Introduction to Growth Mindset

Overview

Students with a ***fixed mindset*** believe that their own intelligence and talent are innate traits that don't change. For example, they might say, "I just can't learn math." These students typically worry about not looking smart, get upset by mistakes, and give up sooner on tough tasks. Students with a ***growth mindset*** believe that ability can change as a result of effort, perseverance, and practice. They frequently say, "Math is hard, but if I keep trying, I can get better at it." Students with a growth mindset see mistakes as ways to learn, embrace challenges, and persist in the face of setbacks.[i] Whether or not students are aware of their mindset, a broad body of research has shown that what they believe about their own intelligence can affect their effort, engagement, motivation, and achievement as measured by test scores, school grades, passing rate in post-secondary education, and other metrics.[ii]

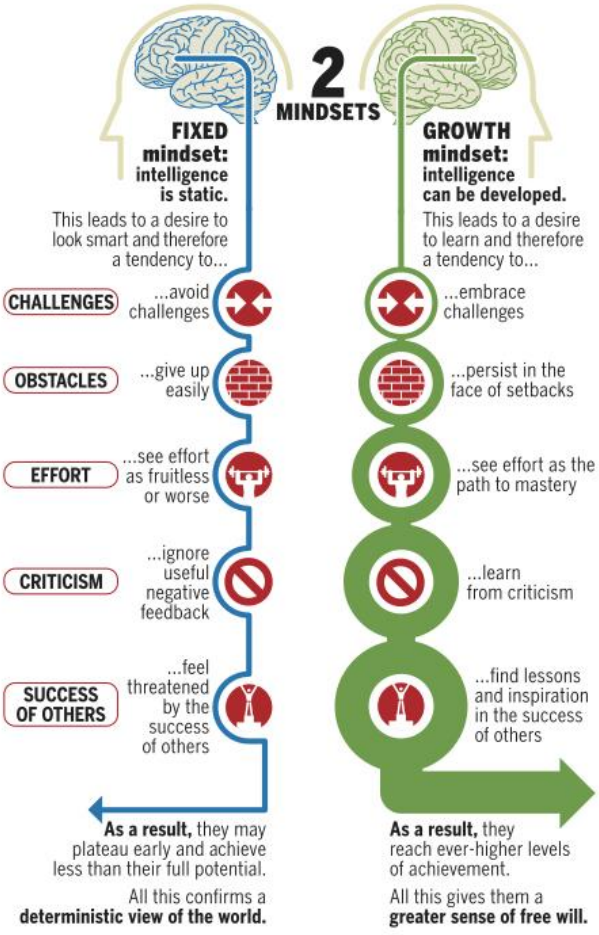
Why This Matters: A growth mindset may contribute to better grades in school and a willingness to take on new challenges:

Lower Failure Rates: Low-achieving students at 13 California high schools failed 7% fewer courses and improved their GPAs by .18 grade points after a one-period class designed to boost growth mindset.[iii]

Improved Scores: When a group of struggling 7th grade students in New York City learned to 1) think of their brains as muscles that grow with exercise and 2) visualize new connections developing within their brains, their motivation and math scores improved at a time when math achievement typically declines.[iv]

Increased Effort: Seventh-grade students receiving growth-mindset feedback ("I'm giving you these comments because I have high standards and know that you can meet them.") were twice as likely to revise and resubmit an assignment compared to students who received generic feedback.[v]

More Problems Solved: Students who saw a growth mindset-related message (e.g., "When you learn a new kind of math problem, you grow your math brain!") correctly solved 3-5% more online math problems compared to those who didn't see growth mindset-related messages. The effect carried over to the next math topic the students tackled.[vi]



Sample questions we asked students in the Spring 2014 SEL Pilot:

How true are the following about you:

- My intelligence is something that I can't change very much (reverse coded)
- Challenging myself won't make me any smarter (reverse coded)
- There are some things I am not capable of learning (reverse coded)
- If I am not naturally smart in a subject, I will never do well in it (reverse coded)

[i] Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child development*, 78(1), 246-263.

[ii] Aronson, J., Fried, C. B., & Good, C. (2002). Reducing the effects of stereotype threat on African American college students by shaping theories of intelligence. *Journal of Experimental Social Psychology*, 38(2), 113-125; Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child development*, 78(1), 246-263; Dweck, C. S., Walton, G. M., & Cohen, G. (2011). Academic tenacity. White paper prepared for the Gates Foundation. Seattle, WA.; Yeager, D. S., Walton, G., & Cohen, G. L. (2013). Addressing achievement gaps with psychological interventions. *Phi Delta Kappan*, 94, 62-65.

[iii] Yeager, D. S., Walton, G., & Cohen, G. L. (2013). Addressing achievement gaps with psychological interventions. *Phi Delta Kappan*, 94, 62-65.

[iv] Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child development*, 78(1), 246-263.

[v] Yeager, D. S., Walton, G., & Cohen, G. L. (2013). Addressing achievement gaps with psychological interventions. *Phi Delta Kappan*, 94, 62-65.

[vi] Ibid.