropriate sub-units. Furthermore, many of the cues and signals used by children in action segmentation have similar concepts in language acquisition, where meanings have to be mapped onto the appropriately-sized chunks of speech. I want to discuss how we can draw parallels from one domain to make predictions about the other.

In order to imitate actions successfully, children need to understand the purpose of an action. In order to understand the purpose of an action, they need to segment the action into meaningful segments (Baldwin, Baird, Saylor, & Clark, 2001; Sonne, Kingo, & Krøjgaard, 2016; Zacks, Kumar, Abrams, & Mehta, 2009). Many action events have low level perceptual cues that aid segmentation. Furthermore, prior higher order knowledge of the event can also help to identify and interpret segments (Zacks & Swallow, 2007). However, not all action units have clear boundaries or are relevant to a given task. Therefore, how actions are broken up into chunks and action units becomes crucial in child directed interactions.

Parents use many cues and signals that may help children to break up actions in order to understand and imitate them. For example, infant-directed actions are often presented in an exaggerated manner (Brand, Baldwin, & Ashburn, 2002; Koterba & Iver-son, 2009; Rutherford & Przednowek, 2012) and are highly repetitive (Brand et al., 2009). Furthermore, parents use direct gaze particularly at event boundaries (Brand, Hollenbeck, & Kominsky, 2013; Brand, Shallcross, Sabatos, & Massie, 2007). Infant-directed speech and direct gaze may be particularly suitable cues for the segmentation of events. The contribution of pedagogical action demonstrations towards the segmentation of actions can help to explain some of the differences in pedagogical and observational learning of actions in infancy.

References:


