

Connecting K-12 and Higher Ed

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WCET48, PBS

Cincinnati

Ohio

Tuesday, March 5, 2002; 10:30-12:00 noon

Introduction

Videoconferencing is the latest distance learning technology to hit K-12 education. Distance learning in all of its forms, including correspondence courses, Internet, email, radio, phone/fax, instructional television, videotape and videoconferencing, is helping elementary and high schools across the country bring new, relevant and expert content into classrooms. Students and teachers are able to work and learn with those they may not have any other way in which to connect except through technology. Distance learning allows students to participate in classes located at a far away school, connect to expert college or government researchers and converse with others who live in a different culture than theirs. High stakes government testing and increased teacher accountability are pushing elementary, middle and high school teachers to engage students by finding new resources and using innovative techniques in the classroom.

Advantages of Videoconferencing

One advantage of videoconferencing over other types of distance learning is that it provides a real-time, synchronous learning experience that closely approximates a traditional classroom experience where the instructor is in the same room as the students. In this medium, teachers and students can see and hear each other at the same time and conduct simultaneous discussions, just like a regular class. Teachers can use a variety of teaching strategies, such as discussion, small group work, computer software, the Internet, reading, writing, videotape/DVD, kinesthetic activity, problem-based learning activities and music/audio resources, in videoconferencing just as they use these in a traditional classroom. Other forms of distance learning can restrict the types of strategies available to the teacher.

Another advantage of videoconferencing is that it is inherently collaborative in nature. To work effectively it requires partnerships between classroom teachers and other educators, students or content experts. Since it is a real-time audio and video connection, it works best when students are actively participating in the conference. A videoconference without student participation is nothing more than

a videotape; without participation, it becomes a passive experience. Student engagement brings life to a lesson and enhances student recall of the information. Active involvement, brings a heightened level of engagement, and videoconferencing lends itself well to this learning style. Through this technology students are engaged in an authentic exchange of ideas, questions and answers.

K-12 Applications

Teachers in K-12 schools are using videoconferencing in a variety of classroom applications. The most common use of this technology is taking virtual field trips. Staff at outside educational agencies such as museums, zoos, government agencies and libraries can teach students across the country and the world. Students can benefit from resources at distant institutions that they could not visit on a school bus. Examples of virtual field trips include a Spanish language program from the Cleveland Museum of Art, a discussion with a Holocaust survivor at the Museum of Tolerance, a bio-terrorism briefing from Wright-Patterson Air Force Base, a visit to the veterinary clinic at The Wilds (an endangered wildlife research and conservation park in Ohio), or an author visit from the California Center for the Book.

Other uses of videoconferencing in elementary, middle and high schools range from community service projects to collaborative partnerships between schools. Some schools use this technology to provide educational opportunities, such as GED classes, local town meetings, and theatre and music performances, to the greater community. Teachers also use the technology to form team teaching partnerships, extend a student teacher/mentor teacher relationship into the student teacher's first year of teaching, provide tutoring to students at other schools, and offer unique classes such as AP, upper level foreign language and specialty arts courses, across an entire county through the expertise of a single teacher. For example Clermont County, a rural county in southwest Ohio, has used videoconferencing to offer American Sign Language, Japanese and German across multiple school districts.

How individual schools are using this equipment varies widely and schools are finding more and more ways to introduce unique content to their students. A summary of some of the kinds of collaborations K-12 schools in Ohio are involved with is as follows:

School to School Teacher Partnerships

- ✓ Increasing the opportunity to expand curriculum
- ✓ Ability to offer new educational courses, such as honors or arts classes
- ✓ Exposing students to a greater variety of teachers
- ✓ Teachers can team teach with remote teachers, sharing area expertise
- ✓ One on one tutoring opportunities

- ✓ Opportunities to have meetings with other schools and teachers without having to travel

Virtual Field Trips

- ✓ Pre-visit experience before "live" field trip
- ✓ Student visits to students in remote schools
- ✓ Workshops from museums, zoos, science centers
- ✓ Interview with professional scientist or experts in any other field

Community Outreach Services

- ✓ Worker training programs
- ✓ Town meetings or other government functions
- ✓ Art and cultural community programs

Specific Ideas for Using Videoconferencing in K-12 or College Classrooms

- ✓ Hands-on activity directed by an educator at a distant or local museum
- ✓ Visit animals at a distant zoo
- ✓ Learn about the ocean from a marine biologist
- ✓ Videotape class discussions or presentations for a student who is in the hospital
- ✓ Use videoconferencing to connect to a student who is in the hospital or is sick at home for an extended period of time
- ✓ Talk to your local representative in the U.S. House of Representatives
- ✓ Interview a paleontologist in her lab or an artist in his studio
- ✓ Learn about the Civil War from a northern and a southern perspective
- ✓ Write and produce a play with a school in another state
- ✓ View original artwork in distant cities
- ✓ Visit a museum without permission slips or a bus!
- ✓ Have your students tutor students at another school
- ✓ Watch a drama production from another school and discuss it with the actors
- ✓ Ask a librarian about research techniques
- ✓ Interview an author about a book the class is reading
- ✓ Meet with university admissions officers for counseling or interviews
- ✓ Tour an assembly factory and interview the staff
- ✓ Have students present reports to another class
- ✓ Conduct a debate with another school
- ✓ Experience diverse cultures and through collaboration with a distant school
- ✓ Learn what it takes to be an astronaut through NASA programs
- ✓ Meet with a classmate who is studying abroad

In addition to all these applications, school district administrators are now finding that this technology, along with Internet technologies, provides new opportunities for professional development for teachers. Wright State University is currently offering a Masters Degree in Special Education to teachers in rural Highland County, Ohio through videoconferencing. Community colleges across Ohio,

including Terra Community College and Sinclair Community College, offer post-secondary options classes and teacher education classes through this new medium.

Connecting Higher Education Institutions to K-12 Schools Through Technology

Along with professional development opportunities, schools are finding that videoconferencing provides new ways to partner with higher education institutions. By developing new partnerships, the education of our students can become a seamless K-16 experience, rather than disjointed K-12 and 13-16 experiences. A summary of K-12/higher ed collaborations currently being used across the country includes:

School and Higher Education Collaborations

- ✓ High school post-secondary option courses
- ✓ Courses for adults in the community during non-school hours
- ✓ Teacher professional development courses
- ✓ Teacher graduate courses
- ✓ Virtual masters or doctoral degrees
- ✓ Admissions visits or application counseling/workshops
- ✓ Career counseling
- ✓ Classroom observation for pre-service teachers
- ✓ Student teacher mentoring
- ✓ Continued mentoring with former student teachers during their first year in the classroom
- ✓ Remote access by high school students of technical equipment at universities
- ✓ University staff offering technical advice to schools starting their own videoconferencing networks
- ✓ Interviews with university staff as experts in their fields

Challenges of K-12/Higher Ed Partnerships

All collaborations involve an intense amount of work, flexibility, a willingness to share control and to change, and a videoconferencing collaboration requires even more of these traits since the collaboration may involve work between people who will never meet each other except through technology.

Technology provides a means of increased communication, but it can also lead to miscommunication. Many videoconferencing collaborations usually involve pre-planning and organization work through email. Email messages can sometimes be misconstrued, such as sarcasm or jokes which many times translate poorly through email. Since the partners may not know each other well, they may get easily frustrated with each other or they may misunderstand each other's intentions. Try to build this relationship, just as you would build a "live" relationship. Get to

know each other and each other's operating style. It is always easier to send a hostile email to someone who is just an email address, than to send that same attack to a trusted colleague or friend. Focus on the goals of the project, when communication issues become annoying. Remember, your students will benefit from the increased resources of the partnership.

Once the lines of communication have been opened, flexibility is key to maintaining the collaboration. K-12 schools and higher education institutions operate in vary different manners and both are used to making the final decisions about their courses. Various high school bell schedules and the additional different class schedules found at universities can make scheduling difficult. Scheduling issues to negotiate include, but are not limited to: times of day for classes, days of the week for classes, various dates for winter and spring breaks, quarter vs. semester systems, snow days, rescheduling needs due to technical problems and instructor sick days. All these scheduling conflicts must be dealt with before any class can start. Through flexibility and creative thinking, compromises can be reached. What is most important to keep in mind is that both the K-12 building and the higher education institution must be willing to compromise. If one institution expects the project to conform completely around their schedule, the other partner will probably discontinue the collaboration.

Issues of intellectual property should also be discussed early on in the partnership. Who owns the program: The K-12 school? The higher education institution? The instructor? Other issues of copyright include videotaping of the program for use with other students and future access to materials.

Even with these difficulties distance learning partnerships can be fruitful and benefit both parties. K-12 schools benefit from increased content in their classrooms and higher education institutions develop closer ties to potential undergraduate and graduate students, while also becoming more involved the community that they serve.

References

Cleveland Museum of Art
<http://www.clemusart.com>

Museum of Tolerance
<http://www.wiesenthal.com/mot/>

Wright-Patterson Air Force Base Educational Outreach
<http://www.wpafb.af.mil/educational.outreach>

The Wilds
<http://thewilds.org/>

California Center for the Book
<http://www.calbook.org/>

Clermont County Educational Service Center
<http://www.clermontcountyschools.org/>

Wright State University
<http://www.wright.edu/dl/>

Terra Community College
<http://www.terra.cc.oh.us/distance.html>

Sinclair Community College
<http://www.sinclair.edu/distance/>