by Kelly St. John Regier

Doing the flip

The 'flipped learning' model has taken root in Orange County and beyond.

Marisa Wilkerson thinks more teachers should consider "the flip." A 17-year-old senior at Segerstrom Fundamental High School in Santa Ana, Wilkerson spent last year in an honors pre-calculus class that was taught in the "flipped learning" model. For her homework assignments, she watched an eight- to 10-minute online video of her teacher, Crystal Kirch, lecturing about the day's math concepts.

When students came to class, there would be no lecture. Rather, Wilkerson and her classmates spent class time doing practice problems in small groups, taking quizzes or teaching each other math concepts, in person and in online videos that they created. Their teacher was free to work directly with students who were struggling.

"At first it took getting used to. I would think, 'Do I really have to go home and watch these videos?'" says Wilkerson, whose full load of classes and activities meant she watched her math videos in the early morning hours. "But it was the best thing to happen to us, especially for such a hard subject. It really allows the teacher to have one-on-one time in the class. Everybody has a chance to ask their questions."

Kirch adopted the teaching method known as "flipped learning" three years ago. This model flips the traditional classroom approach of a lecture in school and exercises at home by using technology to create video lectures for homework and using class time for practice.

"This is the best use of the face-to-face time we have with students," says Kirch. "This allows me to work with my students individually or in small groups. They develop a deeper understanding of math, not to just memorize and learn it just good enough to spit it back out to me on a test."

During her first year using a flipped learning model – after four years teaching in a traditional style – Kirch tracked her students' unit test scores and found them to be an average of 2 to 8 percent higher than scores of prior years' classes.

"I could also see that my students understood the math better and deeper just by the conversations we were having in class," she says.

The term "flipped learning" was coined by Aaron Sams and Jonathan Bergmann, two Colorado science teachers who began videotaping chemistry classes for absent students. After they published a book about their approach in 2012, the movement caught on nationally, says Kari Afstrom, executive director of the nonprofit Flipped Learning Network, which maintains a list of teachers who have flipped their classes. It has grown from 2,500 teachers in 2012 to 14,000 today, Afstrom says.

It isn't just high school math and science teachers who are taking a flipped approach to teaching, Afstrom says. Other examples include a PE teacher who uses videos to explain the rules of new games so that his students can maximize game time, and an art teacher who creates an online video demonstrating how to throw clay so her students can watch and mimic her, she says.

"The magic is what happens the next day in class, when teachers can go beyond the worksheet," says Afstrom.

In Orange County, about 150 teachers have attended training courses on flipped learning and the technology that makes it possible, says Randy Kolset, educational technology coordinator with the Orange County Department of Education.

"I think there's still some apprehension," Kolset says, noting that some schools do not have Wi-Fi or the bandwidth to make the technology work.

One of the biggest obstacles to teachers flipping their classrooms is that students may not have access to technology at home, says Lisa Highfill, an instructional technology coach in the Bay Area who used the flipped model in her elementary school classroom. At minimum, they need to make sure students can access the videos in the classroom.

Kirch says she polls her students at the beginning of the year to see whether they have access to the Internet on a computer, a tablet or even a cellphone. She transfers lessons onto flash drives or burns them onto DVDs for students who can't otherwise see them.

Another obstacle is the up-front time it takes to make videos and come up with project activities to fill the extra class time.

Students such as Wilkerson say that sometimes the parents are the ones who need to be educated about flipped learning and why it works.

"A few of my friends' parents didn't believe they had homework on the Internet," she says. "One friend's mom even said the teaching isn't really teaching. It's the videos."

Teachers like Highfill say that, once they got to know the model, many of her parents came to appreciate the videos she created because they could watch them with their children to get a better sense of what they were doing at school. The videos are always available, so students can watch them again if they need to review any material.

After a video lesson about adding decimals, for example, Highfill gave out play money and menus during class, so students could "order" food and tally their bills. After a videotaped geometry lesson, she set her class loose with toothpicks and chickpeas to see how they would apply the concepts to build three-dimensional structures.

"When they were allowed to explore and apply their knowledge, it was really quite amazing what they came up with," says Highfill.

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