Guidelines for Video in Teaching and Learning

nyu.edu/faculty/teaching-and-learning-resources/strategies-for-teaching-with-tech/video-teaching-and-learning/guidelines-for-video.



Why use video for teaching and learning?

The use of video in higher educational settings is accelerating rapidly in departments across all disciplines from humanities, sciences, and arts to continued professional curricula. Video can be used not only for teaching, but also for studying and learning in and outside the classroom.

Video in particular is often attractive as a means to capture lecture content and present direct instruction. Of all the technological components involved in the learning experience, it is often the most visible and the most resource intensive. It is easy then to assume that it will be the most impactful.

It is indeed a powerful medium, but as with anything else, video must be created with an eye for strong pedagogical choices in order to be most effective. Likewise, just as video is one tool in the media toolbox, lecture is one strategy on the instructional palette. Video can also be designed for presenting case studies, interviews, digital storytelling, student directed projects, and more. Choosing the appropriate instructional strategy and pairing it with an effective media format is part of the analysis performed during your course design process.

The aim of this resource is to identify a number of best practices to apply to the kinds of video you might produce as supportive material in relation to students' learning task to ensure that your video is as effective and engaging as possible.

What evidence is there that digital video will enhance teaching and learning?

It is important not to fall into the trap of considering that the use of technology or media is going to be the "silver bullet" that will make students learn or be more motivated. The learning activities that students perform with videos are a critical part of the learning outcomes and motivations (Boyle, 1997). That is, simply presenting information in a stimulating digital video format will not automatically nor necessarily lead to in-depth learning (Karppinen, 2005). Rather it is the pedagogy, the well crafted message, the whole approach, and design that are the critical elements, not the media.

It is the instructor's task "to create a coherent narrative path through the mediated instruction and activity set such that students are aware of the explicit and implicit learning goals and activities in which they participate" (Anderson et al., 2001, p.6). For the specific design and organization of learning activities with instructional material, answering these questions can help you to plan your lesson:

- What data do I have about my current course that suggests a change? How do I interpret that information?
- What does the research literature suggest about how students learn best with media and my subject matter?
- What preparation or support material will the students need?
- What kind of questions will I pose to students? When will I ask these questions?
- What kind of learning tasks will I align with the instructional material?
- What kind of media or delivery format will be most effective for communicating the instructional material? What value will the delivery format bring compared to other formats? When will I deliver these instructional materials?
- What model or approach will I use to create the narrative path?

Effectively Designed Video Can...

- Grab a student's attention, spark curiosity, and provide value to the course content.
- Show real life examples or case studies. Demonstrations focused on contrasting cases help students to achieve expert-like differentiation (Schwartz & Bransford, 1998).
- Stimulate a focused discussion guided by the instructor.
- Be an archived resource that students can access anywhere and anytime from first exposure to review and remediation.
- For certain topics and concepts video can help novice students who have lower prior knowledge process the concept you are teaching more easily (Reiser & Dempsey, 2007).
- Provide multiple perspectives of the same material rather than relying on a single viewpoint (Brunvand, 2010).
- Be reflective tools for learners as they work to integrate and apply new information into their preexisting knowledge by allowing students to comment and respond to the videos they view (Brunvand, 2010).
- Used to provide instructional material as an alternative to in class live lecture. It makes use of the subject matter and expertise of the instructor while also allowing the instructor to be "a guide on the side" in an active learning environment. Note, this does not suggest digitizing an in-class lecture but redesigning a lecture to serve a new purpose.
- Be added to a multimedia context such as an online lesson module or classroom presentation.
- Involve students in creating media as a way to assess their understanding. Student-led media projects encourage collaboration, accountability, creativity, and mastery of ideas and concepts.

Risks when Choosing Video

- Video as direct instruction or lecture capture is a less active experience than other strategies. It does not guarantee in-depth learning and thus should be paired with a meaningful learning activity.
- The content in a video is not easy to scan by the naked eye like text or images.
- Video can hinder students with higher prior knowledge who might benefit more with a different instructional format such as text or images. This is known as the expertise reversal effect (Kalyuga, 2007).
- If the message and design of the content are not well crafted then the video will not help; in fact no media format will help.
- Worked examples as text may be more effective and efficient for learning than a worked example as video (Sweller et al., 2013). Text is also a powerful medium with which to convey content. When designed well, text is easy to process and study. This can be especially true if providing multiple worked examples for comparison. Choose the formats wisely based on the type of instructional content and the prior knowledge of your audience. A proper literature review of educational research on your subject matter will save you time from choosing the incorrect presentation format or instructional strategy.

Video in a Course or Lesson

Questions to Consider Before Designing a Video

• Download this template to help you plan your lesson with video

Before you even begin to design a video, take time to consider some basic questions.

• Where does it make sense for me to use video?

What will it address more effectively, and what will it lack? How will it fit in to my larger class? Is it the best medium for the topic at hand?

Some components of your lecture will work well in video. But some elements, such as solving problems, demand interactivity. Conversation or discussion with students also requires a different approach, possibly via in-class time, videoconferencing or a Google Hangout. Think carefully about why you are choosing video with respect to your instructional strategies and learning objectives.

• What are the learning objectives & goals for using video as opposed to other presentation formats?

Why am I using video, what is the need? What are the benefits and risks? What ideas can I effectively convey in a video?

Be clear and explicit regarding the learning objective for a video, and eliminate tangential or digressive information that doesn't contribute to that objective.

- How will I know if I have successfully conveyed the ideas? Are assessment questions included after the video or in class?
- When will I present the video to students?

As pre-work before class? In-class as a way to gain the attention of the class, as part of a larger presentation, or as a case-study for students to discuss? or will I provide it as a remedial study resource after class?

• How will I incentivize students to actually watch, process, and reflect on the information in the video?

For example, are there follow up questions for students to answer that can assess their understanding of the video content?

Preparation Questions

• Who is my audience?

How variable is the prior knowledge that your students bring to the material? What is their average age and comfort with online material? In the case of Global courses, geographical and cultural differences may impact how you present your material.

• What is my turn around? How much time do I have to create the video/s?

The more robust and detailed the video you try to produce, the longer it will take to make. Plan ahead, allow yourself the time needed to produce a video, and remember that some content will fill different roles. A lecture you will reuse and share widely is worth spending time on. Conversely, a response to classroom discussion may be a simple webcam video, but it can be deployed much more quickly.

• What materials do I already have prepared?

Utilizing appropriate visuals is critical to maintaining viewer interest and properly explaining concepts. You likely already have material like this that you use in your course. Review it before you begin. Decide which visuals are most effective and whether they should be expanded upon prior to recording.

• What resources do I have to create the video/s?

Be sure to educate yourself about the resources available to you here at NYU. From the libraries and the Digital Studio, to the production facilities at NYU-TV, to the technologists at NYU's Global Learning and Innovation Group (GLI), can help you identify the more appropriate group to consult depending on the scope and nature of your project.

Related Resources

Anderson, L.W. (Ed.), Krathwohl, D.R. (Ed.), Airasian, P.W., Cruikshank, K.A., Mayer, R.E., Pintrich, P.R., Raths, J., & Wittrock, M.C. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's Taxonomy of Educational Objectives (Complete edition)*. New York: Longman.

Boyle T. (1997). *Design for Multimedia Learning*. Prentice Hall.

Brunvand, S. (2010). *Best practices for producing video content for teacher education*. Contemporary Issues in Technology and Teacher Education, 10(2), 247-256.

Hibbert, Melanie (2014). What makes Online Instructional Video Compelling. EDUCAUSE Review

Kalyuga, S. (2007). *Expertise reversal effect and its implications for learner-tailored instruction*. Educational Psychology Review, 19, 509–539.

Karppinen, P. (2005). *Meaningful Learning with Digital and Online Videos: Theoretical Perspectives*. AACE

Journal, 13(3), 233-250.

Mayer, R. E. (Ed). (2005). *Cambridge Handbook of Multimedia Learning*. New York: Cambridge University Press.

Reiser, R.A., & Dempsey, J.V. (Eds.) (2007). *Trends and Issues in Instructional Design and Technology* (2nd ed.). Saddle River, NJ: Pearson Education.

Schwartz, D.L. and Bransford, J.D. (1998). A Time for Telling. Cognition and Instruction, 16 (4), 475-522.

Schwartz, D.L., & Hartman, K. (2007). *It's not Video Anymore: Designing Digital Video for Learning and Assessment*. In R. Goldman, R. Pea, B. Barron, and S.J. Derry (Eds.), *Video Research in the Learning Sciences* (pp. 335-348). New York: Erlbaum.

Sweller, J., & Cooper, G.A. (1985). *The use of worked examples as a substitute for problem solving in learning algebra*. Cognition and Instruction, 2(1), 59–89.

Sweller, J. (2006). *The worked example effect and human cognition. Learning and Instruction*, 16(2) 165–169