

Flipped Learning

Whether it becomes a fix or is just a fad remains to be determined as educators reverse the use of students' time in school and at home.

BY SCOTT LaFEE

From School Administrator

For a growing number of schools and districts, the hottest thing in education improvement is “flipped learning,” the idea that technology, properly exploited, can push a lot of basic learning outside school walls, creating room and time for deeper, more personalized instruction within.

Though details vary considerably, a flipped classroom is fundamentally about upending time on task. Instead of holding forth at the front of a classroom—the traditional notion of the “sage on a stage”—teachers convert their lectures to videos, slide shows, or audio lessons that can be watched by students

at home or elsewhere via the Internet or other information transfer tools, such as DVDs and thumb drives.

With lectures out of the classroom, teachers are free to use time during the school day for more individualized instruction, labs, and projects to promote and motivate deeper learning. In the parlance of flipped-learning advocates, teachers become “guides on the side,” shepherding students in charge of their own learning.

“The difference I see is that I am not collecting pieces of paper from students to indicate that they have ‘done their homework,’” says Dalia Zygus, a 30-year veteran who flipped her chemistry class at West Leyden High School in Northlake, IL.

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“Instead, students show me they know how to do something. They demonstrate their understanding, for example, by individually answering a question or two.”

Doubters Arise

The idea is not without skeptics, who question whether (1) the approach is practical or equitable in places where significant numbers of students (or schools) have insufficient technological resources; (2) it is truly applicable and scalable beyond classrooms with highly motivated and talented teachers and students; and (3) it really works better than current instructional models.

• **Practicality and equity of flipped learning.** The idea of teachers converting lectures and lessons to videos to be watched as homework strikes some as problematic for various reasons. Among them: How do you do it if you’ve never done it before? Where do you get the training, the technical tools, the time?

Jonathan Bergmann and Aaron Sams are the faces of flipped learning—or at least two of the movement’s more high-profile proponents. In 2006, as high school teachers in Woodland Park, CO, they collaborated to

flip their chemistry classes. The effort was a huge success, so much so that Bergmann and Sams have built new careers touting the approach at conferences and workshops and through the Flipped Learning Network. Last year, they published a how-to manual called *Flip Your Classroom: Reach Every Student in Every Class Every Day*.

Sams says technology and time do not have to be major hurdles to flipping. He and Bergmann flipped their first classroom with “two lousy computers” and \$50 in software. “There are a lot of free, simple programs to help people create videos and other instructional materials that don’t require anything more than a smartphone,” he says. “You can partner with a colleague, something we encourage, and share the load.”

What about the other end—the students?

“The flipped classroom is based on the premise that students watch videos at home, which means we’re not just bridging the digital divide at school, we are doing it at home,” says Lisa Nielsen, a New York-based teacher, administrator, and author of The Innovative Educator blog.

“While I do believe we can

and must bridge the digital divide in school, this has not yet translated to the home. Most schools in high-poverty areas that provide technology do not let students bring the devices home," Nielsen says. "Additionally, the hardware is only one part of the equation. Internet access is the other. We are still a long way from providing the Internet to students whose families can't afford it."

Flipped-learning advocates counter that it's not about having the latest smartphone or iPad. At relatively little expense or trouble, teachers can burn low-tech DVDs, send home materials on thumb drives, or provide extra time and access to materials during the day for students who need it.

"There are definitely ways of going about flipping without heavy technology use," says Andy Schwen, a middle school math teacher in the Anoka-Hennepin (MN) School District, "such as reading ahead of time or doing investigation activities at home that launch activities for class the next day."

So far, the flipped-learning movement has been primarily a grassroots phenomenon implemented by individual teachers. Proponents say this is generally good, that the idea cannot suc-

ceed as a top-down mandate.

"If administrators decide their district is going to be flipped and teachers are not on board, it will not be nearly as effective as the other way around," says Steve Kelly, a high school math teacher in St. Louis, MI.

Do administrators have a role?

"Absolutely, they are critical as instructional leaders and lead learners in their schools," says Justin Reich, a fellow at

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the Berkman Center for Internet and Society at Harvard University and cofounder of EdTech Teacher, which helps educators leverage new technologies to support student learning. "They can support innovation, provide collaborative time and professional development, assign resources to innovative teachers, communicate with parents about new teaching strategies, and provide feedback and a view from outside the classroom.

"Most important, adminis-

trators can provide support for new ideas and teaching strategies, Reich adds. "I've been struck over the years by how many teachers tell me that encouragement from principals and superintendents really matters."

Bergmann says the primary reason administrators balk at flipped learning is a lack of familiarity: "They need more information about how it works, the issues that come up like how to evaluate flipped-learning teachers, the problems of rolling it out."

● **Applicability and scalability of flipped learning.** Good teachers use technology well. On the other hand, good teachers also are adept at practices seen as less cutting edge or innovative. It is possible to make a lecture interesting, engaging, and informative.

"It's easy to discuss the negatives of a lecture," says Chris Faulkner, an instruction design consultant at the Center for Learning Enhancement, Assessment, and Redesign at the University of North Texas in Denton. "There is a place for lecture, but it is far less prominent than the credit educators have given it. One reason the flipped classroom has taken off is that it does not change the current

role of the teacher but still increases the potential benefits for students."

That said, flipped learning won't motivate every unmotivated student. It won't make a bad teacher good.

"It's not the answer. It's a way to answers," Bergmann acknowledges. "After we flipped our classrooms, Aaron and I were still unsatisfied. We knew we could go deeper. Flipped learning is a launching point to doing more. What that 'more' is depends on the teacher, the grade level."

Scalability is a real issue. Can a whole school curriculum be flipped? What about an entire district? Does flipping work equally well with all subjects? Advocates say yes. They cite entities such as the Khan Academy, a nonprofit founded by Ivy League-trained math whiz Salman Khan in 2006, which offers more than 3,500 short videos through YouTube. And places like Clinton High School in Clinton Township, MI, where every classroom has been flipped.

"Principal [Greg] Green is the poster child for flipped school leaders," says Kari Arfstrom, executive director of the Flipped Learning Network. "His test scores over the past three years are amazing."

● **Whether flipping really works.** Green, who has been Clinton High's principal for 11 years, first implemented flipped learning three years ago on a modest scale—one government class composed mostly of students with a history of chronic underachievement. The approach was fairly simple. Students would do basic content at night, watching videos or participating in online group discussions. Classroom time would be more devoted to one-on-one instruction and projects.

One semester later, the flipped government class had better grades than a traditional counterpart. Green expanded the flipped model to 140 incoming high school freshmen. Again, he found success. The failure rate dropped by 33% in English language arts, 31% in math, 22% in science, and 19% in social studies. Standardized test scores went up, as did attendance. Disciplinary problems declined 66%.

"I think this is the way you should structure schools in general," Green says. "It makes sense to practice what you learn in class, with a teacher beside you to help, rather than at home with somebody who might not be an expert or may have other

responsibilities or distractions."

Still, Clinton's success is the story of a single school. There are almost no broad-based empirical data yet about the efficacy of flipped learning. The Khan collaboration is a work-in-progress. A few dozen schools nationwide are incorporating its videos in their online lessons, but it's too early to know how well things are going.

A small study conducted recently by the research firm SRI International of students in Oakland, CA, who used Khan Academy materials found that lagging math students caught up equally well whether they used videos or received tutoring in small groups. A survey by the Flipped Learning Network of 453 educators claims 67% reported improved student test scores.

Bergmann, the *Flip Your Classroom* coauthor who now works as technology facilitator at the Joseph Sears School in Kenilworth, IL, concedes hard proof remains hard to come by, but he's confident findings of ongoing studies ultimately will back up anecdotal claims.

An Elusive Definition

Meanwhile, the movement is evolving and maturing in other ways. Right now, there appears to be no consensus definition of

what exactly flipped learning is. Rather, it seems to be whatever its practitioner says it is, which may become problematic as the number of adherents grows or calls grow for increased accountability and assessment.

“Sometimes the lack of a common definition can cause misunderstandings and implementation problems,” says Michael Gorman, who oversees a program at Woodside Middle School, near Fort Wayne, IN, to integrate technology with core curriculum standards. “A teacher might attend a 45-minute conference session or webinar and believe they are ready to flip. Teachers need to study and reflect on their definition of the flip. They need to determine the outcomes they desire and what might be some of the roadblocks as they implement.”

At its essence, Bergmann believes flipped learning is built on four main pillars:

► **A flexible learning environment.** “I don’t mean just kids not sitting in rows, staring at the front of the class. It’s teachers redesigning their class to make best use of increased face-to-face, individual instruction. It’s a lot more freedom to do things like project-based learning.”

► **A revamped learning culture in the classroom.** “Students

take responsibility for their own learning. I think every kid should have an individualized education program. Not the paperwork, but the personalization. We need to move away a bit from standardization.”

► **Intentional content.** “This means creating quality videos and other materials to support learning in the classroom. It’s best if teachers produce them, but it’s not necessary.”

► **Professional educators.** “Thus far, flipped learning has been mostly a grassroots effort. It needs to professionalize. We need to identify and disseminate best practices, share ideas, and get people connected.”

Bergmann does not describe flipped learning as pedagogical reform. It’s a tool, a new way of doing things. “It leverages old ideas in new ways,” he says. “It allows technology to make things more inventive and reach different students in different ways.”

Whether this is enough to ensure flipped learning endures and prospers remains to be seen.

Is it a fad? The history of education is fraught with them.

“I certainly hope not,” Bergmann replies. “I’ve seen it change too many people’s lives.” ■

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