

Insights is published by ESS as a service for educational professionals. Each issue highlights an important research article and provides practical applications of the findings for the classroom and the school environment.

Brain Fitness and Learning

When we talk about the brain, we encounter a classic good news/bad news situation. The good news is the mounting evidence that the brain can be re-mapped or re-wired (neuroplasticity), and that we can grow new neurons throughout our lifetimes (neurogenesis). The bad news is that everything from a lack of exercise, unhealthy diet and substance abuse, to social isolation, bullying, chronic environmental stress or trauma, and the lack of mindfulness, can negatively impact the brain. And, whatever negatively impacts brain health has a direct effect on a student's capacity to become an engaged and successful learner.

In March, 2015 the Kennedy Forum convened a meeting of experts in neuroscience, education, psychology, pediatrics and multiple other fields to discuss the evidence on brain fitness. The goal was to reach consensus about how to apply research findings to improve the health and well-being of our children, especially in light of the fact that the US consistently lags behind other developed countries in academic achievement. The experts agreed that incorporating evidence-based brain building activities within our schools is the most direct and effective way to positively impact both the health and academic achievement of our nation's youth.

Even the most creative curriculum delivered by a master teacher will remain unavailable to students whose brains are not prepared for learning. Traditional education has been about transferring educational content, not optimizing the fundamental underlying information processing systems," said cognitive neuroscientist Adam Gazzaley, MD. The Kennedy Forum recommended 5 brain fitness interventions, 4 of which can be readily incorporated into the classroom: Executive Function (EF) Training, Social-Emotional Learning (SEL) Activities, Mindfulness Training, and Brain Literacy.

You may be surprised to know that as a regular reader of *Insights*, you are already familiar with many of these interventions. Previous articles have highlighted strategies for fostering self-regulation, resilience, creativity, mindfulness, gratitude and self-compassion; have addressed how sleep deprivation, marijuana use, poor nutrition, and prolonged trauma impact children's brains; and have explored the protective aspects of school connectedness, of teaching a "growth mindset", and of cultivating a trauma-attuned school environment.

Here are some tips from prior issues of *Insights* that are consistent with The Kennedy Forum's recommendations:

- Teach students and parents how the brain works; e.g., teach a "growth mindset", describing the brain as a "muscle" that can be developed through effort and persistence. (Brain Literacy)
- Incorporate the labeling and expression of emotions into lessons of all kinds to foster self-regulation, self and other awareness, and empathy. (SEL)
- Teach mindfulness skills; a mindful breathing practice, for example, can be used multiple times during a class to help students focus and ground themselves. (Mindfulness Training)
- Get moving! Movement helps the brain "wire-up" for more efficient connections by releasing chemicals that affect focus, thinking and memory. Incorporate movement into the classroom, not just on the field or in the gym. (Brain Literacy)
- Incorporate daily Executive Function lessons/coaching (e.g. attentional, memory and processing skills) into all classrooms. (EF Training)
- Foster school connectedness by creating teams, buddy systems, and mentoring opportunities, student-to-student and teacher-to-student. (SEL)
- Teach content in small chunks (15' at most), process the learning, then rest the brain. (EF Training)

At ESS, we are committed to brain fitness. Stay tuned for more on brain health in 2019!

RESOURCES:

Brain Health and Brain Fitness: A National Call for Action. Authors: Holly McCormack & Chris O'Brien. 8/14/15
Brain-Based Learning Strategies by Eric Jensen. <https://feaweb.org/brain-based-learning-strategies>

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