**Spotlight on Preschoolers: Early Flexibility in Problem Solving**

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*Keywords*: problem solving, flexibility, preschool

Abstract:

In this paper, a novel theoretical framework is proposed to organize and integrate previous empirical findings on early development of analogical transfer. Transferring knowledge across situations is a pivotal skill in dynamically changing environments that humans inhabit and shape. This ability drives human problem solving and innovativeness, as it allows for generalizing knowledge acquired in familiar, past solutions to any unfamiliar, present situation. The ability to detect common functional features and disregard other, functionally irrelevant information begins to develop in the first year of life, and markedly improves in toddlerhood and the preschool years. Although the ability to transfer knowledge across situations has been repeatedly investigated in toddlers and preschoolers over the last decades, these investigations lacked a unifying framework, obscuring the developmental timing of flexible problem solving.

In this paper, a unifying framework is proposed and discussed in relation to previous findings, gaps in current state of knowledge and implications for concrete educational interventions. This framework builds on a distinction between “simple” and “complex” transfers. Although all generalization tasks require prioritizing relevant information over irrelevant information, the irrelevant information may play two different roles in transferring knowledge, namely, a distracting or a misleading one. Distracting information was consistently irrelevant under similar past circumstances and remains irrelevant in the present. Misleading information was relevant under similar past circumstances but is now irrelevant and therefore competes with the truly relevant information. Previous research suggests that the ability to disregard misleading information is more difficult, draws differently on executive functions and most likely develops later than the ability to disregard distracting information.

The current paper furthers current understanding of how early the abilities critical to human behavioural flexibility develop. In the era of individual engagement in politics and social media, the ability to disregard misleading information is perhaps more important than ever before. Furthermore, focusing on individual problem-solving flexibility, promoted in the current project, has implications for changes in assessment of child’s achievement and progress in the schooling system. Since accumulating information is somewhat prioritized over operating on such information, continuity between problem solving at the preschool level and critical thinking in adolescence may not be secured. There is also little space for assessment of individual, not standardized development. Shifting the current emphasis toward individual flexibility could, at least to some extent, hinder grouping children into performing below, on and above average and promote focusing on individual course of development, both in typically and atypically developing children*.*

Funding: Lund University, Sweden; Stiftelsen Professor Herman Siegvalds och Fru Hilma Siegvalds fond för pedagogisk och psykologisk forskning, Sweden; University of Luxembourg, Luxembourg