

Chapter 3

COMPUTER PRESENTATIONS ON A TV/VCR

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In classrooms not equipped with computer projection equipment there is a way to present information from a computer using a standard television plus converter equipment that costs less than \$200. This converter equipment can also be used to record computer presentations onto videotape. Even instructors with computer-equipped classrooms might wish to consider using this converter equipment to create their own videotapes as supplements.

CONVERTING FROM DIGITAL TO ANALOG

Digital (computer) to analog (TV) conversion is accomplished by using a scan converter. Quality of conversion varies with price (with broadcast quality costing several thousands of dollars), but acceptable quality is available for under \$200. The analog TV system used in the United States is referred to as NTSC. Televisions in other parts of the world use a different system called PAL. NTSC and PAL are not interchangeable; a different type of converter is needed for each system.

A scan converter provides an instructor two ways of presenting material from a computer: (1) on videotape and/or (2) live, using a standard TV. The scan converter is hooked up between the computer and the monitor. Most scan converters then split the signal between an analog signal that can be input directly into a standard TV or a VCR and a digital signal that continues on to the computer monitor. Some very inexpensive scan converters do not pass through a digital signal, which means that the image cannot be viewed on the computer monitor while the converter is in use. Be sure to check for this feature if it is important to be able to simultaneously view the image on the computer monitor.

No image presented on a TV will appear as sharp or as bright as that same image presented on a computer monitor because some of the brightness and clarity will be lost in the conversion process. If the instructor is only planning to show large images or only a few words on a screen using a very large font, then almost any scan converter will suffice. If, however, the instructor wishes to demonstrate how to use a computer program or the Internet, then the instructor should keep in mind that most students will not be able to see much detail when the entire computer screen is displayed. This is when a scan converter with a zoom feature is essential. A zoom feature

provides enough magnification to overcome some of the fuzziness caused by the conversion process.

One of the disadvantages of working with a zoom is that the instructor must decide which area of the screen to focus on at any point in time. One of the better types of scan converter zooms has a remote control unit that provides a "zone" zoom. This allows the instructor to zoom in on one section of the screen (typically the screen is divided into nine zones) with the touch of one button. This is particularly important for live presentations. When using a zoom without the zone feature, the instructor will have to pan or scan across or down the screen until the desired position is located. This panning process is a minor inconvenience when recording the presentation to videotape (because the tape must be paused during the panning process) but is a major problem when done during a live presentation.

Another consideration when outputting to either a TV or videotape is the choice of colors. Brilliant colors (like red) become oversaturated and do not present well. Although instructors may not wish to use dull, muddy colors, less intense colors will generally look better when output to a TV and/or videotape than will very bright colors. More expensive scan converters usually do a better job in converting the brighter colors. Each instructor should experiment with colors to see which work best with his or her particular scan converter.

RECORDING A PRESENTATION TO VIDEOTAPE

One of the primary advantages of using videotape is that it is easy to transport and can be shown on any standard VCR—no heavy equipment computer equipment to carry. Anyone who has tried carrying a computer and all the peripherals will appreciate the ease with which videotape is transported.

Another advantage is that the length of presentation can easily be controlled, editing out setup and transition time, and taking less class time than a "live" presentation. Even instructors who do live presentations may like this feature. When doing a live presentation that is on a tight time schedule, it may be helpful to begin with a video to cover the most important points and then go "live" for the rest of the available time.

Additionally, a videotape can be left on reserve for students to view at their leisure. This is helpful not only to students who miss a class, but also because some students may need to view a presentation several times to pick up all of the nuances of the topic. Videotapes can be watched by these students as many times as necessary.

Videotape is certainly more dependable than "live" presentations. Although there is always the possibility of technical difficulties, VCR technology seems to be far ahead of computer equipment in its dependability. Some instructors carry transparencies as backup in the event of complications with a live presentation. However, for some topics, a video may be more appropriate than the use of transparencies for backup.

The primary disadvantage with videotape is that it cannot be modified "on the fly" in class. However, you can stop the tape and rewind it, putting it on "freeze frame" if needed to emphasize a point or address a question.

The basic equipment needed to record a computer presentation to a videotape is a computer, a video cassette recorder set up next to the computer, and a scan converter set up between the computer and the VCR. To add sound (including voice-overs and/or music), a microphone and sound mixer are necessary. Other optional equipment includes a TV to monitor the quality of the final output, and a special-effects generator to add fades, wipes, and other special effects. If you wish to record your own video, then a camcorder will also be necessary.

One example of a typical video project is the training video I produced on tax research using Lexis and Checkpoint. I used PowerPoint to create the titles and to integrate a general discussion of search strategies. I used a microphone and sound mixer to add the narration and music and a special effects generator to add transitions (fades and wipes). I created a short version for in-class

use and a more detailed version to place on reserve in the library for those students needing additional help.

A LOW-COST ALTERNATIVE TO COMPUTER PROJECTION EQUIPMENT

A live presentation (compared to videotape) allows the instructor to set the pace and permits instant modification. When computer projection equipment is not available, a TV with a standard video input and a scan converter can be used. If a laptop computer is not available, a desktop computer can be placed on a rolling cart to make it easier to take it into the classroom. Optional equipment could include an Internet connection that can be done through a cellular phone if no phone line is available in the classroom.

One of the advantages of computer projection on a TV is that it is usually brighter than many other projection technologies such as most LCD panels used with overhead projectors. This means that a TV can easily be seen even in a brightly lit room.

The principal disadvantage of using a TV is that the image will only be as large as the TV screen (however, a zoom feature on the scan converter can help address this deficiency). A disadvantage of all live presentations (particularly those involving the Internet) is that they are not as dependable as videotape, usually requiring more setup time and consuming more class time than a videotape. Instructors may wish to mix the use of live presentations with videotape when time is short.

ANALOG TO DIGITAL CONVERSION

If an instructor has a library of videotapes and wishes to place some clips from this library into PowerPoint presentations or onto a web page, the clips will need to be converted from analog to digital. Since a basic scan converter works one way (digital to analog), a different video capture device is needed.

Most video capture devices are internal cards (which means a computer must be opened to install them); however, there are a few external capture devices such as ones that use a parallel or USB port. Using either an internal or external capture device, video clips can be edited, adding titles, transitions, and special effects (using a program such as Adobe Premiere) and then uploaded onto a web page and/or output back to videotape.

One of the newest types of digital capture is called FireWire (also called i.LINK or IEEE 1394). This type of connection provides a very fast transfer of digital video, thus keeping the quality fairly high (as compared with converters that plug into a parallel or USB port) and is expected to become more widely used in the future. Although FireWire capture cards can be purchased separately, new computers can be purchased with FireWire (IEEE 1394) ports already installed. Likewise, new digital camcorders can be purchased with FireWire output. Digital camcorders that accept analog input (such as the Digital 8 format) can be hooked up to accept the output from a standard VCR as their input, thereby converting the format from analog to digital. Additionally, to copy video (with audio) clips onto the hard drive of a computer, a computer with a FireWire connection can have a camcorder plugged directly into it. When making such transfers, however, keep in mind that video requires a large amount of hard drive storage space; thus, short video clips may work best.

CONCLUSION

Using a TV with a scan converter is a relatively low-cost way to bring computer technology into classrooms not wired with computer projection equipment. However, even those instructors with computer projection equipped classrooms may wish to produce their own videos for use in and/or outside the classroom. These videos can later be converted into digital form when the instructor wishes to use clips in live presentations or on the Web.