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Tech Strategies

Bright Ideas

A buyer's guide to digital presentation tools: projectors, interactive whiteboards, document cameras, and plasma displays

By Bard Williams

Educators have gone from dusting erasers to sorting out ports and cables. As classroom computers increasingly drive learning, using computer-based presentation tools to energize the instructional experience is a logical next step. Today, they're more powerful and less expensive than ever before.

- ▶ [Choosing an Interactive Whiteboard](#)
- ▶ [10 Tips for Buying the Right Projector](#)
- ▶ [Presentation Tools Dos and Don'ts](#)

The premise of all presentation tools is the same:

Let teachers, students, or administrators project an object, data, or video so that everyone in the room can see it. The outcome in the classroom is greater student-teacher interaction and more collaboration. For administrators, the benefit is improved school board and/or staff meetings because of more clearly presented information.

To help you choose the best presentation tools for your school or district, we'll provide you with 1) descriptions of different types of products, 2) tips on deciding which will fit your needs, and 3) a list of dos and don'ts for making the most of whatever presentation mode you select. The accompanying buyer's guide then gives you the straight facts on a range of presentation tools: projectors, interactive whiteboards, plasma displays, document cameras, and handheld computer presentation systems. The type of device you choose depends on how and where you plan to use it, and on what kind of data you will be displaying.

PROJECTORS

These make graphics and video presentations visible to a large audience on a wall or a screen. Typically, you use a projector with a computer or other digital-image source such as a DVD player. Two common display technologies are offered in projectors today: LCD (liquid crystal display) and DLP (digital light processing). The advantages of DLP technology are smaller size and high brightness; LCD technology is more cost-effective and features good color depth and contrast.

When it comes to projectors, portability and brightness are competing priorities. Ultra-light projectors weigh less than five pounds and are ideal for moving between classrooms, but they aren't very bright. Heavy projectors (10 pounds and up) are designed for permanent installation in the ceilings of classrooms and auditoriums. Most portable projectors are in the middle, weigh five to 10 pounds, and are fairly easy to move. Brighter projectors tend to run hotter, use more power, and have noisier fans.

INTERACTIVE WHITEBOARDS

Use these to capture and interact with information. The typical interactive-whiteboard system starts with a freestanding or wall-mounted board that serves as the screen. In capture mode, you use a pen to write notes or draw diagrams while the images are captured to your computer for later editing and sharing. In the computer-display mode, images are projected onto the whiteboard, which the user can interact with using a pen that functions like a mouse.

You can use the whiteboard to highlight, comment, or label—as well as for large-screen control and to display computer software. Some systems also offer wireless "audience-response" functions that allow students to interact with the system for polls or quizzes.

Some interactive whiteboards work by attaching external sensors to standard (non-electronic) whiteboards you might already have in classrooms. Others are complete systems that feature built-in sensors.

Because interactive whiteboards are feature-rich, you'll need time to learn how to get the most out of the technology.

PLASMA DISPLAYS

These alternatives to projectors are often less than four inches thick, thin enough to hang on a wall yet bright enough to see in a well-lit classroom. Plasma displays are available in sizes up to six feet wide—about the size of a small whiteboard or projector screen.

Although typically more expensive than projectors, plasma displays can be a good buy in

the long run as they use inexpensive replacement bulbs. Plus, they require minimal focus adjustments and don't create shadows when you stand in front of them. In addition, attachments are available that allow teachers to use plasma displays interactively like a whiteboard.

DOCUMENT CAMERAS

These are the answer if you've got a document or object that you would like to display using a digital projector. Also known as visualizers, these devices create a digital image of an object using a small camera, a stand, and, in some cases, lights. They connect to a projector to display the image on a screen or your classroom wall. Some visualizers can connect to microscopes—an ideal method to create live big-screen displays of microbes for the entire class to see.

Document cameras are often found in science classrooms, so the entire class can view specimens; in history and social science, every student can read projected current events from a magazine or newspaper; and in foreign language classes, students can see and label different objects.

HANDHELD PRESENTATION SYSTEMS

These connect a handheld computer to a projector in the same manner as with a laptop or desktop computer. You'll want to create the presentation on a desktop or laptop computer first and then move it to the handheld. The advantage: You can fit your entire presentation in your pocket and be free to move around. The disadvantage is that such systems trap presentations as static images, so movies and slidebuilds are lost.

Handheld-presentation devices allow teachers who move from room to room one small device to present their notes or other content using the data projector. The more time they save in setting up, the more time they'll have for instruction.

THE RIGHT INVESTMENT

The advent of less costly and more powerful presentation and display technologies fulfills some of the promise of the computer revolution in schools by making the image clearly visible to every student in the class. As with any technology, you'll need to factor in professional development and maintenance costs. As you'll see from the accompanying buyer's guide, there are many choices. The good news is that in most cases, your investment will pay off—especially since sometimes you can build on equipment and technology you already own, and whatever you buy will continue to be useful for a long time to come. ■

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