The CIO Handbook for Selecting a Blended Learning and Lecture Capture Solution

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Executive Summary

In the era of doing more with reduced budgets, blended learning techniques and technologies offer institutions a viable solution to many of their most urgent problems: course availability, student retention, distance education and more. Blended learning combines face-to-face instruction with online content to improve pedagogical outcomes and increase access in a cost-effective manner. Institutions promote their brand using blended learning, recruit and serve more students, and improve the bottom line. Instructors gain time efficiencies to balance research and teaching, while students appreciate flexible enrollment options and new study tools aiding comprehension.

Research reinforces blended learning's impact on positive student outcomes. In a 2010 meta-study, the U.S. Department of Education found that blended learning courses produce statistically better results than face-to-face equivalents.[1] Students recognize this learning benefit and are asking their institutions for more. Eduventures, an independent research firm, recently published the results of a survey of 20,000 students highlighting the increasing demand for blended learning courses. In this survey, 19 percent of students were enrolled in blended courses, but 33 percent of the students cited it as their preferred format.[2]

Lecture capture is a crucial component in blended learning solutions. Through these technologies, institutions have the ability to offer more courses in a hybrid format. Lecture capture harnesses the trove of classroom instruction delivered throughout the university and makes it widely available for student review. Students gain the benefit of blended instruction without interrupting the dynamics of the face-to-face classroom experience.

As a CIO responsible for selecting a blended learning and lecture capture solution, you may be grappling with how to make the right choice for your institution. The landscape is crowded and often confusing.

This handbook helps you select the right product based on your institution's individual needs coupled with the needs of your instructors, students and staff. It guides you through the process with criteria for your evaluation. Finally, the handbook outlines tactical and strategic questions, and includes a solution checklist for ease of use. The ideal blended learning and lecture capture solution should fit your needs today and provide flexible options as your needs evolve.

Use this Guide to Understand Your Blended Learning and Lecture Capture Needs

- Establish your institution's goals for blended learning and lecture capture
- Find the right enterprise solution, including automation, support and scalability
- Assess your recording needs for classrooms and other teaching spaces
- Support student viewing, collaboration and mobility needs

1 - U.S. Department of Education, Office of Planning, Evaluation, and Policy Development, Evaluation of Evidence – Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies, Washington, D.C., 2010.

2 - Assessing Consumer Preferences for Continuing, Professional, and Online Higher Education. Eduventures. 2011.

Assemble the Blended Learning and Lecture Capture Evaluation Team

The path to successful blended learning and lecture capture starts with the team responsible for solution selection, implementation and adoption. The team should include a cross-section of disciplines and organizations, and represent a variety of interests and perspectives. Each university is different, so it may not be necessary to include every role on your institution's team. Consider the following roles for your institution's blended learning project:

- Project manager responsible for the overall project, including strategy, objectives and timing
- A technology expert who evaluates the solution's compatibility with technical requirements
- Executive/administration sponsor that provides guidance and assists with project strategy and funding. A CIO or department dean typically fills this role.
- Instructor and student representatives responsible for sharing the perceived benefits or concerns of the two largest users of the blended learning solution
- Instructional designer responsible for coaching instructors on the best practices for integrating blended learning solutions into their courses
- Classroom/facilities support to ensure seamless technology integration into the classroom environment

Name	Department / Organization	Role

Understanding Your Institution's Goals

Think of your institution's strategic plan. What are the top priorities? How can blended learning and lecture capture help? You may be surprised. Blended learning and lecture capture can resolve many of the teaching, learning, financial and capacity challenges facing today's university. Select or insert your institution's goals below. As you complete this guide, continue to refer to this page. Understanding your goals will solidify your requirements for a blended learning and lecture capture solution.

Institution Goals	Priority
Increase access to gateway courses needed by most students to graduate.	
Reduce classroom crowding without constructing additional buildings or rooms.	
Facilitate an increase in student graduation rates.	
Launch new programs targeting non-traditional students like part-time learners, career changers and executives.	
Improve student learning outcomes through course review and/or remediation.	
Increase the institution's revenue from distance education programs.	
Differentiate your institution to boost recruiting efforts and student retention.	
Help instructors balance the demands of teaching and research.	
Assist students with learning differences or physical disabilities.	
Prepare for a campus closure due to weather, pandemic or other unforeseen emergency.	
Graduate more students prepared for careers in fields with a shortage of qualified workers.	
Other:	
Other:	
Other:	

Recording

Recording is the process of capturing the components of the presentation including audio, video and display visuals. These pieces are converted into the digital version accessed by students. It sounds easy enough. But understanding why the recording is needed takes some thought. Consider the following:

- Who is being captured?
- Where is the instruction being recording?
- What is the purpose of the recording?
- How does the recording contribute to the institution's goals?

The ideal solution is highly flexible for instructors, students and staff. It should also support a breadth of course delivery models, including face-to-face, hybrid and distance education.

ASSESS YOUR NEEDS	Today	In 12-24 Months	Unsure
Does your institution need to record in-classroom lecture content?			
Will instructors supplement in-classroom lecture capture with recordings created outside the classroom, including learning modules, tutorials and snippets?			
Will guest speakers be recorded?			
Is there a need to record content outside the university? For example, to continue academic operations in the event of campus closures?			
Will classes or events be webcasted live to viewers?			
Will students capture and upload material?			
Do instructors have a content archive that can be reused for future courses?			
Will instructors and/or staff need to edit recordings?			

SOLUTION CHECKLIST	Yes	No
The solution records content in classrooms, lecture theaters, auditoriums, and other venues.		
Recordings can be created from instructor personal computers (both Mac and Windows).		
Content can be created with professional or consumer cameras and uploaded to the same solution.		
Content created using third-party software and screencasting tools, can be uploaded to the solution.		
The solution offers asynchronous and live viewing capabilities.		
Instructors, staff, teaching assistants and students can create and securely upload content.		
Existing media archives can be uploaded, accessed, repurposed and published by instructors.		
Editing is completed through an easy-to-use interface.		

Classroom Environment and Deployment Model

Take an inventory of all venues where blended learning and lecture capture will be utilized. The ideal deployment platform is flexible enough to record a breadth of classroom technologies across buildings and campuses, while centralizing maintenance efforts. A scalable approach to deployment lowers the overall cost of ownership for blended learning and lecture capture.

ASSESS YOUR NEEDS	All Classrooms	Some Classrooms	Unsure
Are recordings scheduled for six or more hours a day?			
Which presentation components will be recorded?			
Audio of the instructor			
Audio of the students			
Video of the instructor			
Teaching visuals (PowerPoint, websites, etc.)			
One projector/display			
Two projectors/displays			
Standard-definition video			
High-definition video			
Whiteboards or electronic whiteboards			
Sympodiums or document cameras			
External video sources (DVD players)			
Do instructors use the classroom computer to present?			
Are there software installation and security restrictions for classroom computers?			
Do instructors present on their own laptops during class?			
Does the classroom have a room control system?			

SOLUTION CHECKLIST	Yes	No
The solution supports high-volume capture environments without missed captures or capacity issues.		
Any combination of audio, video, displays and classroom technology can be recorded.		
Recording parameters are customizable by date/time, technology setup and instructor needs.		
The solution offers a software option to record content on the existing classroom computer.		
The solution offers an optional hardware recording device that reduces the risk of missed captures due to security breaches, login problems and viruses.		
The solution enables instructors to present using their own laptop computers during class.		
Room control systems can be used to start/stop/pause recordings.		

Student Experience

Students see marked improvements in retention and outcomes using blended learning and lecture capture. To achieve these results, the solution must align with the needs of the entire student body. Along with the technology requirements, consider the profile of the students relying on the blended learning and lecture capture solution. Students enrolled largely online or in hybrid environments may require a solution that mimics classroom interactivity while those with physical disabilities require an accessible solution.

ASSESS YOUR NEEDS	Yes	No	Unsure
Will students view recordings during personal study time and at their own pace?			
Do students use a variety of computer operating systems and web browsers?			
Are there circumstances where students do not have a high-speed Internet connection?			
Are students enrolled in distance or hybrid courses where some or all of the course interactions are online?			
Does your student population include those with learning differences?			
Does your student body include those with any physical disabilities, including mobility, low vision/blind, or deaf and hard of hearing?			

SOLUTION CHECKLIST	Yes	No
Students control the viewing experience with start/stop/pause controls, fast forward, interactive navigation and keyword search.		
Presentations are compatible with virtually any web browser on Windows, Mac and Linux computers without plug ins.		
The solution automatically delivers a playback experience best suited for the student's Internet connection.		
Bookmarks, notes and discussions encourage online collaboration between students and/or instructors.		
Students can launch recordings and preview discussions through an interactive course portal.		
The solution creates a playback experience compliant with Section 508 of the U.S. Rehabilitation Act.		
Transcribed closed captions are automatically inserted into the presentation and meet broadcast television standards.		
Blind and low vision students can access a screen reader version of the playback.		

Mobile

Mobile learning is one of the hottest topics in educational technology. Academics may question its benefit, but the buzz around tablets and smart phones are pulling institutions into the fray to keep up with the demands of the student body. Blended learning and lecture capture create mobile-ready content giving students another option to access their instruction when and where they want.

ASSESS YOUR NEEDS	Today	In 12-24 Months	Unsure
Do students have basic mobile devices like MP3 players and iPods™?			
Do students have access to smart phones and tablets?			
Is there conversation on campus about the use of smart phones and tablets in the classroom?			
Does your institution have students who work, have families and/or commute to campus?			
Do you have distance education programs for remote learners or executive students who travel for their job?			
Are instructors concerned about distribution of intellectual property through mobile devices?			

SOLUTION CHECKLIST	Yes	No
The solution creates basic audio podcasting, screencasts and video podcasts published through RSS feeds.		
The solution includes an interactive, branded player for the Apple® iPad™.		
The solution automatically publishes to your school's iTunesU site.		
Students can subscribe to media with RSS feeds and automatically sync with their Apple iPad, iPhone™ and iPod devices.		
Content can be downloaded to Apple, Android™, and Blackberry® devices.		
Streaming support is available for commercial brands of mobile devices, including Apple and Android.		
Content can be streamed to mobile devices, securing it and preventing the distribution of links to unauthorized users.		

Branding and Copyrighting

As more instruction is distributed online, institutions need an easy method to identify ownership of multimedia content. Branding is the ability to automatically insert imagery – like a video, logo or watermark – into the rich media playback environment in accordance with the university's identity guidelines. It gives the university an opportunity to promote itself while viewers gain confidence that the source of the presentation is legitimate. Copyright insertion allows institutions and instructors to denote ownership of the intellectual property contained in recordings. It also enables instructors to cite third-party source material used in lessons, including movies, audio files, photos and research.

ASSESS YOUR NEEDS	Today	In 12-24 Months	Unsure
Do instructors integrate material from sources outside the university, including research, images, video and audio files, into their courses?			
Do multiple departments or organizations record and publish content?			
Does your institution distribute content over the web through distance education programs?			
Are instructional or special event recordings from your institution made publicly available?			
Do you have donors who are evaluating opportunities to give money to your institution or a particular program?			

SOLUTION CHECKLIST	Yes	No
Copyright information about the recording and supporting materials is inserted into the playback and displayed to the viewer.		
Watermarks are applied to video streams and displayed for the duration of the recoding.		
University or department/program logos are automatically inserted into the playback environment.		
Optional introductory video clips can be inserted and viewed before recording starts.		
Copyright, watermarks, logos and videos are automatically applied based on preset rules and can be customized at the university or department/organization level.		

Automation and Scheduling

Once instructors and students rely on blended learning and lecture capture, the solution becomes mission critical to the teaching and learning process. Automation is the insurance policy for recording, producing and publishing the content. Automation includes scheduling so captures occur behind the scenes and without interrupting the classroom experience. It extends to all areas of production and publishing of content, ultimately reducing the manpower needed to support blended learning and lecture capture.

ASSESS YOUR NEEDS	Yes	No	Unsure
Do recordings need to start and stop without sending technology staff to each classroom?			
Do instructors want to be responsible for starting and stopping their recordings each class session?			
Do you have a room scheduling or timetabling system?			
Do you want to produce and publish a variety of playback formats playable on MP3 players, iPods, iPads and/or computers at once?			
Do you need to deliver content to a variety of student-facing portals and/or learning management systems simultaneously?			
Does your institution have a content retention policy?			

SOLUTION CHECKLIST	Yes	No
A web-based interface allows staff to schedule all recordings by date, time and classroom from any web-enabled location.		
Recordings start and stop automatically, without any intervention from the instructor.		
Data imported from industry-standard scheduling systems can be used to populate recording schedules.		
Podcasts, video podcasts and rich media presentations are created automatically without manual production steps.		
Publishing integration with Blackboard® Learn®, Moodle, ANGEL and iTunesU is included with the system.		
The solution automatically publishes content to LMS/VLE, RSS feeds, iTunesU and custom portals at once.		
Once rules are established, the system adheres to content retention policies for managing, archiving and deleting rich media content.		

Scalability

Once you've looked at the recording and student playback requirements, spend some time considering what happens as blended learning and lecture capture adoption increases. Imagine a time when twenty, fifty or even a hundred classrooms are equipped while instructors are create content on their own computers. How will the system be managed? How many people are needed to support the solution? A scalable solution offers a defined path for growth, even if you are starting in a few classrooms.

ASSESS YOUR NEEDS	Yes	No	Unsure
Will all recordings occur in the same building?			
Will you need to add staff to manage the solution?			
Is it important to track the status of recordings, ensuring there are no problems?			
Will more than one department/organization share the blended learning solution to maximize infrastructure investment?			
Will these groups have different format requirements, schedules and content branding needs?			
Will recording volume increase over time?			
Will recordings, or components of the recordings, be reused in the future?			
Is it important to understand system usage by students?			
Will the solution be integrated with additional campus systems?			
Do you require additional technical or deployment support from the solution vendor?			

SOLUTION CHECKLIST	Yes	No
The solution offers a range of enterprise management features that reduce the staff needed to support the system.		
Staff can remotely monitor system capture status and publishing status automatically.		
The solution proactively notifies technology staff of system problems.		
Central institution resources can manage the overall solution, but each department can specify different formats and control daily tasks like scheduling and content branding.		
Backend infrastructure, including streaming servers and storage, can be shared across multiple departments/organizations to reduce costs.		
Processing, storage and delivery capacity can be added to the solution as demand increases.		
The solution uses standards-based formats, like H.264, so content can easily be transcoded and repurposed for future use.		
The solution includes student usage analytics to prove system ROI.		
Solution APIs enable integration with common campus systems.		
The solution vendor offers end-to-end planning, installation and technical support.		

Conclusion

Higher education has entered a period of radical change. Mounting budget pressures and societal changes due to the lightning-fast evolution of mobile and social networking technologies have challenged education to its core. The decision to spend precious funds and time on blended learning and lecture capture should be carefully considered. The right solution isn't only about today's bottom line and price. The solution should match your needs now and provide you with a future-proof option to scale and grow with changing requirements. Selecting the wrong solution will put your institution on the wrong path and make it difficult to recover for years to come.

Regardless of the solution your institution selects, make sure your vendor is a partner. Listen carefully and make sure their interests are your interests. A blended learning and lecture capture partner should take the time to understand your institution's unique situation and strategic aims, from increasing graduation rates to improving learning outcomes. Your partner should be able to guide you through the selection process and translate confusing technology details into value for your institution.

When your evaluation team is ready, reach out to Echo360. Our team of experienced professionals is ready to simplify a complicated process and help you decide if our award-winning solutions are right for your institution. Find out more about Echo360 at **www.echo360.com**, follow us on Facebook and Twitter, or simply give us a call at **+1.703.667.7500** or **877.ECHO360**.