

FLIPPING FLIPPING *the classroom*

FLIPPING, OTHERWISE KNOWN AS BACKWARDS TEACHING, IS A NATIONWIDE TREND THAT ENCOURAGES STUDENTS TO BE RESPONSIBLE FOR THEIR OWN LEARNING.

BY SHERRY POSNICK-GOODWIN
PHOTOS BY SCOTT BUSCHMAN

Algebra class has never smelled so delicious. The eighth-graders are figuring out how their teacher changed the cookie recipe to adjust the yield, making volume conversions, such as cups to tablespoons, and using deductive reasoning skills and equations. The best-tasting cookies will come from students who correctly tweak the recipe.

Without being told by their teacher, Michael Salamanca's middle school students know what to do because they watched his videotaped, 10-minute lesson the previous night at home.

It's called "flipping the classroom" or "backward teaching," and the trend is spreading nationwide, reports *Education Week*. The goal is for students to take responsibility for their own learning and walk into the classroom ready to discuss a topic, collaborate with fellow classmates and put their knowledge to work.

The founders of the learning model were Colorado teachers Jonathan Bergmann and Aaron Sams, whose idea went mainstream with the help of free online educational videos created by Salman Khan, founder of the Khan Academy.

Traditionally, teachers model or present information and



put problems on the board. Students' homework is more of the same type of problems. In a "flipped" classroom, students' homework is learning the lesson, and class time is spent doing hands-on assignments that show a practical application of the material they learned. If students don't get it after watching the videos, they receive individual or small-group tutoring by the teacher, bringing them up to speed.

THOSE FLIPPING VIDEOS

Tech-savvy teachers seeking something different find the approach exciting. Others believe it diminishes the role of the teacher or taking teaching to a new, automated format.

But Salamanca and other San Diego Education Association (SDEA) members at Innovation Middle School say they are thrilled to have time for hands-on lessons that encourage critical-thinking skills and increase student engagement. They attribute backward teaching to producing higher test scores.

Salamanca produces his videos by pushing the "record" button of his Promethean board, an interactive whiteboard that connects to a computer. Students hear his voice and see what he's writing, but they can't see him.

"Last year I created more than 75 videos and posted them on YouTube and the district's video site," says Salamanca. "It's not easy, especially the first year. It takes a lot of time. But



Gavin Nickel, Jorge Martin and Hyrum Riddle get hands-on learning in class after listening to **Michael Salamanca's** video lecture at home.

ultimately it saves time.” To view a few of his videos, visit sites.google.com/site/salamancamath/MathClasses/algebra/video-lessons.

Not all teachers in flipped classrooms create their own videos. Modeling or presenting information can take a lot of class time because teachers deal with behavior issues and repeat material to students who don't grasp concepts the first time around, he explains. But in a flipped classroom, they learn at their own pace.

“If I miss something, I stop and rewind it so I can understand,” says student Sierra Kresge. “For me, it's better to watch on video, and if I need help the next day, my teacher will spend time explaining to me what I didn't understand.”

To assess whether Salamanca's students have watched his videos and understand the content, they take daily quizzes posted on Edmodo, a social learning network designed for classrooms. Salamanca groups students by ability; groups change daily according to how students perform on quizzes.

“Before a big test I can go back to old video lessons. I look at them as many times as I want. It's more fun at school because you can do hands-on things and you learn a lot more,” says student Kristina Hughes.

Upcoming student class projects include creating a garden, planning the dimensions and what goes inside certain spaces for volume and surface lessons; catapulting marshmallows with

Is FLIPPING for you?

Some say No: It takes too much time to videotape lessons. It's a lazy way of teaching.

Some say Yes: Students can collaborate and work as a team, much like the modern workplace.

What do you think? See educators' comments at cta.org/flipping. Tell us what you think: editor@cta.org.

a plastic spoon so students can use a parabolic equation to find the vertex; and using algebraic equations to figure out the finances and production levels of imaginary companies.

A FLIPPING SUCCESS

Once they understand the new approach, parents and children frequently watch the videos together. Julie Garcia, a seventh-grade pre-algebra teacher, says one parent told her it was helpful to watch the videos when she decided to go back to school and needed to take an entrance exam for community college.

Garcia creates her own videos and says that it's a process, not a product. “After making them, I can tell right away whether I need to redo them,” she says. “Teachers are always trying to better themselves; I redo a quarter of my videos.” (For a sample, go to www.imiddlemath.org.)



Julie Garcia

“I have never worked so hard at teaching. I'm not standing at the board, I'm constantly circulating among students for one-on-one attention. It takes a lot more out of me as a teacher to have a flipped classroom, but I would never go back to direct instruction.”

Garcia and Salamanca say a flipped classroom works for most students and not just for higher-level students. But there are a few differences.

“With advanced students I'm able to do larger projects and get through the material faster or deeper,” says Salamanca. “With other classes you find a few more holes in students' learning, so there is more need for tutoring or small-group instruction.”

Salamanca and Garcia are the only two teachers at the school site exclusively teaching backward; seven more partially teach in that manner. The duo has given several trainings in their district and presented at Computer Using Educators (CUE) conferences and at universities. Since teachers on campus started “flipping” classrooms, the school had a 43 point jump in its API scores. Salamanca says the scores of his own students have gone up 20 percent.

“One of the biggest pluses in my classroom is that I have a better relationship with my students because I can offer them individual help,” says Garcia. “Students help other students. They collaborate with each other. I've never felt a bigger sense of classroom community in all my years of teaching.”