

Dr. Dweck's discovery of fixed and growth mindsets have shaped our understanding of learning



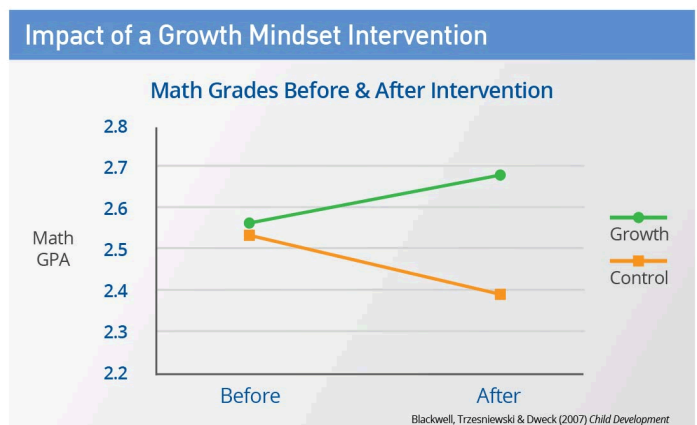
Over 30 years ago, Carol Dweck and her colleagues became interested in students' attitudes about failure. They noticed that some students rebounded while other students seemed devastated by even the smallest setbacks.

After studying the behavior of thousands of children, Dr. Dweck coined the terms **fixed mindset** and **growth mindset** to describe the underlying beliefs people

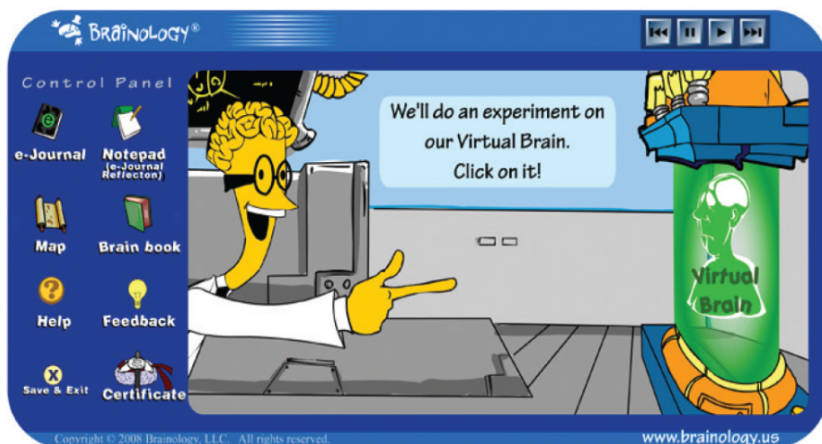
have about learning and intelligence. When students believe they can get smarter, they understand that effort makes them stronger. Therefore they put in extra time and effort, and that leads to higher achievement.

Recent advances in neuroscience have shown us that the brain is far more malleable than we knew. Research on brain plasticity has shown how connectivity between neurons can change with experience. With practice, neural networks grow new connections, strengthen existing ones, and build insulation that speeds transmission of impulses. These neuroscientific discoveries have shown us that we can increase our neural growth by the actions we take, such as using good strategies, asking questions, practicing, and following good nutrition and sleep habits.

At the same time that these neuroscientific discoveries were gaining traction, researchers began to understand the link between mindsets and achievement. It turns out, if you believe your brain can grow, you behave differently. So the researchers asked, "Can we change mindsets? And if so, how?" This began a series of interventions and studies that prove we can indeed change a person's mindset from fixed to growth, and when we do, it leads to increased motivation and achievement. For example, 7th graders who were taught that intelligence is malleable and shown how the brain grows with effort showed a clear increase in math grades.



Based on this research, under a contract with the U.S. Department of Education's Institute of Education Sciences (IES), Small Business Innovation Research program, Mindset Works developed a set of resources to support schools in creating a growth mindset school culture—the **Mindset Works® SchoolKit**, including the **MindsetMaker™** online teacher training course and the **Brainology®** program for students. In 20 online and classroom lessons, Brainology teaches students how their brain works and grows through effort and effective learning strategies.



Results from multi-school pilot study:

Under this grant, a quasi-experimental test of the Mindset Works® SchoolKit was conducted in 9 diverse U.S. secondary schools. Implementations at each school began with teacher and administrator participation in the MindsetMaker professional development, followed by completion of Brainology by students in grades 5-9 (N=667).

The study showed that students became significantly more growth mindset-oriented from pre- to post- program—and the more they developed a growth mindset, the greater their achievement gains across different subject areas. Path model analyses revealed that developing a growth mindset was significantly and positively related to developing learning goals and positive beliefs about effort. Shifting these beliefs, in turn, led to students adopting positive academic habits and behaviors, including more resilient responses to failure and metacognitive learning strategies, which in turn resulted in greater achievement gains.

Teachers' impact: Change in students' growth mindset pre to post-program was positively impacted by teachers' mindset-related knowledge and practices: the more that teachers held a growth mindset and knew about relevant research, the more students developed a growth mindset over the school year. In addition, the more that teachers reported using mastery-based, growth mindset classroom practices, the more their students developed learning goals and resilient responses to failure.

Opportunity to receive free growth mindset resources & training

We are offering a unique opportunity to receive the SchoolKit resources at no cost to schools. Mindset Works is the recipient of a \$3.5 million dollar IES Research Grant to test the impact of Brainology in partnership with U.C. Davis. We are recruiting partners in middle/junior high schools that include grades 6, 7, and/or 7, 8 for the 2018-19 school year.

More info: If you are interested in learning more about this opportunity, please **complete the brief interest form** <https://goo.gl/forms/pPKvOh7mbKI03K9o2>. For any questions, you may contact us at research@mindsetworks.com.