

TRANSFORMATIVE LEARNING

Helping Students Fail Better – Part 2

(NOTE: This follows the Part 1 article last month, which introduced more fully Dr. Carol Dweck's research [2007] about students' "mindsets" and the opportunities that exist to transform students' academic lives by moving them from a fixed to a growth mindset. This article presents strategies for doing this.)

Meet UCO freshman Chandra. She believes she's "dumb in math." She has struggled in every math class she's ever taken, and now she's facing BioCalculus as a stumbling block on the way toward her B.S. in Clinical Lab Sciences/Med-Tech from UCO. Her self-concept as dumb in math was reinforced during her fall semester College Algebra class, which she squeaked through after months of agony, frustration, and tears.

Chandra is now anxious and second-guessing her dream to become a Medical Technologist. It's something she's been looking forward to since a med-tech at the children's hospital, where she spent three scary weeks during fifth grade, befriended her and helped her through the difficult ordeal as part of the hospital's mentor-a-patient program. By communicating both a caring attitude and sharing the satisfaction she received knowing that her work was helping to diagnose and then find ways to cure patients like Chandra, the med-tech inspired the future Broncho to set her sights on a similar career.

As her BioCalculus instructor, imagine the opportunity you have to transform Chandra's life if you can find a way to help her overcome her math struggles. You could be directly responsible for the difference between a beaming face walking across the stage at commencement and a disillusioned drop-out trying to figure out how to pick up the pieces.

What do you do?

Each fall, tens of thousands of students enroll in classes that they believe they do not have the ability to pass. They also believe that going to tutoring, seeing us in our offices for extra help, or just working harder will make no difference. They hold this belief because their view of their own intelligence is flawed. (Doyle, 2011, p. 66)

Terry Doyle, a professor of reading at Ferris State University, comments above in his book, *Learner-centered Teaching*, that even with the interventions we as faculty might view as standard (tutoring, extra help during office visits, etc.), the fixed mindset dooms such students to failure. Chandra would be in this group, so as her instructor you'll have to find additional ways to bring about the transformation in her mindset.

Before listing Doyle's suggestions, consider two strategies which derive their power specifically because *you* are Chandra's instructor. In other words, because she's

struggling with her mindset in *your* class, you have a unique, and perhaps the most powerful, opportunity to transform her conception of herself as a learner.

Modeling for Chandra the way you think through math problems — “thinking out loud” as you sit next to her and solve a problem (and forcing yourself to go slowly enough for her to process the steps because your default “like an expert” thinking mode is not typically at a speed which novices can yet reproduce) — is a powerful tool in helping a student overcome a fixed mindset because:

- 1) The process is slowed down *and* you’re literally describing your thoughts as you demonstrate the competence, which helps the student recognize not just the information or material or data being used but also your strategy in employing that information.
- 2) Hearing you say your thoughts out loud, which you are doing in clear English as you connect the dots from one step in the solution process to the next, means you are taking the student into your confidence. You are letting her become privy to your “specialness” as an expert in your discipline.

Do not discount the potential power of the second point above. One of the strongest predictors of whether information makes it from short-term into long-term storage is whether the information is presented in the presence of some kind of emotional connection. In the “thinking out loud for you (the student) personally” example, the student is at least subconsciously aware of a shared confidence — you’re helping her understand something that is your special discovery about how to solve the problem.

You’re letting her inside your head. That’s often a big deal to students.

The second strategy tied to your unique opportunity to transform Chandra’s mindset is for you to self-disclose your own struggles in learning math. (If you didn’t have any at *any* level of math, then describe a struggle with some other subject.) One reason a fixed mindset can become entrenched is because students can’t conceive that others who do succeed also struggle to learn. Remember, a fixed mindset is a belief that one *can’t* learn. The thought that “can’t” is only conditional does not enter the fixed-mindset student’s head.

If you share that you — the expert now teaching the subject — struggled to understand it and were initially frustrated and had to work to finally understand it, then the student, again, feels taken into your confidence. Further, the concept of working hard to learn is presented as efficacious and valuable, and that is the very definition of the growth mindset that you want the student to adopt.

The above two strategies, thinking out loud and self-revelation, are supported as good ones to help change a student’s mindset in fascinating research done by Aronson, Fried, & Good (2002). In a pen pal situation with mentors (in this research, they’re analogous to your role as Chandra’s teacher), researchers found that students could be convinced to adopt a growth mindset as a result of what their pen pals wrote to them.

The research was set up so that emotional tags were attached (picture of the pen pal, what the pen pals shared about intelligence being malleable), and the resulting change in mindset stuck with students over time.

You can check out Terry Doyle's book from the CETTL Library to see the explanations about his six suggestions for ways to change our students' mindsets:

- 1) Praise students' effort and strategies, not their intelligence.
- 2) Tell students they can grow their own brains.
3. When students fail, focus feedback on having them increase their effort and use improved strategies.
- 4) Help students understand that their ability to face a challenge is not about their actual skills or abilities; it's about the mindset they bring to a challenge.
- 5) Reinforce in students that current performance reflects only their current skills and efforts, not their intelligence or worth.
- 6) Offer evidence that students' fixed beliefs are in error, but also teach them the study skills and learning skills they need to succeed in the course. (Doyle, 2011, pp. 69-70)

It's a pay-off for their entire academic careers when you can help students make the shift from a fixed to a growth mindset:

. . . the students with a growth mind-set felt that learning was a more important goal in school than getting good grades . . . students who held a fixed mind-set, however, were concerned about looking smart with little regard for learning. They had negative views of effort, believing that having to work hard at something was a sign of low ability . . . Attributing a bad grade to their own lack of ability, those with a fixed mind-set said they would study less in the future. (Dweck, 2008)

Aronson, J. , Fried, C. & 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, 113-125. Available: http://www.serpmedia.org/MSAN/motivation/Aronson_2002.pdf

Doyle, T. (2011). *Learner-centered teaching: Putting the research on learning into practice*. Sterling, VA: Stylus.

Dweck, C. S. (2007). *Mindset: The new psychology of success – How we can learn to fulfill our potential*. New York: Ballantine.

Dweck, C. S. (2008). The secret to raising smart kids. *Scientific American*, 18 (6), 36-43. Available: http://www.ccsf.edu/Campuses/Downtown/scientific_american.pdf