

Excerpted from

Videoconferencing for K–12 Classrooms, Second Edition

Camille Cole, Kecia Ray, and Jan Zanetis

Opportunities are endless with interactive videoconferencing (IVC). Luckily, the cost of IVC networks has fallen while capabilities have increased, and now this technology is more accessible to educators than ever. With IVC, students can have the world as their classroom. They can take fieldtrips to otherwise unreachable places, talk to experts, and connect with their peers regardless of their physical locations. IVC is an economical way for educators to bring much needed supplemental materials into their lessons and curriculum.

Videoconferencing for K–12 Classrooms: A Program Development Guide is perfect for any educator, whether they are looking to learn more about IVC, working to build a system from the ground up, or wanting to enhance their current IVC program. This second edition provides a comprehensive review of options for developing an IVC program. The authors walk readers through initial planning, teacher training, implementation, and assessment. The book also includes examples, case studies, resources, and tips for any classroom.

Chapter 3



Getting Started with IVC

Introducing new technology into the classroom requires more than buying equipment, plugging it in, and turning it on. Although that's a good first step, much more is required to integrate a new instructional delivery system seamlessly into your curriculum and pedagogy. In a perfect world, of course, everything teachers would need in order to learn to use one of these *emerging technologies* would be on hand as soon as initial purchases are made. But because of funding shortfalls and high competition for dwindling technology dollars, this hardly ever happens.

This chapter will help you establish a certain baseline familiarity with IVC technologies, including facilities, equipment, staffing, and training required to work well in an educational setting. We'll outline what you need in order to send and receive content, access remote opportunities, and collaborate with colleagues across the miles.



Leishawn Spotted Bear from the Fort Worth (Texas) Museum of Science and History discusses interesting adaptations; and students from Joshua, Texas, engage in an owl pellet dissection during an Adaptation Exploration—Owls program.

Facilities

Program Planning and Facilities Design

Designing a virtual learning facility can be tremendous fun. However, when you get started, remember to keep an eye on the projected instructional use rather than on the technology's bells and whistles. Will you be teaching a math class to remote students, or will you be receiving, from a remote teacher, a foreign language class for students in your building? Will you be using the facility for a variety of purposes, both sending and receiving? Once you have an instructional plan in place (see Chapter 4 for planning ideas), you can design a facility and incorporate the pieces of equipment that will best suit everyone's needs without breaking the budget. Above all, avoid starting off by saying something like, "I just love the whiteboard function. What can I teach so that I can use a whiteboard in the lesson?" Instruction begins with objectives and ends with assessment; technology should not drive those kinds of decisions. Instead, the facility and the equipment should be seen as tools that can support the achievement of these instructional goals.

The same rules apply to the design of the videoconferencing classroom. Ask yourself: How will this IVC facility best meet the needs of all those who will be using it? How can it be designed to support the kinds of instruction you and your peers have planned?



Preparation is key to a successful videoconferencing session, including arrangement of furniture.

Key elements to consider when planning a virtual learning classroom include the following:

1. The classroom design and technology configuration should be conducive to learning and instruction.
2. The location of the virtual learning facility should be accessible to everyone who will use it; designated IVC classrooms or labs are optimal. The facility should have direct access to network infrastructure and/or ISDN phone lines.
3. The environment (lighting/acoustics) should support effective videoconferencing.

Support for Learning and Instruction

The virtual learning classroom or lab should be functional and comfortable, as well as large enough for the number of people who will typically use it. For effective learning and instruction to occur, it should be designed to support optimal *two-way interaction*. Technology should never overrun a classroom. Monitors and cameras should be wall mounted when possible to reduce the amount of floor space lost to equipment carts. Safety is also an issue when myriad media carts fill the room. If at all possible, for optimal flexibility the instructor's workstation should be a mobile cart with a laptop, document camera, and camera controls. Allow for some empty space in the classroom where students can gather as a group in front of the camera to give presentations, debate, or participate with remote sites in collaborative projects.

Location

For ease of use by the teaching staff, the best location for an IVC system is a dedicated virtual learning classroom. However, because of limited space in many K–12 schools, this isn't always possible. Alternative scenarios might include a fixed location in a science lab, a library media center, or even an individual classroom. Whatever the location, it should meet the basic requirements of effective videoconferencing (see Chapter 5).

BE SEEN AND HEARD

Students and teachers who have to struggle to hear, see, or participate in a videoconference will quickly lose interest.

While most room-sized IVC units are fixed in one location, mobile systems can be rolled from classroom to classroom as long as *data ports* or ISDN lines are available in each room. Fixed locations are generally the best choice if a limited number of ISDN lines come into a school. Fixed locations reduce the stress of unplugging and reconnecting equipment, and when a classroom has the equipment fully installed and ready to go, teachers are more likely to use the technology on a regular basis. On the other hand, if the district has sufficient bandwidth and IP videoconferencing is possible, mobile carts can be an excellent instructional resource. Much like the computer cart in the early 1980s, the mobile IVC cart allows any classroom in the school to have access to this technology. It also avoids the difficulty and inconvenience of setting up and scheduling a dedicated videoconferencing room. One concern, however, is the unavoidable wear and tear on equipment; rolling equipment down school corridors often reduces the life span of the unit.

The Videoconferencing Environment

To achieve expedient participation for all end users of a videoconference, elements such as lighting, acoustics, and visuals should be taken into account. If at all possible, the videoconference room should be carpeted, draped, and located away from noisy areas such as gymnasiums, cafeterias, boiler rooms, and congested hallways. A dropped ceiling will help absorb noise. Diffused lighting will assist in limiting monitor glare. Walls should be painted a soft pastel. The room itself shouldn't be cluttered. A plain backdrop will provide a pleasing picture for remote-site participants.

The salespeople who supply your IVC equipment are often a good source of free advice for this sort of planning and will be eager to help you make wise decisions about the design and implementation of your virtual education classroom.

Virtual Classroom Setup

It's important to configure your classroom so that students and teachers can easily view the far-site and the far-site can easily view students and teachers at your site, facilitating optimal face-to-face interaction. Careful consideration should be paid to seating, camera, microphone, and monitor placement. If peripherals such as document cameras or electronic whiteboards will be used, they should be situated for ease of access by the teacher and students. "There are as many variations in [IVC] room designs, configurations, layouts, and seating arrangements as there are differences among schools, classrooms, teachers, and learning styles. As might be expected, some work better than others. But there are basic principles and guidelines which are common to those that do" (Foshee, 1997).

The following diagrams feature three potential IVC classroom setups:

Diagram 1 illustrates a traditional classroom setup, with students seated in rows or clusters and facing the front of the classroom. The instructional area is located in the front of the room, with the teacher located just to the right of the instructional area. A monitor mounted to the wall in the corner of the classroom allows students to view the remote site, and the IVC unit (which may include another monitor) is on a cart positioned under the wall-mounted monitor. Computers may also be located in the front of the classroom, near the instructional area. One disadvantage of this configuration is that little space is available for small-group or collaborative-project presentations to far-sites.

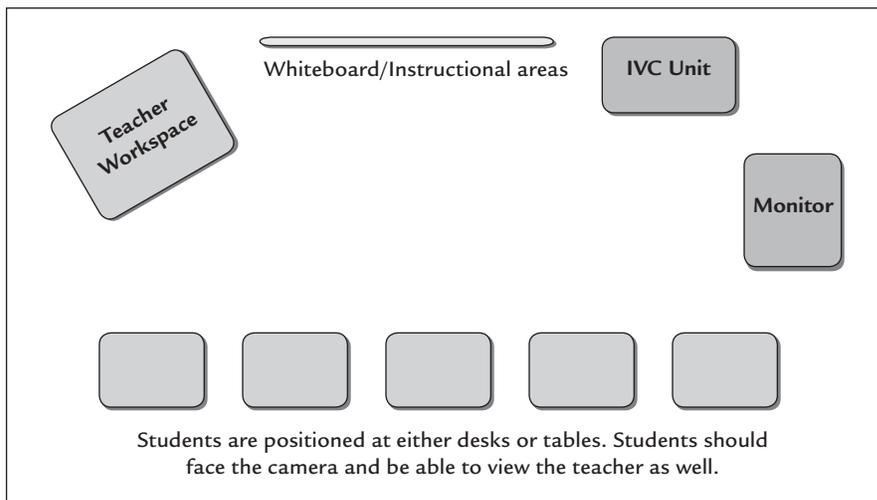


DIAGRAM 1

Another effective configuration is the horseshoe design, in which the students' desks are arranged in a semicircle and the IVC unit is placed at the open end of the horseshoe (see Diagram 2). This creates a sense of inclusion and community for both local and remote participants. This configuration lends itself to flexible instruction and collaboration because the teacher and students can present from almost any location in the classroom.



The horseshoe design creates a sense of community.

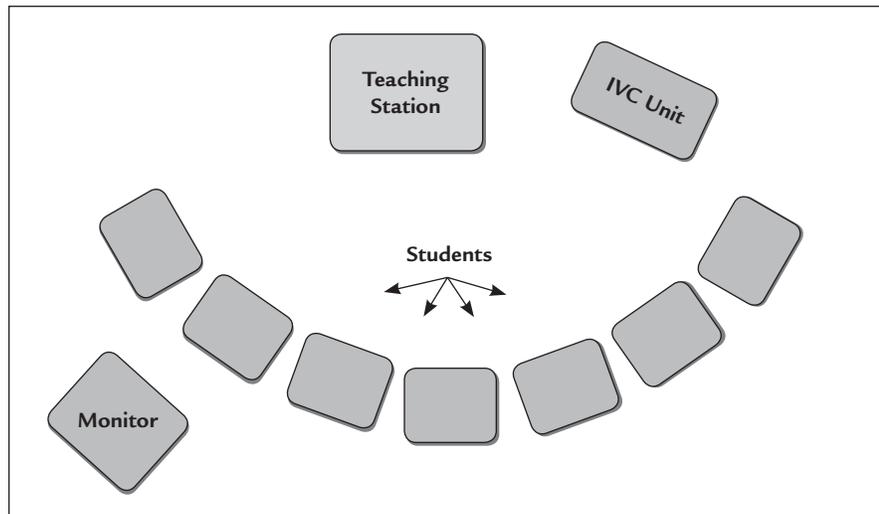


DIAGRAM 2

Some classrooms use tables rather than desks, as shown in Diagram 3. The work-group setup allows students to collaborate on projects easily and make group presentations while seated. Tables enable whole-group instruction or presentation and can be moved into a variety of configurations to support alternative learning activities. Remote and near-sites feel more connected because the room is easily configured to match the content and activities planned for the lesson. The IVC unit is located centrally to optimize camera pan and tilt functions. Wall-mounted monitors are adjustable, enabling optimal views for all participants.

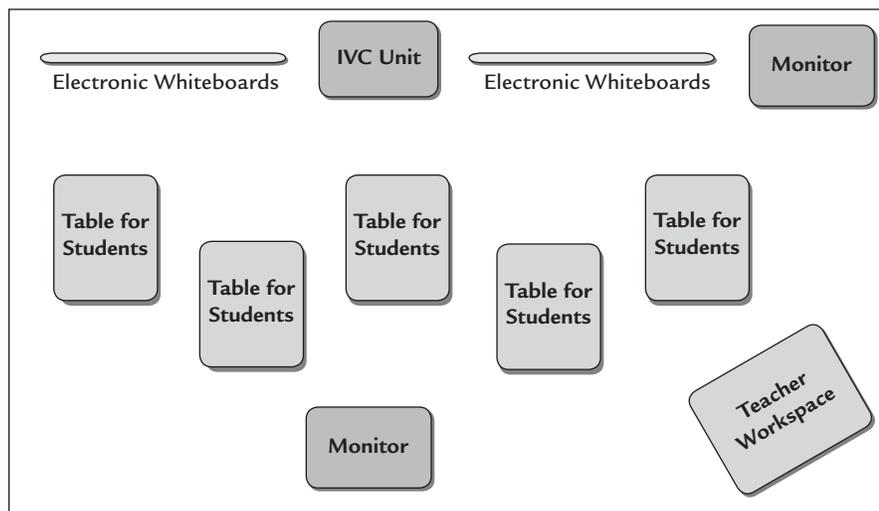


DIAGRAM 3

Note that each of these configurations has a teacher workspace. This is a key element and provides a place to integrate various teaching and display tools, such as the mouse and keyboard, control tablet, remote control, document camera, and other user interfaces.

Critical elements to consider when designing an IVC classroom include:

1. Visibility for all participants
2. Ability to reconfigure the classroom to meet a variety of instructional and collaborative needs (multipurpose use)
3. Interactivity with remote sites and on-site teacher or facilitator
4. Ability to use on-site supplemental media (VCRs, DVD player, computers, etc.)
5. Ability to support a variety of instructional strategies

Equipment

Numerous options are available for a videoconferencing system, from a single-monitor desktop unit to a multiple-monitor room-sized setup. In this book, we focus on room-sized systems, which are most advantageous for classroom instruction. Many choices are also available within that arena. Final purchasing decisions should be determined based on the projected use of the technology.

The following equipment checklist will help you with decision making and get you started in creating a list of purchases for your videoconferencing facility. Equipment vendors will be happy to assist you and your technology staff in making equipment choices; it's usually best to heed their advice because you'll probably have to live with your decisions for quite some time. Some examples of variables to keep in mind when making these decisions include: the size of your classroom or facility, the number of people who might use the facility at any given time, whether the room will be dedicated to IVC activities only or shared with other users for other purposes, how the system will be used by your entire school community, what upgrades are available for the system and desired by potential users, and how your school might be able to build upon its initial investment.

Equipment Checklist

- ✓ **Monitors (2).** The size of your monitors and the size of the classroom determine visibility for on-site students and teachers. For a classroom-sized system, monitors should be 27–32 inches and should be placed in the line of sight for both teacher and students.
- ✓ **Mobile cabinetry and carts.** Movable units, even within the classroom, provide a setting where participants can move around, change the classroom configuration to meet activity needs, and optimize their interaction with each other and with the far-site. Mobility helps make the equipment more manageable and user-friendly.
- ✓ **Camera.** Placement of the camera for optimal site-to-site interaction is critical. To facilitate eye contact, the primary camera should be placed above the primary monitor. As students gaze at the monitor, they also look directly into the camera, creating the illusion of eye contact and helping to reinforce the feeling of face-to-face communication. Without the appearance of eye contact, participants may quickly lose interest. On another note, if you are purchasing new equipment, be

sure to budget for a high definition camera. Even at lower bandwidths, resolution is much improved over traditional cameras.

- ✓ **Presentation computer.** The addition of an external computer enhances the interactive media functions, access to the Internet, and use of the computer's program applications.
- ✓ **Document camera.** This camera provides an additional projection device for instructional purposes. Teachers should have easy access to this tool during the videoconference. A less expensive way to show documents and 3-D objects, or to add an extra camera source, is the flex cam.



A document camera set up beside a monitor.

- ✓ **Microphones.** Microphone placement is critical and should be based on manufacturers' guidelines. Optimal audio functionality can make or break a videoconference. Microphones have ON/OFF settings that can be left open or configured for push-to-talk operation. It's imperative that microphones not be limited to an ON position. The resulting background noise caused by an open microphone will degrade a videoconference. Positioning of the microphone is also critical. Microphones positioned too close to the monitor will create a sound reverberation and can result in considerable frustration for participants. Remember, for a "fixed" IVC room, a ceiling-mounted microphone is ideal.
- ✓ **Remote control.** Manipulation of the IVC system and its *external devices* can be carried out by the remote control, enabling teachers to integrate external devices into their instructional presentation with the push of a button. This feature allows teachers or presenters extended mobility within the classroom so that they can walk away from the teacher station and still have control over system functions. It should be locked up when not in use and placed for easy access during a videoconference.

Equipment Support

Talk to your IT manager about the wisdom of purchasing an extended maintenance contract when you buy your IVC system. In some cases this can be a prudent decision, but in others it might be a costly and unnecessary additional expense. Many states or districts have people on the payroll who have been trained to make standard repairs on videoconferencing systems. In addition, it's frequently cheaper to replace a broken component than it is to maintain a costly annual extended contract.

For day-to-day assistance, you may have a districtwide technical support structure that allows you to call upon an established help desk for equipment or network problems. You may also, over time, learn how to troubleshoot first- or second-level problems with the equipment. Whatever support structure you have available to you, we recommend posting a troubleshooting guide, visible to all users of your IVC classroom, that includes on-site and off-site phone numbers, pager numbers, and, if possible, alternative phone numbers. It may also be helpful to post what the user should not do in the event of an emergency.

Useful Tips for IVC Classroom Configuration

Included below are additional items to consider adding to your shopping list as you design and equip your IVC classroom. We've also provided a few tips to help you establish a functional system and create a facility that will be user-friendly for everyone.

1. Install an outside phone line with long-distance connectivity so that your remote partners will have quick and easy access to you in case of problems, no matter what time of day or night it might be.
2. Install a fax machine, also connected to an outside line. This provides one more connectivity option should the IVC technology fail or it's after school hours and the front office is closed. The fax machine also offers an easy avenue for sharing documents and critical information during a videoconference.
3. Consider incorporating a laptop lab in the classroom. This provides students with an opportunity to work offline during the course of an IVC class or presentation.
4. Place basic user instructions at each seat and at the teacher podium/workstation.
5. Put operating instructions and other user guidelines in a binder and place it next to the IVC unit.
6. Provide a wall clock so that teachers/presenters can keep track of time and pace their presentation accordingly without looking down at their watch.
7. Turn off the school's intercom system in the IVC classroom.
8. Have someone in the building accessible by phone or beeper to assist with troubleshooting and basic equipment maintenance.

Staffing

Virtual learning programs, and especially IVC programs, require the expertise and support of several people. Because of limited school budgets, in many cases this support is carried out by one or two people wearing several IVC hats. We believe the following positions—whether staffed by one person or by a couple of multitasking support personnel—are crucial for the operation of a successful IVC program:

- Virtual learning facilitator
- Tech support specialist
- Program support staff
- Teacher of record

Virtual Learning Specialist

Many school systems are beginning to recognize the importance of funding a virtual learning specialist position. The person who fills this role often works at the district office or Service Center to identify, develop, and organize virtual learning opportunities for teachers and students.

Depending on the distance education mission of the organization and the amount of funding available, the day-to-day activities of virtual learning specialists may vary. They may supervise and expedite the delivery of IVC classes. They may be responsible for setting up and equipping classrooms, selecting and training teachers and facilitators, and ensuring the class runs smoothly on both the “send” and “receive” end.

In other situations, these specialists are also in charge of increasing the instructional technology skills of all teachers in the district. They may assist teachers in locating supplementary IVC content that highlights existing curriculum.

The virtual learning specialist may handle scheduling tasks for IVC events, depending on the size of the operation. As numbers of participating schools within the district increase, a specialist may be identified in each building to be on hand for consultation and troubleshooting.

Virtual learning specialists should have classroom teaching experience, knowledge of curriculum development, and at least fundamental understanding of distance delivery and interactive videoconferencing. They must be well organized and possess excellent people skills.

Virtual Learning Coordinator

In a classroom situation, virtual learning coordinators provide production support both prior to and during a videoconference. They operate the equipment and set up the room; they may function as a classroom aide or teaching partner. The coordinator works closely with the teacher, assisting with both classroom management and course delivery logistics. The coordinator may identify a responsible adult to facilitate the videoconference in either or both locations. For an ongoing class, it’s imperative to have a facilitator at each remote site. The facilitator at each far-site becomes the eyes, ears, hands, and feet for teachers of record, arranging handouts and textbooks, turning in assignments, and reporting back to the teacher on any problems a student may be experiencing.

During a **multi-point videoconference**, a facilitator can help coordinate many details, such as conducting **test calls** with each participating site, creating and confirming schedules, and assuring that all participants are on target. In most states, having a certified teacher in the classroom is the law. These states argue that only a certified teacher is able to determine if students are indeed on task and learning. There’s also a liability concern when facilitators are not certified teachers; should students become injured or harmed during the class period, the school may not be covered. In some states, the person at the remote site must be a licensed teacher as well.

During a virtual field trip or specialized class or event provided by professional content providers, the facilitator role is more like that of a news anchor. Although plenty of

behind-the-scenes activity occurs, in this situation the facilitator's main job is to move the videoconference along and ensure that both speaker and audience needs are met. During a multipoint videoconference, the facilitator cues presenter and students when to speak, acknowledges each site when it's the site participants' turn to interact, asks questions, and makes comments as appropriate. The facilitator may even encourage participation to ensure that enough interaction takes place. A facilitator may also assist the presenter with a demonstration, much like a teacher's aide, transitioning from one camera to another and helping make the presentation seamless and smooth. Unfortunately, because of budget and qualified staff constraints, teachers often have to serve as both presenter and facilitator.

Many states are now taking a fresh look at standards and practices that guide staffing in IVC classrooms. Because the need to access content from a distance may be based on lack of certified staff at the local site, requiring a licensed teacher at each far-site may not be practical in some situations and may even defeat the purpose of the IVC program.

Tech Support Specialist

Someone on-site trained to troubleshoot system problems, interface with the network hub, and solve minor equipment problems should never be more than a phone call away when the IVC system is in use. In a situation where users are new to the technology, the tech support specialist should be on hand to make sure the system is turned on, dialed in, and functioning properly. Microphone tests and camera tests should be conducted prior to the start of the conference. Nothing is more annoying or disruptive than troubleshooting that has to take place after the conference has begun. Tech support personnel can demonstrate to new users and guests how to operate the equipment, especially the push-to-talk microphones. We've seen situations where IVC guests were left alone without a clue about how to use the microphones, distressing the conference with open microphones or not being able to operate the microphones at all.

The result of inadequate tech support is often a failed videoconference, which places undue stress on the participants and typically leaves them very skeptical about the technology and eager to tell everyone that IVC is a waste of time.

Program Support Staff

An ongoing IVC class, like any academic program, requires staff and student support services. For an IVC class, where students and teachers are often separated by many miles, details such as the ones that follow need to be attended to on a regular basis:

- Distribution of papers, assignments, and handouts
- Interaction with the business office regarding tuition and grading issues
- Oversight of day-to-day logistics
- Textbook coordination
- Information dissemination
- First-level troubleshooting of equipment
- Arrangement for facilitator's backup

ARKANSAS GOES THE DISTANCE

Chris Robbins, Director of Outreach; Arkansas School for Mathematics, Sciences, and the Arts; University of Arkansas System; Hot Springs, Arkansas

Five years ago, Horatio High School (Horatio, Arkansas) principal James Dobbins was in a difficult position. Unable to hire a certified Spanish instructor after months of searching, it appeared the school couldn't offer Spanish courses to its students, potentially costing them college scholarship opportunities and even admission to some colleges and universities.

Faced with this possibility, Dobbins decided to explore distance education, an educational method he'd used to complete coursework as a graduate student. For assistance, Dobbins turned to the Office of Distance Education at the Arkansas School for Mathematics, Sciences, and the Arts. Five years later he still raves about ODE and the service it provides the students of Horatio.

"It's just been spectacular," Dobbins says. "I told the principal over at Lafayette County High School (Stamps, Arkansas) recently how great it's been for us."

Curtis Black, a softball and girls basketball coach at Horatio who's been the school's facilitator, agrees, although when Black first heard about using distance education to teach students, he wasn't sure how it would work.

"When we started out, I was skeptical the kids wouldn't learn as much or as well," Black says. "I didn't know how well the students would respond with the teacher not being in the classroom with them. But after a month or so, I could tell it was going to work for us. It's a great thing."

To accomplish these tasks most effectively, it's important for near-sites and far-sites to communicate on a daily basis. E-mail attachments provide an efficient way to transfer documents, samples, and handouts to remote sites, with the facilitator making copies at that location. Establishing a conference website may also benefit students, allowing them easy access to files and media presented in class. Sharing e-mail addresses or setting up an e-mail list can further enhance information flow between sites. A central processor should collect fees and ensure that all students know which materials are required for the course. In some cases, IVC rooms have designated technicians to check lines and equipment before any connection. These technicians may substitute as the designated facilitator if necessary.

Teacher of Record

The *teacher of record* is the most crucial participant in a successful virtual learning program, often wearing many—or even all—of the staff “hats” outlined above. Whether the videoconference is an ongoing class or a virtual field trip involving an off-site content provider, the teacher plays a pivotal role in organizing and mediating the program.

Teaching and learning from a distance is not intuitive. Expect to spend extra time preparing for a videoconference class or event. Important aspects of the IVC teacher's role are the additional and special arrangements that must be made ahead of time, weaving particular instructional and administrative elements into the lesson plan (see Chapter 4). Since most teachers are relatively new to this technology, we recommend at least some level of training and practice prior to an IVC event or the launch of a daily IVC class. Finally, if classroom students are also new to the medium, the teacher should take plenty of time to instruct students about the logistics, protocol, and etiquette of participating in a videoconference (see Chapter 5).



Natalie Humphreys, Arkansas Office of Distance Education's Spanish instructor and 2007 USDLA Bronze Award winner, reviews with her Spanish II students at Turrell High School before they begin taking a quiz.

Training

Teaching with videoconferencing technologies requires new skills and an ability to adapt to new ways of teaching and communicating. Teachers who are given an opportunity to train and practice will be successful and will continue to use the technology. The cost of this training is minimal, sometimes free, and can be accomplished very efficiently if well planned ahead of time. Technology staff should also receive training from equipment vendors and state-level videoconferencing specialists. Many vendors are happy to bring technology staff up to speed at no charge.

Take a moment to recall the hours of training and practice you've spent integrating computer technologies into your classroom. Many preservice teacher training programs are now rich with technology integration, most often in the form of online learning. For example, in 2005 7% of all U.S. postsecondary students were participating in an online course (Mendenhall, 2007). This, matched with the increase in availability of videoconferencing technology, provides teachers the opportunity to become more familiar with not only the technology but also the experience of distance learning.

TRAINING IS ESSENTIAL

Stories abound about high-end, high-priced IVC equipment sitting unused in corners and closets—and sometimes still in boxes—because of lack of training for both teachers and technology staff.

Teachers who participate in some form of distance learning are more likely to recognize the significance of global classrooms. Transitioning from a traditional face-to-face classroom situation to a distance classroom situation is an ongoing learning process. Professional development should be ongoing and in-depth.

IVC training programs should address a variety of topics and should be offered to teachers through various resources. Critical training themes, in addition to basic operation of the technology, should address instructional design, video production, graphics production, presentation strategies, logistics, protocol, and classroom management.

We'll address these issues in detail in Chapter 5, but we encourage all new users to access an interactive training program from an experienced educational videoconference practitioner.



Oregon teachers are using IVC to form a virtual learning community supported by a blend of other communications technologies. Here, they're connected to the Oregon Museum of Science and Industry.

Eliminating the Initial Fear Factor

Once a videoconference system is correctly installed, it's easy to learn how to use the basic controls, applications, and peripherals. Systems are often operated with a simple touch-pad or remote control. We encourage new users to employ a seat-of-the-pants method to familiarize themselves with the equipment. Take the controls in hand and practice manipulating the camera, microphone, monitor, and so forth. Like a desktop computer, these systems are fairly robust, and it's not likely you'll break anything by experimenting with the menus and controls. If you're already proficient with a desktop computer system and a TV remote control, you will probably find IVC technology to be fairly intuitive. Practice makes perfect!

TEACHER OBSERVATIONS USING IVC

*Donna M. Farren, M.Ed., Distance Learning Specialist
Monroe 2-Orleans BOCES; Rochester, New York*

Our organization uses videoconferencing as part of the staff development program for teachers in the reading program. Each teacher who participates in the program has to teach a student lesson while the rest of the teachers observe. In the past, the students were transported to our location, and the teachers observed the lesson behind a one-way mirror. Transporting the students was complicated, and some of the teachers participating in the program worked at schools an hour or more away.

Now we use videoconferencing; so the teacher teaches the students in his or her home classroom and the rest of the teachers observe via videoconference. Originally, we thought we were only eliminating transportation issues, but we found other benefits as well. The students remain in their regular classroom; so it is a more natural environment for observation. It also helps with last-minute cancellations when a student is sick; the teacher can select a different student. It also exposes a lot of new teachers to videoconferencing.

After teachers and technology staff have mastered the rudiments of the technology, many things must be considered before incorporating IVC for instructional purposes. While we discuss many of these issues in Chapter 5, there's no substitute for hands-on practice. In a training or practice situation, teachers can divide up in off-site groups, brainstorm possible applications, generate lesson plans, and present to each other from a distance, utilizing various elements and applications of the system. This is an opportunity to offer honest feedback and share knowledge, frustrations, and "Aha!" moments of enlightenment. Another way to generate honest feedback is to tape your own presentation and share it with colleagues.

Taking the Next Step

The next step in your IVC training program should be to survey an array of possible applications and pedagogical techniques. Seek out examples of IVC applications in K–12 classrooms wherever you can find them. Some programs provide web-based *archived video streams* of past IVC events. The Northwest Educational Technology Center (NETC) Digital Bridges project, for example, offers website examples and two videos filled with excellent illustrations and IVC guidelines.

We recommend a formal faculty or staff training program of up to 24 hours. The workshop might be broken up into half-day increments and extended over several weeks. We also recommend that you follow up any training program with ongoing practice and actual participation.



The Northwest Educational Technology Center Digital Bridges:
www.netc.org/digitalbridges

IVC Training Opportunities

IVC training sessions are often offered at the district level, especially if there's been an investment in the technology by the school system. In many states, local education associations and service centers provide training and support in the adoption of virtual learning technologies. In some cases, training is available on the state level and is offered through the state Department of Education. Vendors of the videoconference equipment

may also offer training in the use of IVC in the classroom. We suggest you check the virtual learning (distance education) websites of all of these organizations for resources and support program opportunities.

KEY TO SUCCESS

Support and incentives offered by school administrators are a key factor for your success as an IVC teacher or practitioner.

If you don't have access to an established training program through your local or state education system, other options are available. More and more state and national technology conferences offer workshops, or at least a concurrent session, on the topic. ISTE's NECC hosts several IVC-focused sessions and workshops. If you can attend one of these conferences, these are also good places to network with like-minded professionals and potential partners.

Professional content providers may also provide staff development opportunities. For example, the Cleveland (Ohio) Museum of Art offers middle and high school teachers a program called Professional Development: DL and Your Curriculum.

The course curriculum includes an introduction to videoconferencing and Internet resources, a lesson on how to integrate these resources into classroom projects, and a culminating videoconference with the museum.

THE CLEVELAND MUSEUM OF ART

Search go

Home > distance > Professional Development: DL and Your Curriculum

Professional Development: DL and Your Curriculum

Explore ways to use distance learning (educational videoconferencing) as a component in a multidisciplinary classroom project that you design! This two-part series for high school or middle school teachers helps you navigate the museum's Website for visual resources, become familiar with our distance learning lessons and start to build an "idea bank" for making videoconferencing an integral part of your curriculum planning. See how The Cleveland Museum of Art's collection of paintings, prints, sculpture and artifacts links to your creativity in teaching Language Arts, Math, Science, and Social Studies.

These two sessions should be scheduled to allow participants to complete assignment from the first session and CMA staff to pre-produce the second session. Please allow an interim of 2 hours or more between sessions.

1. Introduction to videoconferencing and internet resources from The Cleveland Museum of Art.
2. Integrating resources into your own projects

[Please register online](#)

PLAN YOUR VISIT
PURCHASE TICKETS
EXHIBITIONS
COLLECTIONS
BUILDING CAMPAIGN
EVENTS/PERFORMANCES
EDUCATIONAL PROGRAMS
RESEARCH
SHOP THE MUSEUM
MEMBER AND DONOR CENTER
ABOUT THE MUSEUM
NEWS ROOM
PRIVACY POLICY
CONTACT
TAKE SURVEY

Professional Development: DL and Your Curriculum program at the Cleveland Museum of Art: www.clemusart.com/educef/distance/7126785.aspx

Numerous virtual learning organizations offer training materials online. Their websites provide downloadable PDF files containing technical information, content access information, and tips on how to plan your own videoconference or IVC workshop. Nassau BOCES in New York state offers free to all teachers an online self-paced course called Introduction to Videoconferencing.

OPEN ONLINE LEARNING NETWORK
- Building Learning Communities -

Home Self-Paced Modules Facilitated Online Professional Development Professional Development for Assessments Professional Resources

Self-Paced Modules...

Our list of self-paced modules is growing!
Click on a link to start the course of your choice.

Middle Level Modules	Curriculum Content Modules	Integrating Technology Modules
<p>The Essential Elements of Standards-Focused Middle Level Schools and Programs: The intellectual development and academic achievement of all students and the personal and social development of each student depends on the essential elements of standards-focused programs in the middle school.</p>	<p>Building a Classroom Community: In this module you will learn how to transform the group of children in your classroom into a strong and cohesive learning community.</p> <p>Early Math: In this module you will be able to experience different strategies for teaching early math. Great for student use tool!</p> <p>The Essential Elements of Reading:</p>	<p>Analyzing Data This is an introductory course which discusses several ways of monitoring student performance.</p> <p>Introduction to the Internet and Effective Searching Strategies: Learn how to find what you need on the Internet quickly and effectively.</p> <p>Introduction to Videoconferencing: This module will introduce you to the</p>

Nassau BOCES: www.nassauboces.org/cit/vls/selfpaced.htm

DID YOU KNOW?

Within ISTE there are two special interest groups devoted to distance learning.

- SIGIVC promotes understanding of interactive videoconferencing and related virtual learning technologies within the K-12 education community by advancing collaboration, information dissemination, research, and practices.
- SIGTel is a network of educators involved with computer-based communications—either stand-alone stations or combined with other media. The SIGTel Bulletin reflects the SIG's interests and activities in the areas of communications, projects, research, publications, international connections, and training.

To find out more, visit www.iste.org and click on Membership, Special Interest Groups.

Many educators also take advantage of the ATT Knowledge Network Explorer website. Founded in 1992, they offer valuable free information and assistance on instructional strategies, multipoint videoconferencing, IVC equipment strategies, IVC communication skills, planning a videoconference, evaluating a videoconference, and more.

E-mail lists and electronic bulletin boards also support K-12 videoconferencing and engage a variety of people from the field, including content providers, end users, teachers, researchers, and product vendors. E-mail lists provide daily opportunities to access ideas, opportunities, and tips on advancing or streamlining a local IVC program (for a selection of best e-mail lists, see Chapter 7).

We believe the importance of training and practice for successful integration of IVC technologies cannot be overstated. Successful distance delivery requires as much or more advanced planning, organization, and training as preparation for face-to-face classes. But you may not have to drive hundreds of miles to access the training workshop or practice with your peers; these opportunities are only as far away as your computer or IVC unit. You need only make the necessary arrangements and schedule the time to do it.

Camille Cole has worked in the educational technology field for more than 20 years. From 1998 to 2006, she oversaw the deployment and implementation of the Oregon Access Network, a statewide interactive videoconferencing network. She is currently the principal of a virtual learning consulting firm, Schoolhouse Communications.

Kecia Ray has conducted research in the area of technology integration across the United States, in Canada, and in South Africa. She serves as adjunct professor in the College of Natural and Applied Sciences at Lipscomb University and as graduate faculty for the college of Teaching and Learning at University of Maryland University College. She currently serves as the assistant superintendent of federal programs and grants for Metropolitan Nashville Public Schools.

Jan Zanetis has developed hundreds of standards-based lessons for K–12 students across the United States using videoconferencing as the main means of delivery. In 2005, she became the global market manager for education at TANDBERG, a videoconferencing solutions provider. She currently serves as the president of ISTE's SIGIVC and is on the Board of Directors of the United States Distance Learning Association.

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