

7 Things You Should Know About... Lecture Capture in Online and Blended Classes

Presented by Christina Schwiebert

1. What is it?

Lecture capture is a video recording of a class meeting, presentation or lecture. Most lecture capture videos consist of two or three components: (1) a presentation, which could be a PowerPoint or Prezi, a series of pictures, recording or images of writing on a whiteboard or chalkboard, or a screen capture of a website or other program; (2) the instructor's voice - describing, explaining, and discussing the content, and (3) the video of the instructor, putting their image alongside the content. Once the class sessions are recorded, they are uploaded to an online location for students to access.

Lecture capture can be used in any educational or professional training, and is spreading quickly to new fields. Students in face-to-face classes use lecture capture videos to review for exams, fill in any gaps in their notes or catch up after missing a class session.

The multimedia principles involved also make lecture capture ideal for use in online or blended classes. In online classes, lecture capture can be used to supplement the provided notes, readings, or presentations and to provide a demonstration or worked example of complex topics. In blended classes, the lecture capture videos can also be used to "flip" the classroom, having students learn new material at home, and practice it in the classroom.

2. How does it work?

Just as an instructor in a classroom has their presentations and notes organized before class, the first step in recording a lesson is planning. A script or outline that guides the instructor in what to say and what to pull up on the screen makes the recording process much easier.

To create a successful lesson, there are several things for the instructor to keep in mind:

- Keep it focused – Instead of recording an hour lecture on the entire unit, focus on a specific topic.
- Keep it short – Longer videos can cause student's attention to wane. 3 – 15 minutes is ideal.
- Don't read the screen – the audio and visual components should complement each other, not repeat each other.

There are numerous tools available for lecture capture. Some, like TechSmith's Camtasia Studio, EZvid, or Jing, are installed on the instructor's computer. Others, like Panopto, MediaSite, and Tegrity have web-based tools to

record and publish the video. These normally use the computer webcam or microphone to record the instructor. Other solutions are hardware-based, using a device connected to one or more cameras to record and process the lecture.

With many of the lecture capture tools, it is possible to edit the lecture after it has been recorded. The editing tools can be used to cut out any stumbling, add callouts or highlights to draw attention, or add captions to the video. The captured lecture is posted online, to YouTube, a campus-wide distribution site, or privately to an online class site.

3. Who's using it?

One of the most popular video lecture sites on the Internet is Kahn Academy, a not-for-profit resource focusing on math and science. While some topics are aimed at K-12 students, topics also include calculus, statistics, biology, chemistry, physics, and economics.

Campus-wide services such as MediaSite, Panopto and Tegrity have thousands of institutions subscribed to their services, including the University of Michigan, University of Colorado, Cornell University and more.

As online and blended classes become common options for traditional brick-and-mortar schools, and virtual academies grow, the question may soon be "Who isn't using it?"

4. Why is it worth the work?

Video lessons can significantly enhance student engagement in online classes. Most online classes are heavy on text with limited visuals. Usually, to avoid misunderstandings, course content is very impersonal. The lecture capture videos can provide more emotional cues through audio or video than text alone. It also allows students to feel a more personal connection to the instructor – in lecture capture videos, instructors can show a more human side than text or PowerPoints alone can convey, and can even include humor.

In blended classes, having the students view the new lectures online, asynchronously, allows instructors to dedicate traditional classroom time for active learning. This can also allow students to develop a stronger connection to the instructor, as they are able to spend time working with students individually or in small groups, rather than lecturing.

Without video, students needing to understand a complex visual, such as a diagram, often have to read part of the

accompanying description, examine the diagram, then revert back to the description several times before they feel they understand the content. This split-attention affect reduces retention and comprehension.

Research in to multimedia and cognitive load has shown that students can process more information if it is presented in two different channels – audio and video. An image with a narrated description will be easier for students to comprehend than the same image with text alone. This dual-channel processing or “learning in stereo” is one of the major advantages to lecture capture videos over text and images alone.

The lecture capture videos can also be reusable learning objects and appear in multiple courses. A lecture describing proper paragraph structure may be used as a major point of Composition I, and as a refresher the first weeks of Composition II.

5. *What are the downsides?*

The challenges to implementing lecture capture in educational settings are time and costs. Individual user licenses for Camtasia Studio cost almost three hundred dollars each. Institution-wide services such as Panopto and MediaSite can run to the tens of thousands of dollars. Free services just as Jing or EZvid usually have limited features or video length.

For the instructor, the greatest drawback is the time it takes to create the lecture capture. Since these are specifically recorded lessons rather than recordings of an existing class meeting, the time to plan, record, edit and publish the video can be significant. It’s not uncommon for a single video to take three to five times the length of the video to create.

A common concern is changing course material – when the textbook, software, or website being referred to in the video changes, the video must be redone. This can be balanced to some extent by making short, single-purpose lessons. Only the lessons that have changed would need recreated, compared to the entirety of a longer, more inclusive lecture.

Finally, despite the benefits of dual-channel processing, lecture capture videos are still passive learning experiences for the students. Lecture capture alone is not enough to create an active learning environment; the instructor must still design authentic, reflective activities within the class.

6. *Where is it going?*

Lecture capture is an established technology, but the implications for education continue to expand. Video lessons allow for greater range of communication. In addition to course content, the videos could also be used as prompts for class discussion, to record guest speakers, or share significant events with future classes.

Now that webcams are ubiquitous, the same lecture capture technology could also be used in reverse. Students could use similar software, or even their own cell phones or tablet computers, to make class presentations or respond to discussion questions.

7. *How will this benefit the school?*

Lecture capture is one tool that can be used to bring a more personal, authentic touch to the online classes and increase student satisfaction, motivation and engagement in their classes. Lecture capture also enables instructors to flip their blended classes in order to dedicate time to active learning, also increasing student satisfaction, motivation, and engagement. As online and blended classes become more common, schools must focus on the flexibility, scalability, and reusability of the online materials in order to make effective use of limited resources.

References:

- Borup, J., West, R., & Grahm, C. (2013). The influence of asynchronous video communication on social presence: a narrative analysis of four cases. *Distance Education*, 34(1), 48-63. doi: [10.1080/01587919.2013.770427](https://doi.org/10.1080/01587919.2013.770427)
- Dey, E. (2008). A variety of diversity: Facing higher education’s educational challenges. 2008 physics education research conference.
- Dey, E., Helen, E., & Gerdes, D. (2009). Bringing the classroom to the web: Effects of using new technologies to capture and deliver lectures. *Research in Higher Education*, (50), 377-393. doi: [10.1007/s11162-009-9124-0](https://doi.org/10.1007/s11162-009-9124-0)
- Hahn, E. (2012). Video lectures help enhance online information literacy course. *Reference Service Review*, 40(1), 49-60. doi: [10.1108/00907321211203621](https://doi.org/10.1108/00907321211203621)
- Kahn academy. (2013). Retrieved from <https://www.khanacademy/>
- Techsmith in higher education. (2013). Retrieved from <https://www.techsmith.com/education-higher-ed.html>