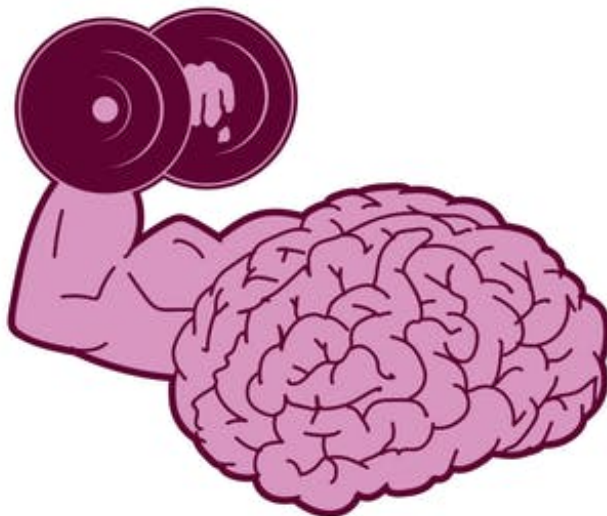


# New Study Shows Where 'Growth Mindset' Training Works (And Where It Doesn't)

[edsurge.com/news/2019-08-07-new-study-shows-where-growth-mindset-training-works-and-where-it-doesn-t](https://edsurge.com/news/2019-08-07-new-study-shows-where-growth-mindset-training-works-and-where-it-doesn-t)

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A central part of 'growth mindset' is that the mind is like a muscle that can get stronger with hard work, rather than a fixed thing.

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A large nationwide study has found that teaching ninth graders to maintain a “growth mindset” toward learning—stressing that their minds are like muscles that can get stronger with use—can result in higher test scores.

The [study](#), published today in the journal *Nature*, is the largest and most rigorous test of whether mindset trainings can improve student performance. The concept is already well-known in education circles, and it has gained national attention thanks to [books](#) and [TED talks](#) by Carol Dweck, an education professor at Stanford University. Dweck is a co-author of the study released today.

The basic idea is that how students perceive how their brains work can impact how successful they are in the classroom. Those with a so-called “fixed mindset” toward learning believe that the ability to do well in school is something that people either have or don't. But Dweck and her colleagues believe that everyone can learn if they work hard, and that those who see things that way will do better at school than those with fixed mindsets.

For the new study, a team of researchers developed an online training in mindset concepts that was administered to about 12,500 students from 65 schools—a mix of public and private. Data was collected in the 2015-16 school year.

On average, lower-achieving students who took the online training earned significantly higher grades in ninth grade than those who did not, the study found.

But the intervention was not equally successful everywhere. Results were muted when the “peer norms” in a class or school did not value challenge-seeking. The study measured such norms by giving students optional questions that were more difficult and encouraging the students to try them. The researchers then classified schools based on how common it was for students to accept the challenge and attempt the harder questions. As the study put it: “The growth mindset intervention effects on grade point averages were larger in schools with peer norms that were supportive of the treatment message.”

“Culture really matters,” said Dweck.

The researchers have made the online training, called [Growth Mindset for 9th Graders](#), free and available to any school to use. Dozens of high schools are already trying it, said Dave Paunesku, co-founder and executive director of the Project for Education Research that Scales, or PERTS, the center at Stanford working on the effort. It has released a [similar training designed for college students](#) that about 200 colleges across the country are using, he added.

“We originally included sports stars—really famous athletes spouting growth mindset. Then we thought, wait a minute we want people to focus on school not putting all their time into basketball.”

—Carol Dweck, Stanford U. professor

The idea that mindset education can raise grades sounds almost too good to be true, especially considering the two online trainings take only 25 minutes each.

“It’s kind of wacky to think that a short program like this could have any impact on grades,” said Dweck in an interview with EdSurge this week. “That’s why it was so important for us to be totally hands off,” she added, arguing that she took pains to do the study as carefully as possible, using independent researchers.

## Questions About the Approach

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Some previous studies have found that mindset education efforts have not been very effective. One study published last year, for instance, found that some students whose grades improved the most had failed a test of their understanding of mindsets, suggesting that such training was not the cause of the improvement.

And at least one previous study found that using mindset training can backfire. In an interview on the EdSurge podcast in 2017, Art Markman, a psychology professor at the University of Texas at Austin, said that a researcher found that teaching some high-achieving students that anyone could do well reduced their motivation to come to school.

“The speculation in this paper was that, for some kids who grow up in poor neighborhoods, they come to school because they’re good at it, and so they think there’s something special about them that makes them good at this,” he told EdSurge. “And when you give them growth mindset training, inadvertently what you do is to say, ‘Well, it’s not really that you’re special; it’s that you’ve worked hard.’ And they’re not as motivated by that as to be in a place where they were actually the special one, and so it actually undermined some of their motivation to continue to come to school.”

Dweck said that mindset trainings must be designed carefully to be effective. She noted that the training used in her new study was crafted to emphasize the autonomy of the students, so that they felt valuable. “For example, instead of telling them that this is a program that will help them, we told them that we are always developing and improving our program and that their input would be valuable. We told them that we are the experts on the science of learning but they are the experts on the transition to high school,” she said. “In addition, we solicited their opinions throughout. Finally, by asking them to write a mentoring letter to a younger, struggling student, we respected their status as someone who could mentor effectively.”

The online training employed in the new study is admittedly “not very fancy,” mainly text and pictures, said Paunesku. But choosing just the right language involved doing so-called A/B tests on sample groups, where some were shown one description of the mindset concepts and others were shown another, to test what was most effective.

Dweck said other changes were made during the testing process as well.

“We originally included sports stars—really famous athletes spouting growth mindset,” she said. “Then we thought, wait a minute we want people to focus on school not putting all their time into basketball.”

And for the training to work, teachers need to think more in terms of persuading students than on relaying a set of facts, said Paunesku. "Sometimes teachers approach it like quadratic equations," he added. "You can't just think of it as a regular thing to teach, because the internalization of it is so important."

"I think this is a really important idea, and it's a true idea," he said of growth mindset. "But there are a lot of messages in our society that make students think that it's not true."

The data set collected for the study is so large that other researchers now plan to continue analyzing it, Dweck said. One question that a researcher is exploring, for instance, is whether the mindset of the teacher influences the grades of their students.

"And we hope to follow up with these students to see what their trajectory is in terms of their grades," she added. She said it will be interesting to see if the students who took the online training graduate from high school at different rates than those who didn't.

"There are so many possible next steps," she said. "We are sort of brainstorming now."