

HOW I DESIGN AND MAKE VIDEO – SCRIPT

Narration	Audio/Video
<p>In my oceanography lecture class, I use videos to replace traditional lecture. Students are required to watch my video tutorials before they come to each week's class. Embedded in these tutorials are study quizzes that make them pause the recording periodically, answer questions, and then review the correct answers to see how they did. There's also closed captioning which students can turn on or off and which many students like to have on to help them with the video. Students are encouraged to watch the videos as many times as they need. They have a worksheet they have to complete prior to each week's class. The answers on the worksheet come from the video – they require a variety of levels of thinking about the material. In class they form groups to review and discuss their answers. During this time, there's a lot of noise and animation in the room as students debate and explain and discuss. Also before each class each week, they are required to take an online quiz based on the video tutorial and worksheet. The online quiz is open notes and open book. The week's activities are then devoted to discussion, Q&A, and in-class activities, often involving concept sketches, quantitative problem solving, and working with a variety of global and local data sets.</p>	<p>A: Intro music</p> <p>V: Classroom pictures A: Classroom noises V: Class Website V: Class worksheet V: Online quizzes (graded) V: Online study quizzes V: Closed captioning V: Student at home working on own</p>
<p>So the goal of my video tutorials is that students enjoy watching them, learn from them, and can use them as a reference for the class. I take a typical 2.5-hr lecture in which I might show some short video clips, demos, and slides and can turn it into a 30-40 minute contained video, which I break into multiple parts – none of which is longer than 20 minutes – some of which are 5 minutes – all of which are linked on the class website.</p>	<p>V: Animation – orchestra conductor shrinking all the components of a traditional lecture into 1 short video (video, photos, line drawings, animations, sounds, demos)</p>
<p>What's my process for creating these videos? First step is always I write a script. In my scripts, I keep track of my narration and the types of audio and visual support I want to include while the narration is happening. Basically I imagine myself standing at the front of a lecture room with everything I need in front of me, including a pointer -- interacting with a variety of visuals (demos, video, animations, line drawings, etc.). The script itself is a document with text on the left-hand of the page. The audio and video requirements go on the right side. I find this technique ends up creating a much more coherent and interesting story than I would come up with on the fly in the classroom, because it naturally and thoughtfully comes out as a story as I write. In fact, I've often found myself surprised and excited at the new order and logic I follow as I introduce and describe a process.</p>	<p>V: Script document V: Animation of images flowing out of the text and telling a story</p>
<p>To record the audio, I use the free but robust audio editing software called AUDACITY. I use a SAMSON Studio Condenser microphone that I bought about 10 years ago for \$100. While I record, I watch the wave form in Audacity, and that allows me to monitor my volume. Trial and error and practice with my specific mic and computer and office space has improved my audio quality. There are a number of tricks I use to edit my audio, and it is a fairly lengthy process, but worth the effort. (I recommend you play around with this step and consult online resources to help.) As you can see, I record my audio in my office at home, right next to the computer. When I'm done, I export the audio as a .wav file and import it into my video editing software. Right now that's Camtasia Studio. So here's an example of starting a new video by laying down the audio track. That tells me my timeline and governs my trajectory.</p>	<p>A: BART train rolling by V: Screencast of Audacity while narrating a video V: Microphone set up with Audacity in the background A: Bad Ps and Ss V: Audacity spikes (max wave form) V: Audacity normalization V: Audacity noise removal</p>
<p>Next I begin gathering all my video and pictures and laying them out on the timeline. I'll add arrows, text labels, and animations where they are useful. I will</p>	<p>V: plankton and background video</p>

<p>also add video or sound effects when they add value to the story or to signal the start or end of a segment or as background during an interlude.</p>	
<p>My second to last step before publishing is to add quiz questions for students to answer while watching the videos. I put these questions in spots in the story where I think students might experience cognitive overload. It forces them to stop and think before moving onward. My last step is to add captioning for the hearing impaired. Because I have a script, it's pretty easy. I just copy and paste my script text into the captioning area of Camtasia, and then as the video plays, I hit a button after every 3 lines of caption text to coordinate the script with my voice.</p>	<p>V: Screen capture adding quiz questions V: Screen capture adding captions</p>
<p>When I'm done with the video, I publish it as a .mp4 file and then I upload it to my college server, where it's linked to my web page.</p>	<p>V: Screen capture publish</p>
<p>And finally, I go back to these videos and edit them again each semester before students see them to fix errors and improve their quality. When I first started making videos, this entire process could take close to 100 hours for one week's worth of material. But I've definitely gotten faster. For example, this video you're watching now – 5 minutes long – took me about 6 hours to make.</p>	<p>A: Exit music</p>