



Photo courtesy of the Northland Pines School District

FLEXIBILITY THROUGH TECHNOLOGY

Flipped classrooms and other uses of technology are empowering students while raising student achievement

Shelby Anderson

Danielle Krueger, a math teacher at Chequamegon High School in Park Falls, took it upon herself to try a flipped classroom approach in her advanced algebra class. She viewed it as an experiment — if it went well she would try it in all of her classes.

Krueger pre-recorded her advanced algebra lessons on an iPad and posted them on a secure YouTube Channel and GoogleDocs. The lessons were about 8-12 minutes long. Students watched the videos outside of class as their homework and then filled out “watching, summarizing, and questioning” sheets. The sheets helped students be active watchers of the lesson and come to class with questions and a summary of the lesson.

The next day in class, students worked in small groups while

Krueger moved from group to group and answered questions. If common questions arose, Krueger would pull the class together and address them.

When Krueger announced to her advanced algebra class that she was going to try the flipped classroom model, students were hesitant. But, early in the process, Krueger said she could tell students were understanding the material better.

“I knew they were getting the material because they were asking higher-order thinking questions than before,” she said.

This past school year, Krueger’s students completed worksheets together but Krueger says this year she hopes to have more hands-on activities and more projects using the flipped classroom model.

For students without Internet access, Krueger put the videos on a

flash drive. Through the secure YouTube Channel, Google Docs or a flash drive, students could watch the lessons on a smartphone, iPad, or any other electronic device. The fact that the school went 1:1 a couple of years ago and provides every student with a Google Chromebook helped as well.

“I had students watching the video lesson on their smartphones while they were on the bus headed to a baseball game two hours away,” Krueger said.

However, the best outcome of the flipped classroom experiment was a noticeable increase in student achievement.

“Test and quiz scores went up,” Krueger said. “And this was at the end of the school year when the material is much harder.”

To Krueger, the flipped classroom

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model just makes sense. Instead of having students struggle with concepts and problems at home, students are working through them in the classroom where she is available to help.

Kreuger said the experiment proved to be a success and she will institute the flipped classroom model in all of her math classes this school year.

“I would recommend it to anyone at any grade level.”

■ Personalizing Learning

The majority of teachers at Savanna Oaks Middle School in the Verona Area School District have been flipping their lessons for a couple years.

“The main purpose for flipping lessons is to allow students to learn the concepts outside the classroom,” said Frank Devereaux, information technology teacher and technology coach. “Since the lesson is recorded, students can watch and review the lesson over and over, slowing it down if needed.”

At Savanna Oaks, flipped lessons are part of a concerted effort to personalize learning for students. This past school year, teachers participated in a pilot program to personalize students’ education experience.

“This entailed getting to know the students more intimately in terms of what they know, what they like and how they learn,” Devereaux said.

Students created profiles and paths for growth. They took pre-tests to find out what they know and allow teachers to adjust to their curriculum.

“Because our students’ paths were all individualized, the teachers had to let go of the traditional teaching model and embrace a new way of educating their students,” Devereaux said. “When students are given this

much voice and so many choices, teachers had to be ready to monitor their growth and mastery of the standards in new ways.”

Technology plays a big part of monitoring each individual student’s learning path. Flipping lessons is just one tool in the arsenal of resources teachers utilize to keep up with students on their learning continuum.

Kim Schaaf, a sixth-grade math teacher at Savanna Oaks, said a big part of individualizing student learning is providing choices to students in how they learn. This includes not only the flipped lessons but also access to online videos from the Kahn Academy and other online, educational resources. Some students elect to read articles or textbooks.

“When you’re in one of our classrooms, there is a lot going on,” Schaaf said. “We’re offering choices in how students access information.”

Additionally, the individualized approach empowers students to work at their own pace.

“In our math classes, our advanced students are way ahead,” Schaaf said. “In a traditional system,

they would never have had the opportunity to challenge themselves. This allows students at all levels to work at their own pace.”

Schaaf admits that flipping the lessons changes teacher preparation, adding that there is a lot more planning up front.

It has been a challenge for teachers at Savanna Oaks but it is already reaping positive benefits for students.

“It has been eye-opening for us,” Schaaf said. “It is so empowering to students when you give them options in their learning.”

With the individualized learning path, Schaaf said students are also focused on where they are and where they need to go in their education.

“When you ask a student what they are working on, they can tell you what standard they’re working on, why it is important and what they will be working on next. Students are so much more in charge of their learning.”

■ Benefits for Different Grades

Two teachers in the Southern Door County School District are showing



Photo courtesy of the Southern Door County School District

that the flipped classroom model can be used successfully at almost any grade level.

Jessica Meacham, a first-grade teacher at Southern Door Elementary School, uses the flipped classroom approach with certain activities and lessons to help free up classroom time. For instance, she uses online videos that she created to introduce and explain word and vocabulary exercises to students.

“My students are now introduced to new word work activities via videos that they watch at home,” Meacham said. “They then come to school prepared to select new activities. This has saved instructional time, meaning that I don’t need to cancel reading groups in order to teach new word work activities.”

Like the other educators interviewed for this article, Meacham said this approach allows students to work at their own pace. “If a student needs to be retaught how an activity works, the videos are easily

For More Information

Find links to Jennifer Meacham’s “Word Work Flipped Learning” videos, Clifford Goodacre’s blog, and more flipped classroom resources at wasb.org.

Select “Wisconsin School News” and then “Current Issue.”

accessible, and don’t require me to do the reteaching,” she said.

Technology constraints can be an issue. Students who don’t have Internet or a computer at home have to use independent work time at the school. Still, Meacham says she likes the flipped classroom model and plans on expanding it for other lessons this year.

The flipped classroom model is also in use in math classes at Southern Door County. Like other flipped classrooms, middle school math students watch a video at home or outside of the classroom

and then work on math problems in groups the next day with the teacher available to address questions.

However, Clifford Goodacre, a math teacher, said the technology aspect of a flipped classroom is not the important part.

“I always tell others that the flipped classroom is not about the video lesson, it’s about the unique opportunities that I am able to create with the time that I see my students,” Goodacre says. “I want to maximize that time as best I can, and the flipped class model has helped do that.”

For instance, Goodacre said that the curriculum allows two days per lesson. This gives the teacher the ability to differentiate the lesson and meet the needs of different levels of learners. Some students are retaught the lesson and others work on an enrichment activity.

Goodacre has noticed that students are generating math discussions in class, they are leading their

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learning, and they are exposed to the thought process of other students. The teachers are able to work one-on-one with students that need extra help.

The model seems to be benefitting students. Goodacre said scores have improved on state assessments.

“In my two years of flipping the

classroom, I have witnessed greater math discussion and understanding of content,” Goodacre said. “It provides me the best opportunity to meet all my students where they are at for each video lesson. I can’t imagine going back to a traditional teaching style.” ■

Anderson is editor of Wisconsin School News.

FLIPPED CLASSROOMS: Getting Started and Other Considerations

Many teachers who give the flipped classroom model a try first learned about the concept via social media, conferences, and/or other educators. “I learned about flipped learning through social media,” said Jessica Meacham, a first-grade teacher at Southern Door Elementary School. “I started to see a lot of buzz on Twitter, Facebook and Pinterest.”

After hearing about flipped learning on social media, Meacham attended two conferences before putting it into practice in her classroom.

Getting started with the flipped classroom approach doesn’t take a lot of professional development. Danielle Kruger, a math teacher at Chequamegon High School, got introduced to the concept at a conference, but did the bulk of her research on her own time using online resources.

Another question regarding flipped classrooms is how does it work for students with disabilities or English language learners? In some ways, flipping the classroom provides a beneficial learning environment for students with disabilities or ELL students. Being introduced to a lesson before classroom time with the teacher gives students time to prepare communication software or formulate questions and ideas about a lesson before going to the class. Software such as captioning applications, text-to-speech software and other communication technologies have progressed significantly in recent years, making it easier to engage students at all levels in the flipped classroom model.

“Tools that we would have historically called ‘assertive technology’ are now available on iTunes,” said Patricia Wright, of Rethink, a company that provides software for students with disabilities. “As more technology bleeds into the commercial realm, it’s making the flipped classroom even more accessible.”

Krueger hasn’t yet used the flipped classroom approach with students with disabilities, but said students in her classroom were at different learning levels. Students who learned at a slower pace or were less likely to participate in a traditional classroom setting were more active.

“It really helped these students because they could rewind and review the videos as much or as little as they wanted, without anyone else knowing,” Krueger said.

Some challenges that teachers ran into with the flipped classroom model included learning how to efficiently record themselves teaching lessons. Krueger said when she started recording lessons she didn’t know how to edit the videos if she made a mistake (or her dog started barking in the background). Since then, she has discovered a number of free video-editing applications that make recording a lot easier and allow for simple video editing. ■

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