

The Student Who Taught Me the Power of Metacognition

Martha Palm

We all have that one student who teaches us more in one year than we ever thought possible. Mine was a 5th grader named Jasmine back in 1998. At the time, I taught at a school where 97 percent of our students were on free and reduced lunch, including Jasmine. She had acquired a tough look to help mask the trauma she had already experienced in her young life. Jasmine entered my classroom two grade levels behind in all subjects and believed that she just "wasn't good" at school. I saw Jasmine work pretty darn hard to avoid doing her schoolwork on a consistent basis. To unlock Jasmine's potential, I had to take some key steps as a teacher—and they all had to do with a little thing called metacognition.

Metacognition, the ability to think about one's thinking, is the foundation for the self-confidence and courage necessary for learning. Being metacognitively aware helps connect our background knowledge to new information. For students like Jasmine who found the unknown intimidating, developing this skill is especially important because it gives them the confidence to apply different strategies, make and learn from mistakes, and reflect on that process to refine their approach to a problem.

To help acclimate Jasmine to these sometimes messy, sometimes risky thinking processes, I met her where she was in terms of learning, normalized her mistakes as part of learning, and encouraged her to persevere with challenging work.

Meet Students Where They Are

Jasmine, like every student, was in a perfect spot to take charge of her thinking. I listened to what she was interested in and watched what lit her up in class. From there, I came up with challenges that would allow her to experience success in math. Often, it was worksheets that related to the lesson we did in class, but at a lower grade level. I wanted her to use what she already knew to get to what she didn't know, and then build the skills to manage her brain, little by little, to take on increasingly challenging work.

When she would say, "This is just too hard for me," I would counter with, "Use what you know to make connections to this new information. Notice the patterns. When you get

frustrated with the work, go get a drink to get your brain back in business. When you see too many problems on a page, cover up some of those problems."

I encouraged her to work through mistakes and show me each time she completed a challenging problem or assignment. I can still remember Jasmine racing up to me when she had finished something, ready to show me how well she did. Her new exuberance was palatable—a sign that before she had been forced to keep up in ways that didn't let her experience accomplishment.

Encourage Students to Make Mistakes

According to Jo Boaler, a professor of mathematics education at Stanford University, **learning can't happen until the learner experiences a misconception** or error. During math instruction, I inadvertently made mistakes, and these were a useful teaching tool to chip away at my students' anxiety and fear of failure. **Anxiety can poorly affect students' memory**, so when students can step back to see the process of thinking in action—missteps and all—that is the power of metacognition. The kids would have a lively discussion about where I got off track and what the proper thinking should have been.

When we worked through some of our most challenging problems as a group, I would often say, "This doesn't look right. It doesn't make sense because ..." The kids would find a previously unnoticed misconception and practice various ways to think about one problem. This lowered the bar to participating in problem-solving and put the emphasis on working through a problem, whether or not you got the right answer on the first try. I tried to build up students' confidence by asking them to engage with their thinking processes.

"I haven't heard from Jasmine yet about this problem," I might say in math class. "What was your first thought as you looked at this? Did anyone else take the same path as Jasmine?" It was pure joy watching Jasmine show her classmates how to think critically about a problem. She would come up to the overhead projector to share her thinking on a problem, sometimes starting with the answer and working back to the question.

Let Students Struggle with Challenge

Midway through the year, I had Jasmine work on a challenging science packet about the ocean. An outsider might have scoffed at giving such work to a student who had struggled in the past. Jasmine was hesitant, at first. "I can't do this," she told me. "It's too hard."

"I know how your mind works," I said. "I have seen some amazing thinking come out of your brain. All you have to do is connect what you already know to what this packet is

asking."

Then, I let her get to work. I didn't check in. A day and a half went by before Jasmine came back to me, proudly holding the completed packet. She had done something challenging all by herself. She had managed her thinking, starting first with what she knew before moving on to the problems she had to figure out.

When she showed her work to me, I just smiled. The fact I didn't go overboard when she did amazing things was also important. It conveyed that I really meant it when I told her she could do hard work. This strong belief in her abilities became Jasmine's new normal.

Record Growth

As end-of-year testing rolled around, a specialist had to test Jasmine twice because the first one was too simplistic to measure her impressive growth. In one year, Jasmine had achieved two years' growth in both reading and math. This was no accident. She learned to examine her thinking by reflecting on what she already knew and working through mistakes. She had practiced using these new skills on challenging content, so she wasn't nervous for the tests.

Jasmine's growing metacognitive repertoire gave her the ability not only to solve tough projects, but also to choose projects she wasn't sure she could do. Her ability to think about her thinking became her strength and the key to unlocking her potential at school. Learning beside Jasmine allowed me to see the true power of coaching students to think about their thinking, a super tool that changed my teaching forever and for the better.

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