

Issue Brief

The Flipped Classroom

Increasing Instructional Effectiveness in Higher Education with Blended Learning Technology

A New Model for Effective Teaching

How might education change if classrooms become places of active learning, not just passive listening? Higher education students are already active learners, using e-books, Web content, and social media to explore and discover in their daily lives.

But what happens when these students go to the classroom, especially for high-enrollment courses? They sometimes experience the curiosity-stifling thud of having to listen to and take notes on a lecture, with its mostly one-way communication format. And with limited opportunities for Q&A during the class session and no ability to review the lecture content later to study a difficult concept, it's no wonder students may become discouraged and disengaged.

This traditional learning model won't cut it with students who are accustomed to active learning, either on their own or in small groups of classmates. Students increasingly expect a classroom experience that helps them develop knowledge for themselves, not just passively receive one-dimensional information. Students want to do something meaningful with content instead of just listening to a lecture. They also expect to meet with discussion groups and project teams and do much of their assigned work during class time instead of meeting separately.

Another factor that is playing a role in student perceptions: the value gained from education in a tough economy. Instructors need to make education worth a student's investment of time and money by ensuring the classroom experience is productive and meaningful.

These expectations are leading higher education toward "flipped" classrooms and a learning model that blends online and in-class learning. Respondents to the Center for Digital Education's 2011 Community Colleges Survey indicated the majority of their students enroll in online or blended courses and that more than two-thirds of online courses used some type of online collaboration tools to promote learning.¹

The Flipped Classroom Experience

To really understand a student's experience, it is helpful to look at the differences between the traditional and flipped classroom models. In the traditional model, students must be present for every session and classroom time is consumed primarily with the instructor's lecture and a brief Q&A period. Students work on assigned activities outside of the classroom, which often presents scheduling difficulties, especially for students who have part-time or even full-time jobs.

In a flipped model, students view the lecture online before they arrive in the classroom, so they are ready to immediately discuss the topic or begin work on a related individual or small-group activity. This model uses multiple technologies for instruction, including lecture capture and online podcasts, courseware, tutoring, language translation, content access, social networking and collaboration.

Recorded lectures — managed with blended learning technology, including lecture capture — are the foundation for the flipped classroom. Lectures and other course materials can be captured with equal ease in a live classroom session or in a webcast style (called personal capture or screencasts). A lecture can be presented with full audio and video or audio only; both formats can be combined with screen captures. Once recorded, students can conveniently access the lecture at any time, from any device with an Internet connection.



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Flipped Classroom Benefits

The flipped classroom experience makes optimal use of instructor and student time, provides increased access to the instructor's expertise and enables better scalability of instructional resources to support high-enrollment demands. From the instructor's perspective, key benefits of the flipped classroom include:

- increased classroom time to present content, discuss complex topics and work with students — either individually or in small groups;
- reduced time spent answering basic and repetitive questions — due to students' ability to review lectures online;
- the ability to use recorded lectures in multiple course sections — year over year, with easy tools for updating content; and
- quick adaptation of lecture content to respond to new learning needs.



According to a recent university study, lectures and other recorded content increased student understanding of course material, helped them prepare for tests and improved test performance for some students.

Student and Instructor Response to Recorded Lectures

Both a formal research study and informal student feedback indicate a largely positive response among students and faculty to the flipped classroom experience. The formal study, conducted by the University of Sussex, identified the following key findings:²

- Lectures and other recorded content increased student understanding of course material, helped them prepare for tests and improved test performance for some students.
- Students gave high ratings and viewership to videos and screen captures that explain key concepts and help in test preparation. They also liked the option of resources in both video and text form.
- Instructors required minimal support for creating their own recordings and would recommend personal video capture tools to their colleagues. Barriers to faculty adoption were reduced because they didn't need to think about video file formats or storage issues.

However, some students feel the flipped model increases their workload compared to other courses. This perception is especially true when the course involves more content and activities and could be covered in a traditional approach. Instructors can easily reduce the workload burden on students by reserving the flipped classroom model for certain lessons, or for only a few days out of the week.

At North Arkansas College, 84 percent of students would like to see more use of blended learning and lecture capture in their courses, noting:³

“I feel more prepared for class.”

“I like being able to pause and process [the content].”

“[Blended learning] makes it possible to review material without wading through hours of vodcasts.”



The Flipped Classroom in Practice

The experience of several higher education institutions provides valuable insights about using lecture capture technologies to flip the classroom.

North Arkansas College

With 90 courses already recording lectures, North Arkansas College is creating more learning opportunities for students. An added benefit: high-demand classrooms are now easier to schedule because recorded lectures mean fewer in-classroom sessions.

Space usage isn't the only planning change resulting from recorded lectures. "For instructors, the flipped classroom model means they will need to rethink their teaching plans," says Valerie Martin, director of Distance Learning and Instructional Support. "What will you do in the classroom if you're not lecturing?"

Dr. Laura Berry, dean of Arts and Sciences notes, "Initially, our faculty were big advocates for lecture capture technology and we had to promote its value to the college's executives and board of trustees." Today, the technology is proving its value with a six-fold increase in blended learning classes offered by the college.⁴

Pace University

Lecture capture technology allows Pace University in New York to maintain a competitive advantage and prepare for the global education market of the future. "We know that recorded lectures are an important part of distance learning courses that can attract students from around the world, who will add to the rich cultural experience of the university," says Shikha Bajracharya, director of user services for ITS.

The university's 200 classrooms and lecture halls have lecture capture capability and personal capture software is available for all faculty. "We wanted to make the technology available immediately to any instructor who requests it because it will help our students learn," says Antonio Soares, Jr., senior manager for educational media.

Another benefit: Instructors can record classroom content in advance for snow days and other campus closures — no need to reschedule classes.⁵

St. John Fisher College

Also in New York, the nursing and pharmacy schools at St. John Fisher College make extensive use of lecture recordings to help students understand complex course content. To serve the growing popularity of this technology, one system is installed on a mobile cart that can be moved among classrooms.

"Our faculty want to make the most of their class time and students don't want to spend the hour listening to a lecture," explains Mike Allington, director of Technology Support Services. "Because recorded lectures allow more interaction during class, the face-to-face time with the instructor is more valuable for students."

The college's instructors were initially concerned about protecting the intellectual property of their lectures. However, they now see the potential for additional revenue when their lecture recordings are used in online continuing-education courses.⁶

Worcester Polytechnic Institute

At the engineering and science-focused Worcester Polytechnic Institute in Massachusetts, blended learning technology has been used in undergraduate level courses that have very complex content and to help students prepare for lab experiments.

A survey conducted by one instructor indicated a mixed student response to the flipped classroom model. "Some students dislike flipped courses where progress is measured through daily assignments, instead of the traditional system of two or three major exams," says Mary Beth Harrity, director of the Academic Technology Center. "Other students like the regular feedback and increased class time for hands-on activities."⁷



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MIKE ALLINGTON, DIRECTOR OF TECHNOLOGY SUPPORT SERVICES,
ST. JOHN FISHER COLLEGE

Helping Faculty Make the Transition

The steps below are key in helping faculty make the transition to the new model of a flipped classroom.

Identify the right uses. Some courses may not be suitable for a flipped classroom model, such as courses with challenging content that may benefit simply from making recorded lectures available for later review by students.

Offer professional development and support. In-service workshops, summer training programs and online resources can help instructors understand their redefined role, identify effective teaching methods for blended courses, and learn techniques for using the lecture and personal capture tools appropriately.

Choose the right technology. Faculty will be reluctant to change their instructional model if doing so adds significantly to their workload. A lecture capture solution should offer a clear user interface and easy processes for instructors when they create and edit recordings, whether in a classroom or on their PCs.

Conclusion

The flipped classroom is a strategic direction that helps higher education meet the expectations of today's students while optimizing teaching and classroom resources. The blended learning approach of the flipped classroom can be leveraged for both individual courses and on an organizational level to improve instructional delivery and enhance student achievement and satisfaction.



“At Pace University, we are very pleased with the lecture capture capabilities. Our faculty members are utilizing the lecture capture technology with great success, and now our students are requesting more usage of lecture capture in and out of the classroom.”

TOM HULL, CIO, PACE UNIVERSITY

Endnotes

1. Center for Digital Education Webinar: “Digital Community Colleges Survey Overview.” http://www.convergemag.com/Digital_Community_Colleges_Survey_Overview_10-27-11.html
2. University of Sussex Me2 U Project: <http://www.sussex.ac.uk/elearning/audioandvideo/me2u>
3. Center for Digital Education Webinar: “Tidbits About Blended Learning: Avoiding an Aversion to the Inversion of the Classroom,” featuring North Arkansas College: <http://www.convergemag.com/events/webinars/Tidbits-About-Blended-Learning-Avoiding-Aversion-11-2-11.html>
4. Ibid
5. Center for Digital Education interview with Antonio Soares, Jr. and Shikha Bajracharya, 1/20/2012
6. Center for Digital Education interview with Mike Allington, 1/17/2012
7. Center for Digital Education interview with Mary Beth Harrity, 1/20/2012



As a global leader in blended learning and lecture capture solutions, Echo360 helps higher education institutions keep pace with modern students' learning needs through products that digitally record and upload learning content. Echo360's products facilitate better instruction, lower costs and enrich learning experiences by enabling students to easily access and share multimedia content. Through Echo360's platform, students can replay recorded sessions and review course information online at their convenience and across various devices. More than 400 colleges and universities in 29 countries use Echo360's solution. **For more information, visit www.echo360.com.**