



The Student Demand for Lecture Capture Solutions

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Executive Summary

“Lecture capture” refers to any technology that allows instructors or presenters to record what happens in their lecture hall and make it available digitally. Lecture capture enhances and extends existing instructional activities, whether in face-to-face, online, or blended learning environments. It works especially well in subject areas where students benefit from repeated viewing of content, such as mathematics or science. The video-on-demand aspect of lecture capture allows students to closely examine the steps of a demonstrated procedure or stop to focus on important actions in a complex process.

Students are driving much of the demand for colleges and universities to deploy lecture-capture software. Recent studies show that students today expect and prefer on-demand and interactive learning. A 2008 survey of almost 7,500 University of Wisconsin-Madison undergraduates found that an overwhelming majority of respondents (87 percent) said that they would prefer a course that offered online lecture capture to one that did not, and they would be willing to pay an extra fee on a course-by-course basis for this service. Forty-seven percent of the undergraduate respondents had taken classes in which lectures were recorded and made available online. The main benefits that they noted were making up for a missed class, the convenience of watching lectures on demand, better retention of class material, improved test scores, and help with reviewing material before class.¹

It’s a competitive world and students realize that having access to the latest technologies will better prepare them for their future professional lives. The University of Wisconsin survey also reported that more than 50 percent of the students surveyed said they want course material to be available to them even after they complete a course. According to the report, “they expressed interest in accessing online material in their professional lives, after their coursework is complete.” The report concluded, “that undergraduate students would value the webcasting of lectures and that, given the choice, would prefer a course in which lecture content is recorded and streamed over one that is not. Results showing interest in having course material available online after course completion indicate potential benefits for alumni interaction and continuing professional development.”¹

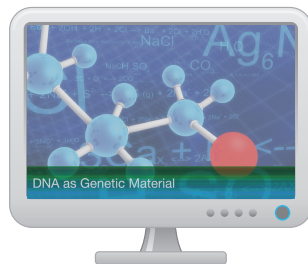
Two of the biggest concerns for academic institutions are to increase effective learning outcomes for students and to accommodate more students from a scalability standpoint. To accomplish these goals, colleges and universities are increasingly turning to lecture capture technologies that turn a traditional classroom into an instant source of continuing interactive learning.

Live Versus Recorded Lectures

Long before audio files, students have been engaging in a form of lecture capture by taking notes, but even the quickest writers often can't keep up with a fast-paced, highly detailed lecture. Some worry that students may cut classes and view captured lectures instead. Yet, from the beginning of the cassette tape through to the era of podcasts, students have found that recordings take as much time to absorb as a live lecture, but without the opportunities for question-and-answer or interaction with their classmates. Plus, instructors can add more group activities that engage students during class times that supplement the recorded lecture material that students can access later. Recorded lectures also offer advantages for interdisciplinary programs—a biology professor, for example, might show recorded lectures from the chemistry department as part of the biology curriculum.

Another benefit of recorded lectures is that instructors or guest lecturers can present from any location that has access to recording equipment. These lectures can be delivered easily to a variety of content delivery models—podcasts, mobile devices, or laptops. These systems provide convenience for students, offering remarkable flexibility with course timelines to coordinate with busy schedules.

“These days, students who miss an important point the first time have a second chance. After class, they can pipe the lecture to their laptops or MP3 players and hear it again while looking at the slides that illustrate the talk,” said Gary Brand, Director of Distance Learning and Instructional Technology at Grand Rapids Community College



Recorded lectures also offer students new flexibility and access to information for a chosen course of study, as a single lecture could be extracted from a series and viewed separately by any student enrolled at the college or university, promoting ad hoc interdisciplinary learning. A searchable archive of recorded course content gives a student the ability to pick and choose different lectures from different professors to get a broader understanding of a particular subject matter. Lecture capture also provides expanded educational opportunities for both traditional and non-traditional students through on-campus, blended, and distance courses—where students can pick the best lectures from any school on any topic to create their own lesson plans.

Technologies Available for Enhanced Learning

With constant advances in technology, the effectiveness of single-media presentations, such as PowerPoint-based lectures, is under increasing speculation. Per associate professors in management Lisa A. Burke, Mohammad Ahmadi from the University of Tennessee at Chattanooga and Professor Karen James from the Department of Management and Marketing at Louisiana State University in Shreveport, “as such, students may find that the dynamics of teaching and interaction are lost with such a passive approach.” Although PowerPoint can be a useful supplement to the learning process, the one-way communication stream limits student involvement. Professors seem to find PowerPoint presentations more useful than students, often using them as a guide to steer the lecture. Surveys suggest that, “In an instructional environment, one of the more common complaints reported, especially by students who see little novelty in the PPT medium, deals with instructors who directly read PPT slide material to students the entire class period.”²

In order to create “a learning environment that is consistently intriguing,” quotes winner of the Vice-Chancellors Award for Excellence in teaching, Jennifer Clark who teaches history at the University of New

England in Australia, one must “incorporate modern technology into the old-fashioned lecture format...” Enter the era of screen capture and editing. Camtasia Studio, and other screen recording software has helped to improve the flow of communication for both students and professors. Multimedia presenta-

tions with oral and visual cues allow students to listen to lectures at their convenience, as well as pause and rewind the information.



One Professor Russell Stannard found that, “The videos created a lot of interest in the feedback process” when sending students recorded commentary on essays they had written. The communication model changes from one-way (professor to student) to student involvement and interaction with the lecture. Students no longer need to rely on hand-written commentary in margins as the sole source of feedback. Professor Stannard also comments that “Work by Richard E. Mayer has suggested that the most memorable way to present information is through a combination of animation and sound, since this makes use of both channels. This is especially true where the oral input complements the visual information the students can see.” Stannard uses Camtasia Studio to create his recordings, noting that “[Camtasia Studio] has pretty much become the industry standard.”

In addition to improving communication and comprehension for students, screen recording and editing software has also been beneficial for instructors. As Professor Stannard put it, “Using video feedback, I am able to provide much more information, both oral and visual.” In addition to showing markings on papers, professors can explain the reasoning behind such markings. Stannard estimates, “that the information provided through video feedback is equivalent to about half a page of written notes.” Professors can focus class time on delivering the lecture, then edit out mistakes at the end.

Even with the advancement that presentation software has provided, “the use of technology is common in today’s classrooms and the demand for technology-enhanced learning environments is expected to continue its substantial growth over the next decade.” (Debevec, Shih & Kashyap) ³ Professor Lynn Schrum from George Mason University reported that technological advances have exceeded the most optimistic expectations, but agreed that educational institutions have not yet realized the full potential. ⁴ Screen recording software licensing is on a limited level, and thus, not scalable for large universities.

Enter lecture capture. Lecture capture software accommodates the needs of both students and professors. Students—both in the classroom and abroad—are able to review recorded lectures at a moment’s notice, even pause and rewind them. Lecture content can even be reached by on-the-go students with convenient iTunes U publishing capabilities. Professors don’t have to learn the technological details as automatic production and publishing is done at a central server. Most of these systems require little training and enhance faculty’s chances to engage in the system.

Garret Brand, director of Distance Learning at Grand Rapids Community College, summarizes his first-hand experience in classroom technology evolution.

“In the beginning, there was just PowerPoint. ‘Lecture Capture’ was students taking notes on printed slides. Faculty then started to upload presentations onto Content Management Systems. Individual faculty began to experiment with complete lecture capture tools that would grab the screen and audio. Eventually, some GRCC staff used early versions of Camtasia Studio.”

Even with presentation software, “professors were spending too much time editing, producing, and publishing video. If presentation capture was to become more mainstream, it needed to be simple and far less time-consuming” said Brand. The GRCC faculty agreed, commenting that “lecture capture had to be as simple as pushing a button and that the processing of multiple formats needed to occur in the background, allowing teachers to focus on teaching.”

Lecture Capture software allows the Grand Rapids Community College faculty to do just that: teach. Production options, including the “decide later” option, allow professors to leave the classroom at the end of class and produce lecture files later. Students also benefit from lecture capture software. GRCC students reported that “they liked the flexibility of the virtual classroom” and that “the videos made them feel like they were in the campus classroom.” A case study found that Business Law students at Grand Rapids Community College increased exam scores by 10 to 15 percent after the integration of lecture capture software.

Why Students are Demanding Lecture Capture

Students are demanding lecture capture in the classroom for a variety of reasons. Lecture capture allows students to concentrate on the classroom lecture and discussion without having to take detailed notes. This technology also permits students to study and learn at their own pace and have the option to review material at a later date.

This innovative technology of lecture capture is being adopted at all levels of education. Geradline Milano, Dean of Engineering at New Jersey Institute of Technology, has witnessed student demand for lecture capture on the rise. “Having four sections of the same class, I recorded one section to use as a test and told the other three sections to view the class on iTunes,” said Milano. “The following week, I walked into class and found all the students smiling. They told me I should have been recording my lectures from the beginning of the term. They liked the control of pausing and rewinding and viewing it at their leisure. They said the quality of what they saw on their computer screens was very good and easier to see than written work on the board. One student commented that if he had all the classes on iTunes, he might have done better on his first two exams. He added, “I really understood how you solved those problems because I kept pausing and rewinding the lecture. It finally sunk in.”

According to Eduventures, Inc. research, 40 percent of institutions surveyed already use lecture capture and delivery solutions. The use of lecture capture varies in position and discipline, and with department heads; medical and healthcare industries are more likely than other departments to use lecture capture and delivery products. The survey also concluded that there are generally three areas of functionality in general: distribution of content for delivery to students, audio recording, and screen recording.

Lecture capture is growing; educational institutions at various levels have been using lecture capture and it is anticipated that this technology will continue to spread. The survey also showed that of those without a product, 75 percent anticipate needing a solution within three years;

only 23 percent anticipate needing a solution within one year. Studies have estimated the market size for institutions interested in some form of lecture capture solution to be about 2,000 institutions (47 percent) within the next year, and 3,200 institutions (76 percent of total) within the next three years. This market size is a directional estimate based on the survey responses only and indicates interest in any lecture capture product.⁵

When lecture capture is adopted into the classroom, course subject and discipline are important factors in determining the use of the product. The largest benefits of these products are allowing students to access lecture content if they did not attend class and enhancing teaching for distance-based education. There is great opportunity here: 48 percent of the total respondents feel that their institution is prepared to use a lecture capture and delivery solution, the largest two categories being public institutions (58 percent) and graduate/doctoral institutions (53 percent). Schools around the world are adopting lecture capture in the classrooms as a direct result of student demand. Presently, education is very online-based and technology needs to be incorporated into the classroom to stay current with technological innovation. When teachers and professors posted lecture slides to add additional information to their lectures, 99 percent of students used the additional information in some way over the duration of the semester. Of the students who downloaded the slides, 68 percent use the PowerPoint format and 32 percent used the PDF format. Incorporating the PowerPoint format into lecture capture and recording software is crucial because this is the most popular format of presentation material. Having easy access to easy-to-use, convenient and interactive technology is clearly at the top of the priority list for students. It makes perfect sense. These students have been raised on technology and know more about it than most of their instructors. It is only natural that they would want the latest and greatest technology tools. As lecture capture grows, students everywhere will increasingly desire and expect their academic institution to offer it as part of their educational offering. In some cases, that might even be a determining factor for enrollment.

Student Learning Outcomes

Universities and colleges that have deployed lecture capture solutions report significant enhancements in student learning outcomes, with higher test scores and overall grade point averages (GPAs), increased student satisfaction with courses and course materials, and improved student retention. A perfect example is the case study by Grand Rapids Community College in which business law students increased exam scores by 10 to 15 percent after the integration of TechSmith's new lecture capture solution.

Yet, the most important learning outcomes to look at here are centered on student demand. Every student is different—they learn differently, have different lifestyles, and want different things. Lecture capture provides each student with extended learning tools that promote an enhanced learning environment. This enhanced learning environment includes student learning benefits such as:

- Learning at their own pace and on their own time
- Access to a library on-demand educational content
- The ability to repeat and focus on complex content or subject matters of interest
- Better use of in-class instruction, with more time for hands-on and interactive face-to-face classes
- Access to polished tutorials, given by professors who are teaching course materials
- Ability to take more classes because classroom availability and schedules are not as important
- Ability to use familiar and convenient media devices to view and digest course materials

Because of these known benefits higher education appears to be shifting its focus from reputation and prestige to performance when it comes to lecture capture software. “While reputation and prestige will always be an important differentiator for certain schools, there is intense competition in higher education for students and this competition drives the need for differentiation,” says Doug Kelsall, president and COO of eCollege. “Performance and learning outcomes are one way for schools to differentiate themselves in a competitive environment.” When higher education adopts lecture capture, this ultimately helps students in the learning process and results in higher academic rankings for the universities or institutions. Currently, technology is driving both evolutionary and revolutionary changes simultaneously and this is giving students the skills they need to be successful in the changing world. Lecture capture software can enhance the access to content and provides an interaction that takes place between students and faculty. The innovation in technology, including the use of technology to reach new markets and access to information, is forcing traditional higher education to address student needs. This technology should be scalable and eventually lower the per-unit cost of education. It also can improve access, help students learn better, and help faculty and institutions assess their effectiveness. Overall, innovation in technology has not radically changed what the learning activities are, but how they are accomplished.

Conclusion

All the evidence shows that lecture capture solutions increase student satisfaction and learning, while improving instructional effectiveness. Unfortunately, many colleges and universities are being left out due to the costs and complexities involved with integration. This year TechSmith introduced a new lecture capture solution called Camtasia Relay. Camtasia Relay's quick-to-deploy and easy-to-adopt design is changing this and opening a whole new world of possibilities. Camtasia Relay's affordability gives small to midsize institutions the access to next-generation communications and training tools that will keep them competitive in today's world. Plus, Camtasia Relay's affordable and flexible deployment options allow for integration down to a single department, so it's easy to get started, and Camtasia Relay easily scales as an organization's demands increase. Educators are responding very favorably to Camtasia Relay's simple interface that makes it easy to record live lectures or presentations on any PC or Mac computer. It's as simple as 'start,' 'stop,' and 'submit.'

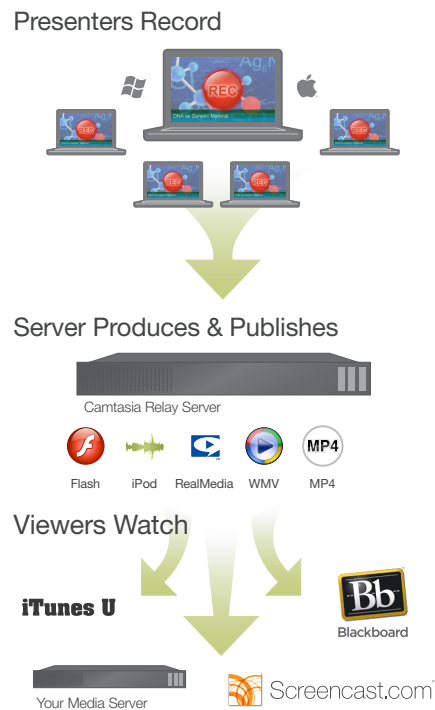
The winning combination of Camtasia Relay's intuitive interface, along with the flexibility that allows professors to record lectures anywhere, at any time will be sure to increase the number of faculty that will engage. This will give students

access to more recorded lectures and in turn will free up class time for more interactive experiences with the instructors.

Camtasia Relay has all the added benefits that lecture capture offers and students are demanding, with the added benefits of affordability, flexibility, and ease-of-use that's opening up the doors to lecture

capture to many educational campuses that have not had the financial or technological resources required for adoption of other lecture capture options on the market. With Camtasia Relay, instructors can use any PC or Mac in the classroom or conference room, at their desk, or at home. Students can view and listen to the recorded lectures and presentations online, via learning management systems like Blackboard, through iTunes U, or on mobile devices such as the iPod or iPhone. And with LDAP integration, IT staff can quickly and easily set up and assign recording profiles for their organizations based on the needs of the presenter and their audience.

Now, academic institutions across the country are easily able to provide students with a lecture capture solution that fits the needs and desires of 21st century students.



About TechSmith Corporation

Founded in 1987, TechSmith Corporation provides practical business and academic software tools and services. TechSmith's solutions enable users to capture, record and enhance digital content from their computer screens so they can share information and knowledge in compelling multimedia formats, and allow others to observe, analyze and learn from their experiences. TechSmith products are used by 99 percent of the Fortune 500. Visit www.techsmith.com for more information.

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