First year of grade school sharpens kids' attention skills

May 10 2017, by Yasmin Anwar

Research shows early schooling shapes the brain. Credit: University of California - Berkeley

The first year of elementary school markedly boosts a child's attentiveness, according to new research from the University of California, Berkeley, and the Max Planck Institute in Germany.

The study, led by the Max Planck Institute for Human Development, shows that children who transition earlier to a formal school environment learn to be more focused and less impulsive than their peers

at play-based preschools. The findings are published today in the online issue of the journal *Psychological Science*.

"These results demonstrate for the first time how environmental context shapes the development of brain mechanisms in 5-year-olds transitioning into school," said study co-author Silvia Bunge, a UC Berkeley professor of psychology and neuroscience.

Researchers hypothesized that a controlled educational setting in which young children must learn to sit still, follow directions and avoid distractions would boost certain cognitive skills, such as staying on task. The experiment, conducted in Germany where preschool is referred to as "kindergarten," proved their theory.

"Our results indicate that the structured learning environment of school has a positive effect on the development of behavioral control," said study lead author Garvin Brod, a researcher at the German Institute for International Educational Research.

For the study, researchers used computerized tests and brain imaging to track the cognitive performance of 62 children aged 5. In comparing the results of tests conducted at the beginning and end of a school and preschool year, the study found that the children who had gone to school showed greater improvement than their preschool peers at maintaining focus and following rules.

Moreover, functional magnetic resonance imaging (fMRI) of their brains during an attention control task showed the schoolgoers to have a more active right parietal cortex, which supports attentiveness, among other cognitive skills.

While the findings reveal new information in the ongoing debate over the developmentally appropriate age to start school, the researchers are

not necessarily advocating for early school start ages.

"Those results should not be taken to mean that the elementary school setting is necessarily better for young children's development than play-based early schooling," Bunge said, citing research that shows children do well in hands-on, interactive learning environments.

Moreover, there is enormous developmental variation across children of the same age, she said.

Provided by University of California - Berkeley