Thinking About Thinking About Thinking:

An Essay on Metacognition

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The field of metacognition is riddled with flawed history, time based conflict, and gaps in topical research. This is the direct result of both a lack of quality research in the field of metacognition and a rhetorical disregard for the interconnected nature of metacognition and the rest of the field of cognitive development. Further, the expansion of the field beyond simple systemic introspection is a relatively new occurrence. There is no doubt that metacognition is a crucial component of cognitive development, however for the field to contribute sound rhetoric it must first change the way research is conducted and expand the influence of metacognition across the spectrum of cognitive development.

A child's ability to create and access memories is the dominating characteristic of metacognitive development and research. According to Schneider (1997) the memory changes that take place between early and late childhood are qualitative. This means that children at different points in their development will be implementing different strategies to access and store memories. Beyond an obvious overlap with memory recall, metacognition also has strong connections to Theory of Mind (ToM). With ToM, a child is able to predict the behaviors of others based on perceived thoughts, beliefs, and desires. With metacognition, they are turning similar strategies introspectively. As a generalization, current and past research into metacognition vastly overlooks the influences of ToM and other components of cognitive development on a child's ability to observe and control their own cognition.

I believe it may be slightly overwhelming to begin expanding the research in metacognition as its implications stretch across nearly every other research topic in cognitive development. It is not hard to see the ways metacognition and mental states interact. The same argument can be made for the intersection of metacognition and scientific reasoning. I am particularly interested in two under represented intersections. First, what does metacognition

look like across cultures? We know cognitive development, and human development in general, is impacted directly by culture and context. I am then curious about the way metacognition changes in different settings. If for example if we conducted research with children who had no formal prompting of memory strategies prior to the experiment, would they then be able to recall information after being introduced to their very first memory recall strategy? Beyond experiment design, I am curious about cultural based definitions of metacognition. Second, I am interested in the socio-emotional implications of research in metacognition. How does a child's awareness and control over their cognitive processes directly impact their ability to engage in secure attachment with their parents? Further, how does metacognitive capacity influence the likelihood of a child to scaffold in the classroom? Metacognition has its hands in many cognitive processes and the very nature of its expansiveness may discourage research. Personally, I feel that having a solid understanding of metacognition as a foundational concept will allow us to produce better prepared research across adolescent and adult development

Knowledge of the development of metacognition through childhood has immense applications in learning environments. As children are experiencing a change in their ability to recall and categorize memories, it is important that educators understand the best ways to prompt both knowledge acquisition and knowledge utility. In early childhood, children's memory recall is extremely faulty and, according to Schneider (1997) it is domain limited. This not only shows direct implications for research in the field but also has extremely real classroom applications. Beyond the phase of childhood which is defined by faulty memory recall lies a period of faulty access to memory. If we can understand that children are able to access their memory with different strategies at different stages through their development of metacognition, then we can better support them in the classroom. If for example, we accept that young children do not have

the capacity to utilize memory strategies without prompting, it would then make sense that a teacher would make it common practice to prompt memory strategies in the classroom. The implementation of developmentally appropriate memory recall strategies is one of many applications of an understanding of developmental metacognition.

Moving forward in the field will require a methodological and a theoretical shift. First, we will have to introduce a comprehensive array of both cross-sectional and longitudinal research to the rhetoric. Cross sectional research will allow us to look at the relative ages children are developing skills associated with metacognition such as memory strategy use. On the flip side, longitudinal research will act as the door to comprehensive research in the field. Longitudinal research allows us to look at individual differences among children as they develop metacognition. Second, we will have to critically analyze the way we measure and define metacognition. A theoretical shift is required to move the field beyond research in isolation and towards a more holistic application of metacognition.

Reference

Schneider, W., & Sodian, B. (1997). Memory strategy development: Lessons from longitudinal

    research. <u>Developmental Review, 17</u>, 442-461.