



Education

Teaching kids to learn the most from their mistakes

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Do you learn from your mistakes? Many don't. Different people deal with their own flaws, foibles and flat-out wrong-doings very differently. Healthy people look carefully at their screw-ups and learn whatever they can. Others ignore or minimize their errors, or worse, start blaming circumstances or someone else for whatever it is they did badly.

But those who can examine their own mistakes learn more than others. Period. They learn more skills, more deeply and more quickly.

Today, in Patricia Dulac's Advanced Algebra II class at East Greenwich High School, students are learning from the mistakes they'd made on the prior Friday's quiz. Dulac had already graded the quizzes by circling kids' errors, big and small, noting only how many points were lost due to each mistake.

Typically, teachers spend hours bleeding red ink on papers, correcting their students' mistakes. But many kids barely give the corrections a glance. They accept the grade and move on. Weak students shrug and think: I'm bad at math.

These sophomores, however, are pondering the reason for each of the circled glitches. As homework, they'll fill out a standardized form that Dulac herself had created as a classroom teacher years ago. On the form, in the first of three fat squares across a big grid, students rewrite the problem that had the mistake.

In the second box, they're asked to "self-assess," to figure out what they did wrong and describe the misunderstanding. They write things like: "I added unlike terms." And "I didn't read the problem carefully and got only the side length, but not the volume." Or "I forgot to take out the negative sign in my answer."

If they understand how they messed up, they complete box three by "redoing the problem."

Dulac follows all her tests and quizzes with this exercise. She has the kids begin the work in class, so she and the hotshots who aced the quiz can help the others. When a kid doesn't understand what he did wrong, Dulac flips

the test over and shows an example explaining the concept. If, after a bit, the kids' eyes don't brighten, Dulac shows a different way of coming at the issue. "Oh!" exclaims the kid, who explains his misunderstanding out loud, as if rehearsing for what he'll write in the "self-assess" box.

How effective! Owning these mistakes can sting a bit, so when the kid encounters similar situations, red flags will wave. First, they'll be more careful, and later develop good habits.

When Dulac became math department chairwoman six years ago, she introduced this self-assessment to her colleagues. Now every math class in grades seven through 12 uses it.

She says, "We encourage the kids to be reflective about what they know and don't know. We're trying to get them to a level of meta-cognition so they're thinking about how math works. If we tell them what's wrong, it's not as powerful as if they have to recognize their own mistakes and articulate the problem."

No kidding.

Dulac says, "We don't accept 'careless mistake' as a reason for an error. Kids like to think a mistake is merely careless because they don't want to own it. Kids think the mistake is not about what I do and don't know; it was just careless. But once you know you don't know, you're more open to asking and listening."

Furthermore, these self-assessments give Dulac and her colleagues clear feedback about their teaching. "I get to see how each individual student performs and track class trends. Should I re-teach the concept to the class as a whole, or just to certain individuals?"

Granted, East Greenwich is a well-heeled community, and the school itself is so stable, the secondary teachers have not changed in five years. But this simple self-assessment exercise would reinforce any student's skills, and straighten out misunderstandings as they come up. With the whole school doing it, each class comes to the next grade with ever stronger platforms for building new knowledge.

As a result, East Greenwich students kicked butt with the most recently available NECAP math scores, the highest in the state at 71 percent proficient. That's nearly three times the state average, which is a sad 28 percent. The test is acknowledged to be very difficult. Still, East Greenwich had hefty increases each of the last three years.

I asked a girl in a sparkly shirt what she thought of the exercise. "I like it because it helps me remember for a test. We have a test coming up on Friday, and I expect to do well because of this." She's not the strongest student in this advanced class, but her reflections on her weak spots have eased up her worries. Dulac is confident she gets the concepts and will do well on Friday's test.

No one wants to crush a child's self esteem with harsh evaluations of their weaknesses and wrong-doings. But teaching them to accept making mistakes as part of normal life, and to learn from them, is an invaluable skill. Helping every kid gain real academic mastery builds strong egos poised for success.

When you think about it, it's a little weird such self-assessments aren't more common.

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