

**Compiled by Dick Roberts of the Sally and Richard Roberts Coyote Foundation for the Oct 7, 2009 GFE Out-of-School Time Network Discussion:**

***The Science of Learning: How can brain architecture research guide the design and assessment of afterschool and summer programs?***

In the past 30 years extensive research in child psychiatry, psychology, neurology and cognitive learning have underlined the immense capacities of a child's mind. Children gain, often innately and through their great desire to discover the world around them, remarkable linguistic and cognitive skills, and they develop emotional, social, regulatory and moral capacities. By five they are experts on their own surroundings and anxious to learn more, entering school filled with wonderment.

Unfortunately for so many children, the school culture stifles this natural desire to expand knowledge and to learn more about the world around them. As President Obama remarked more than once in this campaign, he sees children bright and star eyed in kindergarten but often in higher grades almost dead to the world.

Afterschool has a critical role to provide opportunities for children to continue learning, to explore areas of their own interest, to master new skills, and to be successful in areas that are important to them. Behavioral and educational psychologists emphasize strongly the value to kids -- and really to all of us -- to be challenged to reach difficult but obtainable skill levels, to master them, and to do this in community with others. Such activities could take place in learning hip hop, how to play a musical instrument, in sports -- which is why sports always ranks as the most popular activity of kids in schools -- or in chess, computer science, or the study of ecology. The two critical factors are choice on the part of kids, and the ability of the after school deliverer to provide an engaging ladder of expertise in the student's area of interest to reach higher skill levels.

As a young person accomplishes such challenges this clearly requires discipline and practice -- critical transferable skills -- that hardly appear demanding or insuperable to the students if they are engaged in such activities in ways that they enjoy, doing them along with their peers, and where they get to reach demonstrable higher levels of excellence.

The self-efficacy that results from this kind of engagement in learning *is measurable* and, certainly critical to attaining success in life. Albert Bandura, one of the foremost experts on evaluating efficacy, writes, "Much human behavior, which is purposive, is regulated by forethought embodying cognized goals. Personal goal setting is influenced by self-appraisal of capabilities. The stronger the perceived self-efficacy, the higher the goal challenges people set for themselves and the firmer is their commitment to them."

It is this kind of feeling of success, of continuing discovery and of doing things that lead to accomplishment, which afterschool can provide for young people -- it really must provide, to give our kids this vital leg up on entering the 21st Century job force.

Suggested Readings:

A Comprehensive and authoritative overview of the research (the Executive Summary is 15 pages):

*From Neurons to Neighborhoods: the science of early childhood development*, Committee on Integrating the Science of Early Childhood Development, sponsored by the Board on Children, Youth and Families, National Research Council and Institute of Medicine. Washington, DC: National Academy Press, 2000.

How and what kind of experiences give meaning to development:

*Finding Flow: The psychology of engagement with everyday life*, Mihaly Csikszentmihalyi. New York: Basic Books, 1997.

The significance and measurement of self-efficacy:

"Perceived Self-Efficacy in Cognitive Development and Functioning," by Albert Bandura. *Educational Psychology*: 28(2), pp. 117-148. (1993)