

## . Carol Dweck on Fostering a “Growth” Mindset

(Originally titled “Even Geniuses Work Hard”)

In this thoughtful *Educational Leadership* article, Stanford professor Carol Dweck says, “Teachers who strive to design challenging, meaningful learning tasks may find that their students respond differently depending on the students’ assumptions about intelligence. Students with a growth mindset may tackle such work with excitement, whereas students with a fixed mindset may feel threatened by learning tasks that require them to stretch and take risks.” To foster a growth-mindset classroom culture:

- *Don’t praise ability* – Praise students’ effort, the strategies they used, the choices they made, their persistence.

- *Downplay speed* – “Teachers should also emphasize that fast learning is not always the deepest and best learning,” says Dweck, “and that students who take longer sometimes understand things at a deeper level.”

- *Teach the growth mindset* – Dweck and her colleagues have developed a curriculum: <http://www.brainology.us>. Students might share an area in which they used to be inept and are now proficient. “Such discussions encourage students not to be ashamed to struggle with something before they are good at it,” she says.

- *Have students set goals* – For example, a student who can’t understand absolute values might commit to watching a YouTube video on solving linear absolute value equations and teach the process to classmates.

- *Make students advocates* – Students might write a letter to a struggling student explaining the growth mindset, urging the student to avoid labeling, and suggesting strategies.

All this transmits crucial information to students, says Dweck, and communicates “that their role is not to judge who is smart and who is not, but to collaborate with students to make everyone smarter.” Dweck has three additional recommendations:

- *Make every child stretch*. Don’t let some students coast to success, says Dweck. “This experience can create the fixed mindset belief that you are smart only if you can succeed without effort.” Also, present challenging tasks as fun and exciting. When a student succeeds, say, “Great! You tried different ways, you followed the clues, and you found a strategy that worked. You’re just like Sherlock Holmes, the great detective. Are you ready to try another one?”

- *Chart progress toward mastery*. Give a pre-test at the beginning of a unit. When students do much better on the post-test, they have a clear sense of how, with application, they can become smarter.

- *Grade for growth*. In one Chicago high school, unsuccessful students are graded *Not Yet* and aren’t ashamed because they know they’re expected to master the material next time, or the next. “The word ‘yet’ is valuable and should be used in every classroom,” says Dweck. “Whenever students say they don’t like a certain subject, the teacher should say, ‘yet.’ This simple habit conveys that ability and motivation are fluid.” Some schools grade students on

growth-mindset factors, rewarding those who challenge themselves, are resilient in the face of difficulty, and show clear improvement over time.

“Even Geniuses Work Hard” by Carol Dweck in *Educational Leadership*, September 2010 (Vol. 68, #1, p. 16-20)

<http://www.ascd.org/publications/educational-leadership/sept10/vol68/num01/Even-Geniuses-Work-Hard.aspx>

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## **8. Robert Marzano on Effective Practice**

(Originally titled “When Practice Makes Perfect...Sense”)

In this helpful *Educational Leadership* article, author/researcher Robert Marzano says that getting students to practice skills, strategies, and processes (procedural knowledge) is a good use of time – provided it’s done right. Here are his recommendations:

- *Decide if practice is necessary.* If we want students to master a skill, strategy, or process so they can execute it independently, with little or no conscious thought, then it needs to be practiced. Not all skills, strategies, and processes need to be learned to the autonomous level.

- *Mix up examples.* Practice is more effective when problems using different skills are mixed; it’s less effective when problems on the same skill are presented together. Studies have also shown that giving students ten problems, five of which have been solved using good strategies, is more effective than giving students ten unsolved problems.

- *Have students think aloud.* It’s helpful for students to explain their thought process and causal relationships as they solve problems.

- *Space practice sessions appropriately.* Studies have shown that long-term retention is best served by spacing practice sessions with short intervals at first, then gradually increasing the amount of time between them.

“When Practice Makes Perfect...Sense” by Robert Marzano in *Educational Leadership*, November 2010 (Vol. 68, #3, p. 81-83), available for purchase at <http://www.ascd.org>.