

The Brain Science Is In: Students' Emotional Needs Matter

What the neuro-, cognitive, and behavioral research says about social-emotional learning

By Jim Shelton

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Among policy elites and pundits in education, the urgency to improve academic achievement has stoked a raging debate. On one side are those who prioritize rigorous cognitive and academic development; on the other, those who care most about students' noncognitive skills and the physical, social, and emotional needs of the whole child. To many teachers, the debate seems ridiculous—because they have long known the answer is “both.” Now, science is on their side.

Teachers, like parents, have always understood that children's learning and growth do not occur in a vacuum, but instead at the messy intersection of academic, social, and emotional development. And they know that students' learning is helped (or hindered) by the quality of students' relationships and the contexts in which they live and learn. Working to weave those threads, skilled teachers often have yearned for schools—and policy approaches—that understand this complex reality.

Such approaches will get a major boost from a sweeping review of scholarship contained in a pair of **new studies on the science of learning and development released earlier this year**. The researchers—Turnaround for Children's Pamela Cantor and Lily Steyer; American Institutes for Research's David Osher and Juliette Berg; and Harvard Graduate School of Education's Todd Rose—offer reason for enormous optimism about what's possible for all children, and especially those who have faced adversity and trauma.

These two meta-analyses (which were informed by the Science of Learning and Development interdisciplinary working group supported in part by the Chan Zuckerberg Initiative, whose education work I lead) drew on neuro-, cognitive, and behavioral science. In doing so, they brought together research on learning and development, which we oddly and unfortunately often separate in education, contrary to the urging of psychologists and child development specialists.

In public appearances, Pamela Cantor has distilled these consequential findings to four specific insights:

- **Malleability:** Genes are not destiny. Our developing brains are largely shaped by our environments

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and relationships—a process that continues into adulthood.

- **Context:** Family, relationships, and lived experiences shape the physiological structure of our brains over time. Healthy amounts of challenge and adversity promote growth, but toxic stress takes a toll on the connections between the hemispheres of our brain.

- **Continuum:** While we've become familiar with the exponential development of the brain for young children, it continues throughout life. The explosion of brain growth into adolescence and early adulthood, in particular, requires putting serious work into much more intentional approaches to supporting that development than is common today.

- **Integration:** Over time, different parts of the brain should develop more complex interconnections supporting the development of the whole person—and positive and negative emotional experiences can greatly influence that process. Yet, adverse effects of negative experiences and stress can be buffered and reversed by trusting human relationships. Children who have faced adversity, and whose brains lag in development, can recover—if schools recognize these challenges and take timely action.

It is time we begin to apply this growing understanding of the science underpinning learning and development to the ways we engage and support children and the learning environments we create for them. In particular, these studies provide strong support for tailoring education to the individual needs of every child. Such individualized learning is often already intrinsic in the schooling and lives of the most privileged students, but the greatest payoff will be for students who have grown up facing poverty, trauma, violence, or other adversity.

The implications of this research for school design are far-reaching, and will take years, perhaps decades, to realize for all children. Now that we understand so clearly the impact of stress on learning, it is more important than ever that we ensure kids can learn in an atmosphere of real safety. Students need teachers who consider caring about and knowing them just as important as teaching them content. Students need to experience a sequence of learning that fits their individual, nonlinear developmental paths—both academic and nonacademic.

School buildings and schedules need to be designed with the understanding that it's the entire experience—not just what happens in the classroom—that informs learning. All students benefit from greater attention to a set of competencies and mindsets that today live under the broad heading of "social-emotional learning."

Students who have experienced trauma will benefit particularly.

Perhaps more important than what all the science affirms are the myths it destroys. The most important thing is that it makes clear: The impacts of poverty and trauma can be mitigated and reversed.

Brain development doesn't stop at age 5. Emerging brain science consigns to the scientific scrap heap fatalistic and racist assumptions about which children have the potential



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"Teachers, like parents, have always understood that children's learning and growth do not occur in a vacuum."

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and ability to excel.

In the place of flawed assumptions, the science of learning development offers an empirical view into how we can do better for all children—and how we can take giant steps toward equity for children who have faced trauma and challenge.

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