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Growth Mindset and the Future of Our Children

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What do we want our children to be? Do we want them to be people who try to get A's for the rest of their lives? Who play it safe, curate their resumes, and climb up some pre-ordained ladder? Or do we want children who dream big, blaze new trails, and make outstanding contributions?

In recent years, I have visited many independent schools and I have seen wonderful educators, wonderful programs, and many thriving students. But I have also seen many fragile and anxious students, students who are wounded by constructive feedback or who live in fear of not getting perfect grades and not getting into the “right” university.

Even when they attend top universities, they don't always fare well. After a talk I gave at an independent school, a mother came up to me. She told me that her son had graduated from that high school the year before. He had been part of a group called the “geniuses.” The geniuses had all gone to brand-name universities and almost all of them were on academic probation, that is, they were in danger of flunking out. They knew how to be the geniuses but they didn't know how to confront challenges, to struggle, and to persevere when it mattered.

In the past, we might have shaken our heads and lamented the fact that some students seem surprisingly fragile, anxious or unmotivated. But now research has given us new ways to understand this and new things we can do to help.

A Student's Mindset

Our research shows that mindsets play a critical role in whether students relish challenges, thrive on struggles, and persevere in the face of setbacks.

In this research, we've found that some students hold a *fixed mindset* about their intelligence, talents and abilities. That is, they view intelligence, talents and abilities as fixed traits. Each person has a certain amount and that's that. Here's the problem. Even though they believe their abilities are fixed, they never really know for sure at what *level* those abilities are fixed. So, they become preoccupied, because every outcome, every difficulty, every criticism can tell them how smart they are.

Other students hold a *growth mindset*. They believe their intelligence, talents and abilities can be developed. Now, students with a growth mindset don't think everyone is the same or that anyone can be Einstein, but they believe that everyone can grow their abilities through hard work, good strategies, and good instruction. And they believe that Einstein wasn't Einstein until he put in years of hard work.

In our studies, we often measure students' mindsets and then see how they fare over a difficult school transition, such as the transition to 7th grade, to high school, or to college. We measure their mindsets by asking them to agree or disagree with a series of statements like this: "Your intelligence is something very basic about you that you can't really change" (a fixed mindset), or "Everyone, no matter who they are, can become a lot more intelligent" (a growth mindset).

In study after study, we have found that students with a growth mindset do better academically (and enjoy it more). There are three reasons for this.

1. Which is more important, looking smart or learning?

Because they believe that their intelligence is fixed, students with a fixed mindset urgently want to feel smart and look smart at all times. In fact, they are often willing to sacrifice long-term learn-

Those with a growth mindset recovered from their earlier stumbles.

ing in order to feel smart in the short run, for example, by avoiding challenges and turning away from things that don't go well right away. However, those with a growth mindset,

believing that abilities can be developed, put their money on learning, even if the immediate result is not perfection itself.

We followed pre-med hopefuls at an Ivy League university through their organic chemistry course, the gateway to the pre-med curriculum. Everyone in this course wanted to do well. Yet, those with a growth mindset did better—they earned significantly higher final grades—because they cared more about learning, while those with a fixed mindset cared more about proving they were smart.

Our analyses showed that caring more about learning led students to study more deeply and, if they got a disappointing grade on the first test or two in the course, to do everything in their power to recover. Instead of folding their tents, like the "geniuses," they met with the professor or teaching assistants to go over their tests. They joined or formed study groups, they found advanced students who had done well in the course to tutor them, and they studied all the more. As a result of their focus on learning, those with a growth mindset recovered from their earlier stumbles, but as a group those with a fixed mindset did not. Their worship of ability left them fervently wishing to do well but not deploying the learning strategies that would help them to do so.

We also studied students who were entering an elite university in Hong Kong. Not all of them, however, were proficient enough in English (the language used at the university) to excel in their

studies. Yet, when we offered these students the chance to take a remedial course in English, those in a fixed mindset were not very interested, whereas those in a growth mindset were more widely enthusiastic. Those in a fixed mindset were more concerned with feeling smart in the short run at the expense of learning and becoming smarter in the long run.

2. *Is effort a bad thing or a good thing?*

It might seem obvious that any given person will do better with high effort than with low effort. Yet to many students in a fixed mindset, this is not compelling. Even though they typically want to do well, they are often not willing to put in the effort. Or if they put in the effort, it comes at a cost.

This is because students in a fixed mindset have a poisonous belief, the belief that if you're really smart you shouldn't need much effort and that if you need effort to do well, then you're not really that smart. They believe that things come easily to people who are truly gifted, and when they look at people who are hugely successful, they see someone who was catapulted to greatness by sheer talent.

For students in a fixed mindset, the very exertion of effort makes them feel dumb.

Research has shown over and over that for students in a fixed mindset, the very exertion of effort makes them feel dumb. So they withhold effort and underachieve or exert effort and feel bad about their abilities.

But students in a growth mindset see effort as a good thing. When they look at geniuses or great achievers, they see people who worked really hard, used good strategies, and sought input and mentorship over long periods of time.

The fixed mindset belief about hard work helps us understand why the “geniuses” were flunking out, why child prodigies often

fail to do well later, and why the most talented athletes often fade away. They do not have to work that hard early on, and being smart or talented comes to be *defined* as doing better than others without much effort. Later, when hard work is required, they aren't able or willing to do it.

Some of the most exciting work in psychology (for example, work by Anders Ericsson and Benjamin Bloom) tells us that people we call geniuses are usually the ones who worked harder than their peers. They didn't just coast on their strengths. Rather, they kept pushing out of their comfort zone to learn new things, they addressed the weaknesses that would hold them back, and they sought the mentorship that they needed. Interestingly, according to both Ericsson and Bloom, most people are capable of outstanding achievement under the right circumstances.

3. *Is failure a tragedy or a stimulus?*

In a fixed mindset, there is no question—failure is a tragedy. It simply means you lack ability, case closed. You will never be good at this, so give up, move on and hide the evidence if you can. Put it in the closet with the other skeletons.

But in a growth mindset, failure is a natural part of learning and it is a stimulus to further learning. One of the most enlightening experiences I've ever had occurred at the very beginning of my career. I was watching a 10-year-old boy grapple with the impossibly hard problems that I had given him. Instead of moaning, groaning, and making excuses like many of the other kids I had tested, he rubbed his hands together, smacked his lips and announced, “I love a challenge!” I was dumbfounded. How could he love failure? But the failure was in my mind, not his. What was in his mind was the opportunity to learn something new.

Nowadays we are bombarded with motivational quotes. We're told that Samuel Beckett said, “Try Again. Fail again. Fail better.”; and that Thomas Edison said, “If I find 10,000 ways something

won't work, I haven't failed ... because every wrong attempt discarded is another step forward." But these sentiments don't ring true for students in a fixed mindset. Failure is their #1 enemy, and even the specter of it hanging over them is terrifying.

This is even worse for students, often girls, who have been perfect all along. That's because for these students, anything less than an A is a failure.

So let's review. In a fixed mindset, always look smart, don't work too hard because that means you're not smart, and never fail because that definitely means you're not smart. In a growth mindset, always try to learn, work hard to learn, and learn from your setbacks. I think we can understand why a growth mindset serves people better in school, and in life.

Where Do Mindsets Come From?

For over 15 years we have been studying the practices that promote a fixed or a growth mindset and here's what we've learned.

We've learned that praising kids' intelligence backfires. Rather than building their confidence, it puts them into a fixed mindset and makes them vulnerable.

In studies with children 4 to 12 years of age, we found that when we praised children for their ability after a success, they were more likely to reject challenges and fall apart or become defensive when they hit difficulty. So what's the alternative?

We praised other children for the *process* they engaged in—their effort or their strategies. These children who received process praise were then eager for challenges and were highly persistent in the face of difficulties, because these difficulties did not undermine their sense of their ability.

Process praise takes the focus off outcomes and puts the focus on the ultimate values of learning and improving.

Recently we published a study showing that mothers' process praise to their babies (when the babies were one, two and three years of age) predicted the child's growth mindset and desire for challenge five years later, in second grade. We've just followed up and found that this also predicted the children's math attainment and reading comprehension in fourth grade. So, it's pretty powerful. And it's never too late for change.

Giving process praise means changing the value system away from valuing mistake-free performance on easy tasks (which should now be portrayed as a waste of time) to valuing hard work, multiple strategies, and improvement on challenging tasks. Process praise means taking the focus off outcomes and putting the focus on the ultimate values of learning and improving. Our work shows that when students focus on learning and improving and when they engage deeply and effectively in the learning process, grades are a natural byproduct.

Process praise sounds like this: "Nice strategy. What are you going to try next?" "Great persistence, you're getting closer!" "I love the way you focused. It led to some great ideas." "Boy, that was a fabulous struggle. What are you going to struggle with next?" But, you know, it doesn't always have to be praise. Just asking children questions about the process they engaged in can sometimes be even more informative and rewarding for kids.

A recent study highlighted what process praise is *not*. It is not exhorting kids to try hard. Simply exhorting kids to try hard is not effective, especially for fixed mindsets who don't like effort. Urging them toward effort might be akin to telling them they don't have the ability. Instead, it is more effective to explain to them how they will grow their brains when they take on hard problems and stick to them: "Remember when you work on hard math problems, you grow your math brain and become smarter in math."

We are also doing research on the word "yet." "Not yet" after a mistake increases students' persistence and their confidence of

success in the future. In addition, “yet” puts a growth mindset spin on the fixed mindset things kids often say: “I’m not a math person ... yet.” “I’m no good at soccer ... yet.” “I tried to do these problems, but I couldn’t ... yet.” You can then discuss what your child should do next to beef up his or her skills.

Finally, we have done years of research on teaching a growth mindset directly and we have found that learning a growth mindset can unlock students’ love of learning and enhance their achievement. When we teach a growth mindset we convey to students that every time they stretch out of their comfort zone to learn new, hard things, the neurons in their brain form new or stronger connections. In this way, they can grow their abilities over time. We then show them how to apply this lesson to their schoolwork, and we have them teach another student a growth mindset to help them internalize the message. Remember that students in a fixed mindset feel that effort and difficulty mean they’re not smart; our growth mindset program, instead, teaches them that effort and difficulty can make them smarter.

Conclusion

I began by asking what we want our children to be. I posed it as an “or” but I will now frame it as an “and,” because of course we want our children to do well in school and make important contributions later. What we don’t want is this: We don’t want the pressure to do well now to instill mindsets or values that will limit their contributions later. The key thing about a growth mindset, with its emphasis on learning and improvement, is that it fosters achievement now and later. Research shows it fosters achievement not only in school, but also in the workplace. And it fosters not only achievement, but also creativity and innovation.

Every fall I teach a freshman seminar at Stanford, with 16 eager and apprehensive new students. And each fall I give them a series of assignments to help them embrace a growth mindset in this new

and sometimes daunting environment. For one assignment I ask them to do something outrageously growth mindset, something that addresses a problem they have—shyness, fear of criticism, fear of trying something new or hard. As you help your children toward more of a growth mindset, you might want to try this too, because, like my students, they will do the most moving and spectacular things in spite of their lifelong fears.

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