

Flipping the Classroom: A revolutionary approach to learning presents some pros and cons

By Karen Springen on April 1, 2013



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Back in 2007, two high school science teachers in Woodland Park, CO, decided to try a “crazy idea.” “We said, ‘What if we stopped lecturing and committed all our lectures to videos?’” says Jon Bergmann, now the lead technology facilitator at the Joseph Sears School in Kenilworth, IL. He and fellow educator Aaron Sams posted their short films— 15 to 20 minutes long—for students to watch at home. (Parents could also look and say, “Oh, I see how the teacher wants it done!” says Bergmann.) Their goal? “Do what’s best for your kids,” says Sams, who went on to coauthor [Flip Your Classroom: Reach Every Student in Every Class Every Day](#)(ISTE, 2012) with Bergmann.

Flipping the classroom lets school become a place for talking, doing group projects, and getting individual help from teachers—and lets home become a place for watching

instructional videos. “The class time that would have been spent on the stand-and-deliver lecture model is now spent working on problems,” says Robert Adhoot, a math teacher who started YayMath.org videos four years ago. “The teacher walks around and helps everyone. It’s not a get-out-of-jail-free card for teachers not to teach.” It’s also not a way for kids to get out of doing anything at home. “Flipping what the kid does means they do the work ahead of time, come to class, and debrief,” explains Michelle Luhtala (aka the [Indispensable Librarian](#)), head librarian at New Canaan High School in Connecticut.

Aside from the technology involved, it’s not necessarily a new idea. “In the 1970s, when I was a classroom English teacher, I flipped my classroom, and I didn’t even know it,” says Doug Johnson, the director of media and technology for the Mankato Area Public Schools in Minnesota. “I’d ask my kids to read the text at home, and then I’d use the class time to discuss the lesson. Now, instead of asking kids to read, we’re asking them to watch videotape lessons. I sense this is something like old wine in a new bottle.”

Ideally, flipping the classroom gives kids “a personalized learning experience,” says Wade Roberts, CEO of [Educreations](#), which makes a free iPad app that more than 150,000 teachers are using to make interactive video lessons. “The end goal is personalized education. The flipped classroom is just a means to that end.” Students can use the videos to learn at their own pace—any time or place, says Roberts. “These students can replay their teacher’s explanation of a new concept as many times as they need to without fear of holding up the rest of the class.” (Educreations’s website includes a feature that notifies teachers when kids ask questions.)

MAKING CLASS TIME COUNT

Librarians help teachers flip the classroom—and the media center. Pat Semple, a librarian at Bullis School in Potomac, MD, gives students videos, Web pages, and screenshots about the nuts and bolts of the library, which frees up more time to devote to their research projects. She knows that these online options help kids who are absent, too. “Invariably, students are sick, or there’s something else going on in the school that they aren’t there,” she says.

“The idea is to use technology to make sure that the time in the classroom isn’t spent on lecturing. Instead, the students can actually experience some of the stuff at home and then come into the classroom and have meaningful discussions with their teachers,” says Nick Glass, founder and executive director of [TeachingBooks.net](#), which offers a database of resources for K-12 schools. “This is playing right into the librarian’s strength.”

Of course, just because a librarian or teacher posts a video doesn’t mean students will watch it. “In the middle school, where we have a lot of issues with apathy, some of

them aren't going to go and do something, even if you beg them," says Tiffany Whitehead, a library media specialist at Central Middle School in Baton Rouge, LA. And not everything is flippable. "Nothing is going to replace the experience of being a member of an audience that has a group discussion or debate," says School Library Journal [blogger](#) Joyce Valenza, a teacher librarian at Springfield Township High School in Pennsylvania. It's important for students to be together in person to simulate coming to Ellis Island and being thrown out for possible diphtheria, she says. The same holds true for debates about which late-20th-century president was best. "You can do it on Google Hangouts, but it's just not the same," she says. Another hurdle: answering students' questions about videos they watch in the wee hours of the night. "It's unrealistic to expect the teacher to work 24/7," says Valenza.

Teachers can create their own videos and also refer kids to already existing ones. "Leveraging already existing content makes total sense," says YayMath's Adhoot. "It's more efficient, it alleviates the technical stresses inherent with filming and publishing, and it saves time for teachers to do other crucial administrative tasks." "What people respond to first is the time-savings aspect," says Lodge McCammon, project director of the [Institute for Educational Innovation](#) at North Carolina State University and a former AP economics teacher. "The traditional concept of lecturing is completely obsolete now. It doesn't work any more.... The inefficiency of the classroom knocks people over. I would give the same 70-minute lecture three times a day to my students—210 minutes of lecture on the same topic," he says. "If you film that same lecture, it ends up being between 8 and 10 minutes."

Another benefit of a video lecture? A student can decide at home whether he needs to replay a point, but the whole class doesn't have to sit through it again. "Our little tagline: 'Life is too short. Stop repeating yourself,'" says Chris Ming, an assistant principal at Marine City High School in Michigan, who made his video lessons public when he was a chemistry teacher in Georgia. "You walk into the classroom on the first day and say, 'I've published everything there is to say on this topic. Google me. This class is not going to be about me standing up and repeating myself and being inefficient.'"

In the past, teachers were idealized people who possessed information in their heads, says McCammon. "Then the Internet changed everything. That teacher is no longer the master in the room. Google is the master. That changes the whole dynamic.... You've lost that mystique. It makes it harder for teachers to sell this idea of 'I'm the expert, I'm the master.'" On the other hand, the flipped classroom lets teachers publish their own content, and offers them "a way to become the masters again," adds McCammon. Sure, some kids will ignore the video. "The same kids who don't currently do their homework will not watch the lecture," says McCammon. "But as you start making your class more engaging, kids who don't usually do their homework will start doing it because they want to participate in the class." Kids write questions down while they're

watching the video, and then the first 10 minutes of class is for discussion of what they've seen. Then kids spend the remaining 50 minutes working in teams of four to solve problems.

FIRST THINGS FIRST

Content is still king, and topic videos are still supreme. Graphing the equation of a line will remain the same, whether a teacher is using the Common Core or not. The innovative system helps all teachers—both good and bad—get better. “Better teachers need to be efficient, reflective, and really good at building and strengthening relationships with students and parents,” says McCammon. “The cool thing about flipping the classroom is it’s a sales pitch to get people to do that.” Bad teachers can go online and search their area of content and watch a great teacher teach—and then film their own version of the lesson. “Now all of a sudden, that teacher is a great teacher,” says McCammon. “Now that teacher is the master in the eyes of their students. They’re published. They give great lectures. And they have more time to be more personable.”

Teachers need to figure out what they want to get out of a flipped classroom, says Marine City High’s Ming. “What’s the purpose of doing it? Is it because you’re looking for more time in your curriculum to do hands-on activities?” An AP government teacher told Ming the best part of teaching his class was holding class discussions. The flipped classroom helped him get through the material with time to spare for conversation. Ming himself posted new videos for students and parents to watch at home—and gained more time for small-group lab projects at school. By the end of the year, students were designing their own experiments and running them, “because I was able to take a 40-minute lecture in class, reduce it to 10 minutes at home, 5 minutes in class,” he says. “I probably built in an extra five, six days of block-scheduled, 100-minute classes through doing the classes at home through the flip.” He used only his own material, but he understands why it’s good for students to also hear from others—perhaps on Educreations or [Khan Academy](#), where they can “hear it explained differently,” he says. “You don’t have to start from scratch.”

The Khan Academy is the most well-known user of the technique. “What the Khan Academy has done is to make using audiovisual easy,” says Brad Baird, chief revenue officer of [Schoology](#), a platform with 1.8 million users that lets communities like Flipped Classroom record audiovisual material and lets teachers monitor discussions. Khan, which offers free how-to videos, doesn’t completely embrace the term “flipped classroom.” “Just the term ‘flipped classroom’ is something that makes us really uneasy,” says Maureen Suhendra, a member of Khan’s school implementation team. “The flipped classroom in the traditional sense is that teachers are assigning videos for homework, and they’ll come to class and work out problems together. Students are still all moving at the same pace. Khan Academy is much more about a customized

learning experience—working on different math exercises at a different time. It’s a vision of a self-paced, customized learning experience.”

The current educational system is too much of a “one-size-fits-all model,” says Suhendra. Not the Khan Academy. “If you have an art history teacher who needs something on a particular decade, it’s very easy to find that on our site. If you have math students who are saying, ‘I’m failing my math class,’ here are different videos that tell you a different way of solving the problem. In essence, Khan Academy can become a personalized tutor for students.”

Still, there’s no guarantee that kids will actually view the videos. To make sure his students watched his, Ming sent out a reminder when he posted a seven-minute lesson that he had created. Then he posted a question on the board the next day: What are the signs of a chemical reaction? “If I get the impression that not many people watched the lesson, I always have a quiz ready,” he says.

Ming spent 5 or 10 minutes of class time answering students’ questions about what they watched at home. Then he offered follow-up activities in which students predicted what would happen if the chemicals that they had just studied reacted. How did the new setup affected his classes? “The time flies by because students are the ones leading the learning,” he says.

Steven Spielberg-quality videos are not the goal. “You’ve got to get over the fact they’re not 100 percent perfect,” says Ming about his films, which have inadvertently included the sounds of his dogs barking and his kids, now two and a half and four and a half, saying “Daddy,” in the background. His students’ reactions? “They thought it was funny,” he says. He has made all of his videos public through Educreations.

LEVELING THE PLAYING FIELD

The flipped classroom also faces a far more serious challenge than shaky sound editing: teachers need to figure out how to overcome the “digital divide”—and accommodate kids who don’t own a laptop, iPad, or smart phone, or who don’t have Internet access at home. “I made my room available before and after school and also during lunch,” says Ming. “If they wanted to eat and watch while they were eating lunch, that’s fine.” He suggests school librarians help out by making computers available, too. Other teachers can put materials on flash drives for kids or even burn DVDs that kids can watch on television.

Gwyneth Jones (aka [The Daring Librarian](#)) is also sensitive to the need to bridge socioeconomic gaps. “I have kids coming from million-dollar houses, and I have kids coming from homeless shelters or whose parents are working hourly jobs,” says Jones, a librarian at Murray Hill Middle School in Howard County, MD, who posts tutorials on topics such as how to teach Wikipedia (called “Wikipedia Is NOT Wicked!”). “When

flipping the classroom, one has to take into account the digital divide. It's unfair to require a homework component that some kids won't be able to do at their houses because the technology is not there or the Internet access is not there. Some of our kids' parents cannot take them to the library." That's why Jones believes in the "partial flip" — using videos to enrich activities. "It won't be where they'll be penalized or can't pass the test because they didn't see a certain video at home," she says. "I worry about technology crazes fanning around the country that leave out the poor kids. But I also, being a change agent myself and a person on the edge of technology, want to incorporate all those cool things." Students in parts of the country that aren't as technologically advanced can be left out, too. "There are places like Iowa, Montana, or Appalachia, where it would be very difficult to get a free wireless signal to everyone," says Jones. Even preloading flash drives with videos assumes kids own a device at home to plug the flash drive into. So she likes the idea of operating the mobile lab out of the classroom.

The "home" portion of the flipped classroom can be too passive for many educators' taste. "Some of the most effective ways that students can learn are by doing, not by watching other people do," says Lisa Nielsen, author of [Teaching Generation Text: Using Cell Phones to Enhance Learning](#) (Jossey-Bass, 2011). "Listening to a lecture is nothing new. I just don't believe it's the most effective way to learn," she says. "I believe the most effective way to learn is to do work that's meaningful, not to sit and watch someone else do something. This is not revolutionary," she says. "If there's a video that can help someone understand something, that's great. I just don't think that should be the be-all and end-all."

Another problem? "The kids are all watching the same videos," says Nielsen. "There's no differentiation other than when they watch the videos. There's no discovery. They're all going down the same narrow path and choosing the same goal." She calls it a "one-size-fits-all, canned path that someone else chose for them."

SCREEN TIME AND OTHER POTENTIAL PITFALLS

Watching videos also means more sitting in front of devices. The American Academy of Pediatrics recommends kids limit "screen time" to two hours a day because too much exposure has been linked to obesity, irregular sleep, behavioral problems, violence, and less time for play. But not all screen time is created equal. Nielsen, who opposes "scapegoating screening," says it depends on how the tools are used. "You could be writing, creating, changing the world from your laptop," says Nielsen. "In countries like Egypt, we've used screens to start a revolution."

The flipped classroom can also be too noisy for some educators. "A school shouldn't look like a factory," says Nielsen. "It should look kind of chaotic. We want these vibrant environments. We want schools to be places that if kids weren't required to attend,

they would still want to be there.” Carpeting to deaden sound isn’t always an option. A science lab, for example, can’t have it because it could catch on fire, says Bergmann. The flipped classroom’s buzzword? Curation. Many teachers use a combination of their own materials and those of others. Although “it’s best practice to use your own videos,” says Bergmann, “it’s not always practical.” Recently he visited a Detroit school where kids read at anywhere from a third- to a tenth-grade level. “It’s not practical for them to make all their own videos,” he says. And some times kids who struggle—and who lack parents at home who know how to help with problems—will become the class clown, says Troy Smith, educational product manager for TechSmith, which makes apps that help teachers create videos. “It’s this downward spiraling.”

Students need to feel as though their teachers are guiding them to the best materials, not merely giving them a list of videos to watch, says Valenza. And teachers (and state tests) still need to assess students. “If our students are learning collaboratively, should we then assess them collaboratively?” asks YayMath’s Adhoot. How does it fit in with the SAT and ACT tests, GPAs, AP tests, and the college-selection process? “Teachers work for administrators, and administrators work for districts, and districts answer to the powers that be that for many reasons are resistant to change,” says Adhoot. For her part, Valenza expects that almost every textbook will be on an electronic device within the next 5 or 10 years. If nothing else, the flipped classroom will make for lighter backpacks.

“One of the responsibilities of the librarian is to be concerned about equity and be concerned about resources in general,” says David V. Loertscher, a professor of library and informational sciences at San Jose State University. It’s also to find the right materials for each child. “The job of the librarian is to flip for every kid,” says Loertscher. “If one little tutorial doesn’t work, we’ve got 10 others in the wings. There are all kinds of learners, all styles of learners.” To find the best materials, librarians should “use the same criteria they’ve always used for printed materials—authority, interest, accuracy,” he says. They shouldn’t just fall in love with the latest trend. They also shouldn’t just swallow the flipped concept hook, line, and sinker. “Teachers should keep posing the ‘why,’” says Bob Schuetz, the technology director at Palatine High School in Illinois. “Why am I doing this? Why is it beneficial to students?”