

# CHAPTER

# 1

## WHY VIDEO? WHY NOW?

As a teacher or trainer, it might be easy to continue doing things the way we always have. Create a text-heavy PowerPoint, e learning module, or other instructional media. Those things are easy, we're used to them, and they work the way we think. Written notes have been a mainstay of teaching for millennia. The reformatting of our notes to slides or web pages isn't challenging, we can do it quickly, and our audiences are mostly used to it.

Or are they? Video is everywhere. You can shoot video with your phone or digital camera and load it to YouTube or TeacherTube in minutes. Our learners do it, and they find text used as the principle teaching medium pretty boring, a step backwards.

We also know that our learners, of whatever age, will learn more by using multiple media. Use text with images or text with video, and they will learn more (Mayer, 2009). The research is pretty compelling. And note that we're not using video or images just to keep the learner's attention. The video must contribute to learning; otherwise it's a distraction and can actually inhibit learning (Mayer, 2009).

Selection of video may depend on the content to be learned. Really, some things can be adequately described in text. Philosophy is basically a textual subject, as are many theory courses. And some things require images, sound and others, video. Images work well for geology or geometry. Video is really important for some more topics. Let's look at those.

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Our use of video can support learning in many ways. Here's a short list, by no means inclusive:

- Demonstration of a procedure
- A presentation by a noted expert
- Introduction to a case study
- Excerpt of a dramatic production
- Demonstration of a process
- Virtual tours

Let's look at each of these to see how video can help you with teaching and learning.

### **DEMONSTRATION OF PROCEDURES**

Often in education and training we're showing our students how to do something. It might be a physical procedure such as cooking, or a lab procedure in chemistry or biology, or a soft skills procedure like counseling or a performance review.

For some reason many students in my video classes do videos on cooking. Whatever it is, they work. My church has volunteers who bake bread for every service. The quality of the bread was very inconsistent. I made a short video on baking bread and put it up on the website. The quality of the bread has improved. A basic demonstration of a procedure can have a good payoff.

### **PRESENTATION BY AN EXPERT**

For many years in one of my classes I used a video recording of David Merrill explaining, in about twelve minutes, his First Principles paper. It's wonderful. I can explain First Principles in class, but it's better from the author. Dave's a delightful presenter and the use of a video with him shatters the image some students have of well-known researchers as someone distant and impersonal. And they get First Principles. They learn it. No one, after viewing the video, misses the First Principles questions on the midterm.

### **INTRODUCTION TO A CASE STUDY**

There are many uses of case studies in instruction. The website for this book includes one made for a finance company. We're introduced to two characters, Michael and Lisa, who meet each other for the first time in the company cafeteria. The video script leads

us into some assumptions about them, then takes an unexpected twist to demonstrate that what we think we know about people is not always true.

The dialog between Michael and Lisa on the website carries an emotional punch that requires the intimacy and story development of video. It would really be hard to make the same point any other way. The module follows up with questions and discussion points about the dialog. The production for the Michael and Lisa video is very high-quality and very expensive. The point is the effectiveness of the script, which was written by a personnel consultant (my brother Fred, actually), not a professional scriptwriter. This kind of script is within the reach of teachers and trainers.

In another low-budget project, a student created a case study video on classroom management. The video sets up the problem and allows the student to choose what to say, taking the role of the teacher. Then the student sees the results of the decision. This project was done by a teacher. The video is integrated into a website, so the posing of choices and branching to see consequences is done with inexpensive technology. This is the kind of low-budget, high impact production that is within your reach. This kind of project is what Aldrich (2005) calls a branching story, a simple but effective simulation.

### EXCERPT OF A DRAMATIC PRODUCTION

The laws on DVD excerpts have changed—use a piece from a movie (Network News single camera shoot) or *To Kill a Mockingbird* on civil rights or John Adams on colonial/constitutional period history. Teachers and professors in non-profit institutions have certain rights to use excerpts that trainers or others in for-profits do not. Both should check with their organization's copyright experts.

### SHOW A PROCESS

I'll differentiate here between a process and a procedure, following Clark (2008). Procedures may be performed by one person, whereas processes may require many people, or may be highly automated, requiring only human observation and monitoring. Changing a tire, calculating a square root, or baking muffins are procedures. Generating power in a nuclear plant is a process. Assembling an auto is a process. Developing a new academic program or even hiring a new staff member is a process.

Some processes are very difficult to observe. Video can help the learner see things that are not clearly visible, since it might be possible to place a camera and cinematographer in places or circumstances where you might not want to take hundreds of new hire trainees.

The manufacturing process for glass bottles is one such hard-to-observe process. At one end, high above the factory floor, is an oven that heats silica sand, some chemicals, and recycled glass to melting. The molten glass flows through a highly automated

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machine with many operating parts to one of a dozen or more molds, where the bottle is formed, then deposited on a belt that moves it past an inspection station. Defective bottles are ejected by a blast of compressed air. Good bottles move onto a tempering and cooling area and are then packaged.

There is no place a trainee could stand to see all of this. But we can shoot video from many different places that can be edited together to demonstrate the process from beginning to end.

Oh yes, the environment is noisy and crowded with machinery. The video orients new engineers and technicians to the process from the comfort of the desktop. Yes, they need to get into the plant, but when they get there, they will understand what they're looking at.

### VIRTUAL TOURS

A teacher has planned a field trip to the Museum of Science and Industry in Chicago. This is a wonderful museum, with many engaging exhibits. On a visit there, a guard told me that if I looked at each exhibit for thirty seconds, it would take me a month to see the whole museum. And by the time I was finished, the museum would have changed enough that I would need to start over. Whether his calculations are correct or not, there's a lot to see, so much that a visit can be overwhelming for schoolchildren.

A teacher could prepare students for a visit by shooting a virtual tour. An overview of the sections of the museum could be followed by vignettes of interesting sections, like the cafeteria for lunch (let's cover the important things first), the U-boat for students studying World War II, or the coal mine for those studying energy and ecology, or technology exhibits . . . well, you get the picture.

Arranging to shoot video of a museum for a virtual tour will require working with museum management to obtain permission. The permission might limit who the video could be shown to, but in the case of non-profits like schools, permission should not be a big problem. There may be some limitations on shooting, so that the production itself does not interfere with other visitors' enjoyment of the museum. I simply raise this as a caution, so you're not caught unaware, perhaps by having a security guard interrupt your shoot in the museum.

The same kind of virtual tour might make sense any time we are preparing students for a field visit, whether to a museum, plant, lab, forest, or concert.

### WHY VIDEO?

Video production has become inexpensive and within the reach of individuals, schools, or training departments. There are really two aspects to this cost reduction that we should pay attention to. First is the reduced cost for equipment and software, along with the ease of use of these products.

### **Low Cost of Equipment and Software**

Good consumer-grade digital camcorders can be purchased for several hundred dollars. We'll later discuss what you need in a camcorder; the very cheapest will not do. They impose some serious limitations and are not even really suitable for shooting graduations, weddings, birthday parties, and other personal or family uses for which they are intended. We'll need to spend a little more, but far short of the multiple thousands we used to have to spend to get a camcorder worth using.

While we'll need some other equipment, the other major expenditure used to be for video editing software. Basic non-linear editing software is now free or, for significantly better software, inexpensive.

#### **NOTE**

Non-linear editing is the process used now to edit video. It's non-linear because the pieces of video can be accessed and assembled in any order. We do not need to fast-forward through the tape to find the scene or shot we want.

You will also need to spend some money for a tripod, microphones, and, possibly, lights. While all camcorders have built-in mics, those will not work as well as external mics that you can place nearer the sound source.

There are two foolproof indicators whether a videographer is a pro or an amateur. The use of external mics is one. The other is the use of a tripod. Pros use tripods whenever they can.

You've seen amateurs shooting video of graduations or weddings. They're holding the camcorder in one hand and watching the video on the flip-out LCD panel. If they ever show the video to anyone, the audience will be in danger of motion sickness because of the camera movement. It's essentially impossible to hold a camcorder still when using one hand. The tripod holds the camcorder steady, greatly improving the resulting video.

If you can't use a tripod for some reason, you can hold it steadier than the one-hander by using two hands—one on each side of the camcorder, braced against the body, with the camcorder held against your head. In that position, you'll use the eyepiece or viewfinder, rather than the flip-out screen. Later we'll demonstrate other ways of steadying the camera, but the one-hander isn't one of them.

Light is what we use to make video; we capture images formed by light. The light that's available in your location may not produce the best possible video, or it may be the wrong color or in the wrong place. We'll talk about lights in detail later, but at this point, you should know that you may need some lights to make good video.

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My point in listing tripod, mics, and lights here is not that they cost a lot of money. They don't. We're probably talking something under \$500 for them. Other costs have come down much faster than these costs, so now we find that these formerly relatively small costs loom larger in comparison to camcorders and non-linear editing software.

### ***Reduced Expectations of Quality***

People now like to watch videos on YouTube and other video-sharing sites. The video there is often of poor quality compared to what we expect on cable or broadcast TV or professionally produced video. It may be poorly exposed, out of focus, unedited, or snowy. Yet people are happy with it and pass the links around to friends. At the same time, broadcast and cable TV, commercials, and professionally produced training videos continue to strive for high production values.

What does this popularity tell us about expectations of video quality? At this point I think it says we still need to try to achieve high-quality productions, but there are circumstances in which you may be able to get by with poorer quality. You may be able to use cell-phone quality video to make a point or convey a sense of immediacy. But in general, your audience will expect higher production values than cell phone clips for most purposes and may, in fact, discount the credibility of video that looks like it was hastily and cheaply produced. If it wasn't worth your time to make it look and sound good, is it worth their time to watch it?

### **TRAPS FOR THE UNWARY**

After reading this far, you may be sold on the idea that you can produce video and that you should do so. Some of us have called this stage, "uninformed optimism." It's the first stage of a project, followed by "informed pessimism." As you learn more about video, or perhaps try a project, you begin to realize that producing good video is hard work. That realization may hit you on the third day of editing a five-minute video. Some parts of this are time-consuming; others are hard work.

The third part of the cycle is "informed optimism," as you and your team see what you have to do to finish and gain confidence that you can do it.

That's the first trap: not recognizing the time and effort that will go into a well-produced video. The second is related, but different. It's taking on a project that really is beyond your capabilities.

Some video should be left to professionals. A video of a concert, for example, is very demanding work. You can't start and stop your camcorder and expect to put compelling video together in edit. If you leave your camcorder running, you can't get the different shots you'll want to pick out the soloists or show cut-aways of the audience.

You will need multiple cameras and professional tools that maintain synchronization between video and sound at all times. To record a concert, you would need dual system

recording, that is, one dedicated system for sound and cameras for the video. But note that, in a concert, the sound and video must be played in sync or things don't look right. The guitarist isn't strumming in rhythm, or the pianist is playing the wrong keys. Even if you're not a musician, you'll know that things don't look right. That's not something you can fix in edit.

If all you're trying to record is your child's solo, you can do that with your camcorder. But you won't get adequate video of a whole concert.



In this chapter, we have reviewed some of the reasons to use video, including reduced costs of the equipment and software necessary to produce video and improved ease of use compared to past production tools. We have also looked at some typical uses of video for the teacher or trainer. And finally, we've noted some traps to watch out for.

In the next chapter, we walk through the overall video production process.

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*Note:* The change cycle is shown at [http://changingminds.org/disciplines/change\\_management/psychology\\_change/positive\\_change.htm](http://changingminds.org/disciplines/change_management/psychology_change/positive_change.htm)

<http://www.pbookshop.com>