

Technical Report: Classroom Video Use at IU

Scott Bacon
Digital Library Program
IU Bloomington Libraries / University Information Technology Services
Indiana University

Last modified: 25 January 2011

Introduction

These user-centered requirements were compiled from interviews with instructors and university staff, and from in-class observations. Interviews and in-class observations focused on the activities surrounding video use. Instructors were asked about preparation of video materials before class use, and about pain points during in-class use. Observations involved note-taking and observing, then short follow-up interviews with instructors after class. When possible, contextual inquiry was used as a methodology for these user investigations: observation of work practices as they occurred in their natural environment.

Interviews and observations took place across a variety of departments and course topics. Instructors varied from department heads to graduate assistants to workshop instructors. The ten cases included here describe many activities outside of the scope of the Variations on Video project. While these seemingly unrelated activities are included in the case descriptions, it may provide project personnel the contextual information necessary to help better serve future users.

1. Classroom Use - Multiple Video Viewings Using Multiple Formats

Course is about different kinds of stage performances worldwide. Data was gathered through one office interview and observation of one class session. An interview was conducted after that class session. Email was used to obtain further details. Student forum on Course Management System was analyzed through 'observer role' capacity.

Instructor Activities: Identifies materials relevant to the course, requests materials from Media & Reserve Services (M&RS), pulls them from his personal collection, or obtains them elsewhere using funding from the departmental budget or from his own pocket. The instructor has a hard time preparing for the semester: downloading all of the materials to his PC, finding the best bits, creating the clips, putting them on a DVD. Instructor would like to leverage the work of others. It is time-consuming to go through 100 or so videos each semester to make each class fresh. He would love to have all of the stuff on one access point to work on it on his own time (M&RS often asks for DVDs to be returned before this process is completed). The instructor has some trouble finding rare materials which would best illustrate the topic being taught in class. Only one video from the digital streaming website is utilized in this course. There is not much on the server relevant to his needs; it all seems scattered and random; the titles are hard to find on the website. Video quality is often bad when instructor does a file format transformation on his home PC.

The instructor plays video excerpts in class after creating them on his home computer. He brings various media formats to class: DVD, VHS, external hard drive/flash drive, and cues up clips before students arrive. It is time-consuming to cue up the DVD and VHS players, load the chapter lists, locate which chapter(s) to play, navigate between the formats and clips in class. Instructor said it is frustrating that it is even easier to go through clips using his home DVD remote. Ease of use is a big issue with him. Instructor shows clips, but informs students during class which specific clips are available in full from M&RS. Instructor has a feeling that students do not watch the examples outside of class because copies are not always available, or they have to come to M&RS instead of viewing from their PC/laptop/mobile device. He wants to show shorter clips in class to be able to lecture a bit more.

Metadata is a problem during in-class viewing: instructor has to yell out the name of a person on screen if there's no caption under the person. Instructor moderates forum assignment in the university Course Management System where students must view selected videos and comment upon their meaning, etc. Students may comment more freely when they are talking with their peers rather than to the instructor. Instructor's ideal situation: allow students to see the videos online, be able to add comments in a forum area, add excerpt examples of their own, be able to take the course where they want to take it.

Student Activities: Student views video excerpts in classroom. Excerpts on reserve at Media & Reserve Services (M&RS) may need to be viewed in full. Course Management System forum is used by students to show knowledge of the subject through forum comments which reference specific videos. Several students copied links to YouTube videos to illustrate examples during forum discussions.

2. Classroom Use - Instructor Uses Video to Illustrate Concepts

Course involves music students learning to create a finished product through analysis of multimedia concepts. Data was gathered through one phone interview. One class session was observed. An interview was conducted after that class session. Email was used to obtain further details.

Instructor Activities: Instructor illustrates concepts by showing clips of video in class. She requests movie from Media & Reserve Services (M&RS), makes clips on her home computer then burns them to a DVD. She shows students videos to illustrate both good and bad work: one excerpt was viewed to show students a bad dubbing job. Another was viewed to show how a typewriter can be used on a soundtrack as a leitmotif. The clips are often taken from YouTube or M&RS. The instructor stopped using M&RS videos because they were too low-quality to use as examples for a multimedia course. Instructor keeps video clips up on the class page for students to view at their leisure. She wonders how instructors will be able to load clips. Will I.T. person have to okay the clips and then load them to her site for her? (She made her own website because the library server may go down and she wouldn't be able to access it.)

Instructor needs to use unrestricted video so students can cut it up, re-purpose it, and use it in their finished work. Files need to be converted to QuickTime. SWF takes 30 minutes to convert, which won't work for her class. FLV can be converted to pretty much anything. They make videos in class using iMovie, Garage Band, and Sound Logos, then burn it to DVD using iDVD. Royalty-free audio loops are used to aid students in creating soundtracks for their video.

3. Classroom Use - Instructor Uses Video to Teach Students Critical Thinking Skills

Course involves Arts & Humanities students watching videos in groups, presenting their findings to the class, and leading panel debates. Data was gathered through two class session observations. An interview was conducted after the second class session.

Instructor Activities: Compiles panel topics, collects videos relative to those topics, has students pick topics, and watch videos about that topic. Instructor finds most videos from Amazon, but sometimes from ABE Books. If he wants the video without waiting he goes to the DVD section of the Borders bookstore in town. Students first view a video suggested by the instructor that exhibits critical thinking (usually something like PBS, NOVA, FRONTLINE, National Geographic). They then choose a video to show in class that exhibit a lack of critical thinking. Instructor tapes the TV material sometimes. He says he can show it in class because he's not charging money. Sometimes he buys the DVD because the TV copies are just too grainy. Upon retirement he wants to give all materials to the next instructor teaching the course. Instructor guards his collection after he had his collection shelved with the library media collection and they lost many of his materials. He suspects that the library thought his materials were not library-worthy (he buys intentionally-bad pieces to show lack of critical thinking; this presents a problem when it shows up in the library alongside other materials that do show critical thinking: how do users tell the difference?)

Student Activities: Students pick a topic then watch a video on that topic. They write a group paper on the video illustrating its lack of or wealth of critical thinking. Examples from the video are cited in the paper. Sound was an issue during student presentations. A student had to push the button on the classroom console, which caused annoying loud beeping. Student groups have three students. They must all have access to the video. The instructor has a copy in his office. He lets the students borrow the video then they must return it before the semester ends or they won't get a grade in the class. Students have been allowed to bring in videos from outside of the instructor's collection. One panel convinced the instructor to let them bring in the Disney film Atlantis so that they could show its lack of critical thinking. Another panel brought in Indiana Jones and the Raiders of the Lost Ark to teach about the Ark of the Covenant. Students have shown TV excerpts, commercials and videos when there is extra time on the viewing day. Students present the movie in class on one day then discuss the movie in the next class meeting, acting as a panel to moderate debate/discussion on the topic. As debate continues issues arise with remembering scenes, images, etc. in the video. Students almost never show the video on the second day in order to double-check inaccuracies. Discussion jumps to too many topics to enable location of specific points on the video for fact-checking. Navigation between chapters/clips would take too long with current technology. Laptops are not allowed in class, but a doctoral student observing the class has one. He is asked quite often to check online to find correct answers to questions the class has during debates.

4. Classroom Use - Instructor Uses Video to Illustrate Concepts

Course involves Film Studies students watching documentaries then writing papers using those materials as a resource. Data was gathered through one office interview.

Instructor Activities: Instructor makes clips from a film using iMovie on his home computer. He downloads the movie onto his computer, makes it into an MP4, cuts the clips, burns a DVD, and shows it

in class. Visual quality is always pretty bad when you do transferring. Film Studies instructors would need playback at high quality as they ask students to analyze the minutiae of the materials. Instructor says they are not concerned with mobile viewing: film studies students must view the films somewhere with a large screen or it is not the same experience as seeing films how they were intended to be seen, on the big screen in a theater with other audience members. Much of the materials shown in class are rare, out-of-print. Students can't find them on YouTube, Netflix, etc. Instructor has tons of rare clips sitting on his computer at home. Instructor says that the Film Studies Department has the responsibility to hold in-class viewings; it is then the students' responsibility to find those materials for further viewing. Media & Reserve Services (M&RS) is often asked to purchase copies, but these are only backup copies; Film Studies Department has their own collection.

Instructor shows the films in class. Instructor says that projectors in the viewing rooms are very poor quality. He says that Film Studies students have a hard time picking courses that require screening attendance; screening times often conflict with other class screenings. Since students can't attend them all, he says, they often end up going to screenings held by the professor who will hold them most accountable (give them pop quizzes on the film the next class period, etc.). Instructor thinks that access, delivery, copyright, and quality are four items of utmost importance. Instructor breaks his course up into thirds. He would need films available on a streaming server for 4 weeks or so. Then they could vanish after students have been tested on the movies. Students are used to streaming video; they would expect the films to be instant and always available.

Instructor assigns video projects for extra credit. Students usually use iMovie and Final Cut for their projects. Only about 20% do these projects out of a class of about 70 students. Students can use film clips from Library of Congress, iTunes University, Internet Archive. Students should be able to do mash-ups with scenes, says instructor. He used to show student movies in a class YouTube page; he says it is fair use if shown in classroom.

5. Classroom Use - Instructor Uses Video to Illustrate Concepts

Course involves Telecommunications students watching videos, then writing papers and doing projects using those materials as a resource. Data was gathered through one office interview.

Instructor Activities: Instructor picks films to show in class from her collection at home, in her office, or from Media & Reserve Services (M&RS) physical collection or M&RS streaming video collection. The streaming video clips on the site are bad quality, says instructor. She brings her own DVDs to class because you can play Blu-ray on the class equipment. Instructor says the streaming player is finicky: it doesn't play well after you ask it to go back to a certain point. It freezes. It jumps. No bookmarking is available. She brings about 6 DVDs to class. She has no time usually to create clips and burn them all to one DVD. She comes up with a chapter list and gives it to the Assistant Instructor (AI). The AI and instructor come to class about 10 minutes early. The AI powers up the equipment right away due to long loading times. The AI cues up the first two examples in the two DVD players in class.

She shows the videos in class. She has to break the security encoding on the video in order to show clips. There is a bit of guilt here, but 'even a 12-year-old is able to do it,' she says. She will show a chapter from a video then pause the video. Then the class will have a discussion period. Then they'll watch another chapter, etc. Instructor wishes she had flexibility to change the chapter list during class to reflect how class discussion is going. It is hard to remember which DVD has which chapter, it takes too much time. It is difficult to search through the chapter lists on the DVD. She only shows clips or excerpts

in class. She doesn't have time to show the whole works. Students are expected to view on their own time.

Instructor sometimes teaches in the classroom that has two projectors. She can get a script from IMDB Scripts and show the script on one projection, then show the film clip, thus having the script and film shown side-by-side. If she only has one projector she shows the film, pauses it to switch to the script excerpt, then goes back to the film, etc. Instructor made sure to emphasize how much a bookmarking library would benefit her. Her whole department would love to be able to bookmark clips for further use. She'd love to view other instructors' uses for film clips. It would enrich her pedagogy.

Instructor shows clips from Hulu and Netflix Instant; it is easy to find and stream things from them. She shows clips from YouTube every day. She says: "How are you going to compete with YouTube? It's there, it's easy to use, and students already use it in droves. Students can even upload videos they create from their phones, so it's going to be hard to shift instructor use away from YouTube. YouTube has advertisements and commercials uploaded too, which can't be found on Netflix or in M&RS." Instructor has rare materials she shows in the classroom. She has VHS tapes on her office shelf, and much of it is not available anywhere else, having been recorded by her from television. Instructor created a class on 3D film-making; she requested that M&RS buy 3D films for use in classroom instruction, and also showed films from her personal collection. Instructor was not aware for a long time that M&RS would buy films for her on request. That certainly would have saved her a lot of money.

Student Activities: Students watch films for study purposes. Students go to the link on instructor's class website. They click on the link, which takes them to the course reserves page. Students in class are signed up to be authenticated and so links in that Electronic Reserves page take them to the streaming page where they can view the film. There are no clips of films, only the whole films. Students make their own 3D films using equipment from the Advanced Visualization Lab. Students wear 3D glasses and view the student-made films in class.

6. Classroom Use - Instructor Uses Video to Illustrate Concepts

Course involves Arts students watching videos, then completing class assignments using those materials as a resource. Data was gathered through one office interview.

Instructor Activities: Instructor chooses videos to show in class. There were dozens of videos/DVDs in his office during the interview. He seemed overwhelmed at how to organize it. It is time-consuming to have to bring all of the materials to class. He shows the videos in class, watches and takes notes, identifies points of discussion relevant to the particular set of students he's teaching.

Quality is an issue with in-class viewing. Instructor showed a film the other week and there was a skipping/blue screen issue. Turns out that Media & Reserve Services (M&RS) had three copies of the film and this copy was supposed to have been discarded. Instructor says the projectors in the rooms are terrible quality. What can the department do? It's very expensive to get new ones. Perhaps students can have a better viewing experience at home.

Access is an issue: instructor requests a video from M&RS but sometimes has to wait months to get it. M&RS DVDs can be checked out by anyone with a valid student ID. They are lent out to students, staff, and faculty, and sometimes to other libraries through Inter-Library Loan. Instructor says he would like to ensure that there is collaboration between users of our system. How are others using the films he is

using? He says that one time a student recommended a film that she thought explored the class topic in a better way. The instructor thought it would be great to be able to just pull up that film after doing a search through a system and be able to load it right there to watch and discuss.

Student Activities: Graduate student critical review paper is required. They must view several relevant films and incorporate them into the paper. Students keep a media journal. A journal entry is written after every film viewing where students analyze films and videos that are screened in class. Students have option to do a video project. Students can make their own visual ethnography which is burned to a DVD and turned in to the professor. This project is chosen instead of a term paper. Instructor says 30-50% of students choose this option. If they have a camcorder or know how to use iMovie it is not too much trouble for them to make a movie. Students have option to do term paper. Term paper is a scene-by-scene analysis of a film that the student would like to make. Many students pick this option because they don't have access to a camcorder. Or writing is easier for them. Making a film requires some form of writing and filming: some students would rather just write a paper than have to sketch a script and also do a film of that script too.

7. Classroom Use - Instructor uses video to illustrate concepts

Class involves students learning about media concepts through examination of various media such as film, television, and radio. Data was gathered through one office interview. Email was used to obtain further details.

Instructor Activities: Instructor prepares to make clips for classroom use by using dubbing stations in her department. Dubbing stations have a TV and a DVD player/burner with operating system built in. The department has a large video library from which to select clips. She cues up the DVD and presses record. The system pulls the recorded file up as a clip (even though it may be a full movie). You can open the chapter list to select a clip you want to record or you can record the whole film. You record a series of clips or films, put them in the same list, finalize it, and you get a DVD. You don't have to be tech-savvy.

Class topic, size, time, and other similar factors determine how many clips are shown, how long they are, on which formats, etc. Instructor brings to class a flash drive which includes all PowerPoint files for the course. She also brings a book of DVDs which include all the excerpts she has shown in the past and may show in the future. These are brought to class for reference, in case older clips already seen need to be viewed again for reference. It takes time to find the DVD from her index list, load it into the equipment, navigate the clip list, and select the clip.

In-class Pain Points: instructor showed DVD in class, but DVD player was not working. She put the DVD in the PC (which she is unfamiliar with, she uses Mac mostly). She was worried that students would sense that she did not know what she was doing. She showed a video that was several hours long one semester. She broke it up into excerpts and showed it over many class meetings. It was a huge investment time-wise. She shows excerpts of film noir films often. It is difficult to navigate to the exact clip she wants. She goes through the DVD chapter list and so on to get there. She can point and talk to PowerPoint slides to illustrate things, does not see the need for annotation of clips. Some of her colleagues like the red pointer tools but she does not bother with those. Her classes are only about 25-35 students, so she doesn't need a huge projection screen. She says Media & Reserve Services streaming service is buggy. It freezes and won't restart after pausing. It buffers constantly. Quality is not the best. Instructor closed and opened the service and that seemed to work, but required logging in again, which wasted class time.

Instructor likes technology and welcomes streaming video, but knows that technology always fails here and there, and so relies on backup copies to bring to class. Watching films reformatted and digitized from the original is hard for her to do. If it was shot on 16mm it needs to be seen on 16mm to be fully understood as an art form in its element. It is how the piece of art was intended to be seen. There is a schism between that and students watching the films digitally on laptops, or on mobile devices. Conversely, when television shows were assigned as viewing homework, the instructor encouraged students to watch them at home because that's where they were intended to be viewed. Media & Reserve Services Head started pilot program for this course. The course was allowed to show up to 10 streaming movies. Students logged in to Electronic Reserves page and accessed the links from there. They could watch at home, etc. Students were able to go to screenings and/or see the films on their own. No use statistics were compiled, as far as instructor knows. Instructor would have liked to have 30 to 40 things to reserve. She would be able to show more movies, plus be able to stream television shows. You had to log in twice then give your class password to access the clips in the Electronic Reserves page. It was very secure, but intensive to access.

Quality on YouTube is so poor that instructor encourages students to watch from Netflix Streaming, Google Video, etc. Some clips are very hard to find. She wanted to show a clip from Saturday Night Live, but they are only hosted on NBC's website and only a select few are viewable at any one time. She had to find a foreign site that was hosting the video illegally in order to show the clip in class. Public domain stuff is easy to find on Google Video. iTunes has agreement with Library of Congress to have students watch free video from Edison and Westinghouse films. Reserve copies at Media & Reserve Services require waiting, so we should eliminate that if possible. Instructor would like to see an end to the buffering and freezing of streaming video. It is not possible to have 100% streaming she knows, but 98% streaming rate would be great.

8. Classroom Use - Student Project Presentations Using Student-created Video

Course involves students presenting to the class their findings on how images affect culture. Data was gathered through one in-class observation.

Instructor Activities: Instructor pulls down projector screen, powers equipment up, aids students between presentations with technical issues.

Student Activities: Student presentations, either solo or in groups of 2 to 5, are all compiled by students, but are not student-shot. They retrieved their files in the classroom in a variety of ways. All students had to press CTRL+ALT+DEL, log in at the beginning, and log out at the end. One student brought a flash drive and opened the PowerPoint file after downloading it onto the class computer. One student opened Mozilla, typed 'Umail' in the address bar, then logged in through the Central Authentication Service page. He then logged in to his Gmail account, found the correct email, clicked on the link in that email, and downloaded the file onto the class computer. Next student performed the same actions as above, but switched to Mac through toggle switch on classroom equipment, and downloaded a .dv file to aid in the presentation. The following student performed the same actions as before, but downloaded .psd file from Dropbox account. One student group opened Mozilla, opened YouTube.com and searched for keywords, then showed commercials and videos. Another student opened Internet Explorer, logged in to their YouTube account, and showed self-made videos. One student was unable to play her file at all; she opened CS5 Soundbooth which did not work. "GPU Sniffer has stopped working"

message came up upon a successive attempt with unknown program. She had to give up and had to present in the next class session. She thinks she must have saved to the wrong file type.

Presentations basically took two forms: Show the whole video then summarize. Show portions of the video, then comment, then show more, etc. Most videos were just a collection of images, a montage of advertisements shown in succession with zoom-in, fade-out, and pan functions used to liven them up. A few had video along with the images, such as commercial excerpts. Some presentation slides contained a URL which was clicked and opened a video. Some had video embedded in presentation. Overall the volume is very loud, and needs adjustment even within slides, especially during soundtrack excerpt transitions. Transition took two minutes on average between each presentation. One group of 5 had to gather around the equipment monitor to follow along with the slides. They signaled to the closest to advance slides rather than constantly changing who would advance the presentation slides.

9. Classroom Use - Multiple Video Viewings Using Multiple Formats

Course involves learning about the nature of place and identity. Data was gathered through one in-class observation. An interview was conducted after that class session. Email was used to obtain further details.

Instructor Activities: Instructor brings VHS tape and flash drive to class, pulls down projector screen, powers equipment up, plays excerpts from VHS tape. She put the VHS tape in the player and flash drive in the computer's USB port at the beginning of class. She gives the class a summary of the video's key points before turning the monitor on to show it. The video had been playing since she put it in the player, so she rewound it and had to find teaching points to make during that time. She had to adjust the room lights several times, then just turned them off all the way. Another instructor popped in after a minute to say the film was too loud, his class next door couldn't concentrate; she turned the volume down. Video playback quality of the VHS tape is very bad.

Instructor has the students watch the video. After video ends she asks students to write down their impressions about the video; how are the filmmakers getting their point across; what images stick in your head; who was the film's audience? Instructor shows PowerPoint presentation, which has links to online excerpts. She showed still images from the film in some of the PowerPoint slides. She clicked on a link in one slide which opened up window to web page on Internet Explorer. She scrolled down and played the clip, maximizing it to fit the whole screen. The playback volume was adjusted, and the classroom lights were turned off. Instructor thought the clip would help students better understand the topic. Instructor discusses the video in terms of broader course goals. She often references specific points in the film during discussion, for example: 'Remember at the end of the film when they were holding the vigil? What imagery did you think was being emphasized?'

Instructor plays a portion of the video again from the beginning to emphasize its importance. This takes several minutes, as she gets to the correct point. She presses fast-forward for a while, it is going too slow, she presses stop then fast-forward, plays the video again, but it is still not close to the target point, etc. Finally the clip she wants is found. She talks over the video as important narration or dialog is spoken to emphasize its importance. Film-making technique as teaching tool: 'See how the film-makers speed up the images as they talk about globalization? That is a visual trick to make you feel anxious: to convey that globalization is spinning out of control.'

Instructor thinks an online playlist would be great, but also wants to have the clips available to link to her PowerPoint slides, and also to put on the Course Management System. She wants smooth transition between clips. Doesn't want lots of load time, buffering, wants all clips in one place for students. It is hard to assign clips for students to watch. She has to reserve the whole movie at Media & Reserve Services, so imagine 35 students all going there to check that video out. Next year this course will be taught not at 35 students a class, but at 170 students a class. Now imagine the line at Media & Reserve Services for the same video.

Student Activities: Students watch video, write notes, think about keywords, write impressions, and discuss issues in class. Keyword discussion is held, where PowerPoint shows keyword with definition, then students are asked to remember in what context they recall the keyword in the video or reading. Students reference specific points in the film, for example: 'What was that guy's name who was being made the scapegoat?' Students are assigned papers using videos as one of the main resources. Students take exams where they are required to identify several characters from the films and readings. Several students took notes on their laptops, several took notes with pen and paper. Students answered questions posed by the instructor which referenced specific people and images in the video.

10. Classroom Use - Single Video Viewing Using Single Format

Course involves learning about the Pacific War as seen through the lens of East Asia. Data was gathered through observation of one class session. Mini-interviews were conducted before and after that class session.

Instructor Activities: Identifies materials relevant to the course, requests them from Media & Reserve Services (M&RS), pulls from personal collection, or obtains them elsewhere using his own funds or the departmental budget. Instructor wanted to show the students a video about the whole Pacific War during World War II. He used a short documentary on Admiral 'Bull' Halsey and the Battle of Midway, produced by The History Channel. He did not like the video for many reasons, but it was good at showing a broad overview of the war in the Pacific Theater. M&RS has only so much stuff on the Pacific War; he would like to find better stuff on battle plans and WWII.

Instructor has never done a PowerPoint presentation. 'I am not that technologically capable,' he says. He gives an introduction of the video then shows the video in class. He presses play on the video and it starts in the middle. He says 'How do I get to the menu?' He stops the DVD, finds the menu, navigates to 'Play Program', then annoying History Channel intro plays for 10 or 15 seconds. Then the Jack Perkins introduction plays (a History Channel talking head summarizes the content and context of each documentary). The film plays and has bad video quality; it is blurry and pixelated. Instructor asks students questions about the documentary they just viewed. 'Did this film conflict with any of our readings?' and so on. Instructor encourages students to view YouTube videos on Tokyo Rose on their own; it gives a good summary of the time period. There is not that much stuff on YouTube of great quality, and the stuff that is good on YouTube is too hard to find through the glut.

Student Activities: Students view the video, take notes, and answer questions about the film in class. Students use video as resource for papers and exams. Students take intermittent notes, they lose interest at about the 45 minute mark of the documentary: shifting in seats, looking out the window, and so on.