



# #SAMSuccess: SAM Labs Maker Course Helps At-Risk Students Work on STEM Skills

As an educator, how do you reach kids who are not interested in school? You help them build skateboards. At least, that's how teacher Stan Mercer does it.

Mercer worked as a teacher at Creswell Middle School in Oregon for 22 years. Since it's a small school district, he has taught just about everything. While he tends to focus on math, this teacher-of-all-trades, has taught golf, PE, and even an archery class.

He's used to adapting to new educational environments, so when a school counselor talked to him about a disruptive student who wanted nothing to do with school, Mercer was up to the challenge.

## **Connecting with the student**

Like every school, classes and lessons are structured at Creswell. When a student is disrupting an entire class and keeping others from learning, there aren't a ton of solutions. At Creswell, the counselor was wondering if a disruptive student could simply hang out with Mercer during his prep period to minimize his impact on others who were trying to learn.

When the student came to Mercer's room, he talked to the student. "I asked him a simple question," Mercer said. "What are you interested in?" The student's response was, "skateboarding."

So, Mercer asked him if he had ever built a skateboard and the student said, "No, but I'd like to." Mercer had no idea how to build one, but he told the student there was no reason they couldn't learn how together.

## **Building a skateboard**

Everyday during Mercer's prep period, he worked with the student to build a straight deck longboard.

"We got the wood, cut, laminated, and glued it, and the student was really into it," Mercer said. "He even painted it. When he finished it, I said to him, 'Look at this. Look at the skills you learned. This your skill set.'"

Mercer used the moment to help explain that finding a skill set is exactly what getting an education is all about.

The two continued building skateboards. They found new kits online and the student even sold a board or two for a few bucks.

### **Word spread**

It didn't take long for word to spread about a student who was making skateboards at school. Interest started growing, particularly among kids who weren't excelling in traditional lecture-based classrooms.

"Our new 'class' started to grow," Mercer said. "We had identified a hook that was attractive to kids who, frankly, did not want to come to school, but they were – just to build skateboards."

Mercer started wondering how to introduce more math and science to these hands-on activities. "I thought, there has to be a way to weave in lessons without telling the kids, 'Ok, take out your math books.'" [Enter SAM Labs Maker Course.](#)

### **Maker Course provides STEM-based challenges**

Mercer's research led him to the Maker Course, a set of 75 hands-on STEAM and coding challenges that center on activities, as opposed to text books or lectures. The challenges help students take on different projects, like building a rocket or a steam engine boat.

As students work through the challenge, they have to use math and science. "They have to think about the weight of the boat engine or the trajectory of a rocket, for example, and while they're building they're not thinking, 'Ugh. I hate math.' The whole experience is authentic, it just fits into the activity."

The STEM challenges grew in popularity, and Mercer started upping the game. He started asking kids to create a business proposal around a challenge. "If they want to build a paper airplane that goes the length of a football field, they have to sell me on it. Why should we make it? What's its value?"

This Shark Tank-like idea also promotes real-world business skills.

As Mercer has realized, STEAM can unlock a student's potential. It gives students the chance to break out of the traditional classroom structure and learn through hands-on activities. If your school is interested in learning how to utilize Maker Course, please visit the SAM Labs website to learn more.

Would you like to learn more about all the different STEM projects you can create with our help? Review [our solutions](#) or [get a free trial](#). If you're an existing customer and need assistance, visit our [Support Center](#).

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Lisa McEwen is an award-winning writer and journalist with a passion for writing about education. She has written for large universities like Harvard and DeVry University, as well as dynamic educational startups like SAM Labs.

