

Growth Mindset and Enhanced Learning

Research has shown that when students have a growth mindset, they are more likely to challenge themselves, believe that they can achieve more, and become stronger, more resilient and creative problem solvers. Educators can have an enormous impact on the mindset of their students.

What is a growth mindset?

Growth mindset, simply stated, is a learner's belief that their intelligence can expand and develop.

In contrast, fixed mindset is a learner's belief that their intelligence is a fixed, immutable trait.

The concept was pioneered by Stanford professor Carol Dweck in her book *Mindset: The New Psychology of Success* (2006).

Growth mindset and learning

Dweck's studies show that students with a growth mindset consistently outperform students with a fixed mindset.

As discussed in their paper on academic tenacity, Dweck and colleagues have found that a central factor in a student's academic resilience and learning is their mindset about intelligence. Students may view intelligence as a fixed quantity that they either possess or do not possess (a fixed mindset) or as a malleable quantity that can be increased with effort and learning (a growth mindset).

Students with a fixed mindset believe that their intellectual ability is a limited quantity and tend to worry about proving their intelligence rather than improving it. This can lead, in the face of challenges and setbacks, to negative thoughts, feelings, and behaviors, like thinking one is "dumb", feeling discouraged or incapable, or simply giving up.

Students with a growth mindset will often see challenges or setbacks as an opportunity to learn. As a result, they respond with constructive thoughts (e.g., "Maybe I need to change my strategy or try harder"), feelings (such as the thrill of a challenge), and behaviors (persistence).

Cultivating a growth mindset in your classroom

Here are some practices you can adopt in the classroom to cultivate an attitude of growth mindset with your students, enhancing their learning and academic resilience.

Be transparent about growth mindset with your class

Put together a handout on what a growth mindset is, major takeaways from the research, and why you think it is important in your field. Students might not be aware that they express a fixed mindset in academic settings, or that they can consciously adopt growth mindset thinking with practice.

Address fixed ideas about ability

Regardless of your discipline, remind students that the skills they are using are not innate and can be refined.

Try talking about skill sets with an emphasis on growth mindset. For example, in class or your syllabus, you might say: "There is no such thing as a 'math person'; we are all here to improve at math" or, "Being a 'fast reader' or a 'good writer' aren't automatic; we are learning these skills in class this quarter."

Model effort

this connects to the Dweck video where she argues against "natural talent" mythology. Skill Reframing talent as strategy-

Share your own struggles with challenging material. Show that expertise comes through practice, for example: "When I first came across this topic in college I really had a tough time with it. And I had to read and reread it many times, but I kept at it and eventually got it." Don't be afraid to say, "I don't know" or "I don't understand."

If a student asks a question and you don't know or recall the answer, make it a point to find the answer. At the beginning of the next class, explain how you looked it up or how you learned this, or engage students in this process and find the answer together.

If you're teaching a particular concept and misapprehended it yourself for a long time, tell your students!

Use questions that prompt thinking and learning

Ask questions that are authentic and open-ended, so students can focus on the process of thinking through an answer, rather than the answers they may or may not already know.

Praise & Feedback

Praise and reinforce students for their hard work (but not only hard work)

Reinforce persistence and resilience, especially if students take extra steps like coming to see you in office hours or submitting revisions on tests or papers.

Avoid phrases like "gifted" and "smart" that describe intelligence rather than effort.

Encourage a growth mindset through assessment

Assign work that allows for growth, reflection, and improvement, such as multiple drafts of papers, opportunities to respond to feedback.

If possible, build flexible grading strategies into your course. For example, allow your students to revise their first exam for a set amount of extra credit, or give them a "slash grade" like an A-/B+ that allows students to either accept the lower grade or submit the revised assignment for a chance at the higher grade.

After potentially challenging assignments and exams, encourage students to see difficulty as an opportunity to learn.

Encourage practice and feedback. Avoid a gap between what is done in class and what is expected on assignments and exams.

Help your students with their learning strategies and approaches

Integrate learning strategies and approaches, as well as class content. For example, consider giving out a handout on best practices for test-taking or methods to help students better skim or speed-read.

Structure your teaching time with practices that help students absorb information, like writing questions on the board and checking in as a class after difficult exams or papers.

Other perspectives on the growth mindset

Proponents of the growth mindset approach say that adopting it and teaching it to students helps them take risks and dramatically improves their learning.

Critics worry that the growth mindset concept is oversimplified or faddish. A growth mindset has been linked to Dr. Angela Duckworth's work on grit: that is, students' persistence and determination. Some observers argue that teaching based on grit and persistence alone has placed too much focus on the student's effort and not enough on the role of the instructor and institution.

Not just effort: reconsidering growth mindset, effort, and praise

Since its widespread adoption, Dweck has revisited the growth mindset and expressed concerns about oversimplifications. She has expressed that a growth mindset isn't just about effort. She reminds teachers that effort and even grit are the first steps to the final goal of learning and development.

For Dweck, over-praising students for their effort alone can reinforce other problems. She stresses that students need positive reinforcement and constructive feedback to meaningfully improve. Finally, Dweck worries that teachers might blame a student's underperformance on a fixed mindset. She encourages teachers to support students on their journey to a growth mindset and to adopt it in their own teaching.

As teachers, we must acknowledge that we all have a combination of growth and fixed mindsets. Be mindful and aware of how you react to setbacks: observe your thoughts and try to work with them before doing the same with your students. Moving towards a growth mindset requires staying in touch with our fixed-mindset thoughts and actions.

Additional Resources

- Exploring a Growth Mindset, Stanford Graduate School of Business [video; 6:21 min]
- Academic Tenacity: Mindsets and Skills that Promote Long-Term Learning, Carol S. Dweck, Gregory M. Walton, Geoffrey L. Cohen [PDF]
- Carol Dweck Revisits the 'Growth Mindset', EducationWeek, Carol Dweck

Metacognition
it emphasizes thinking about how we learn, not just what we learn