

Videoconferencing for Project Based Learning

By Janine Lim

Imagine your students sharing their own performance poetry with another class in upstate New York and receiving authentic feedback from students who are also performing poetry. What if your students could discuss *MacBeth* with students in Wales in the United Kingdom? Imagine your middle school language arts students writing and sharing skits about the misconceptions about our respective countries with students in Costa Rica and Guatemala. What if your students could compete real-time with 5 other classrooms around the country on a geography game for Michigan geography, U.S. geography, or world geography? Imagine your fourth graders interviewing Laurie Keller, the author of *Scrambled States of America* to learn about the writing process, illustrating a book, and making a book! What if your 2nd graders could design a puppet show to demonstrate their understanding of light and shadow, and share the puppet show with a class in Torfaen, Wales? These examples, and many more are how teachers in the Berrien RESA service area use videoconferencing to extend the impact of project-based learning. An authentic audience motivates students to increase the quality of their projects! You can read more examples at <http://vcoutonalim.org/category/collaborations/>. Berrien RESA's schools participate in an average of 12 videoconferences a year; with some schools connecting over 40-50 times a year for engaging project-based learning experiences.

So how do you bring videoconferencing to your classroom or school? In this article we'll example three potential methods: Skype and two methods of standards-based videoconferencing: a videoconferencing cart or desktop videoconferencing.

SKYPE

Skype is easy to use communication software that can be downloaded for free from www.skype.com. It includes the ability to



chat, make voice calls, and make video calls. You can also share your desktop (think PowerPoint or other visuals) during a video call. For a fee, you can "Skype Out" to call regular phone numbers; or "Skype In" to receive phone calls to a regular phone number. Let's look at the advantages and disadvantages of using Skype.

Advantages

- Cost is low. A \$10-\$150 webcam and projector are all you need for optimum classroom use.
- Allows easy access to videoconferencing right in the classroom.
- You can easily share your desktop and any computer visuals in a video call.
- You can switch USB video sources during the call by end-

ing the video, changing preferences, and starting the video again. During this switch the audio keeps working.

- It's easier to connect to international schools with Skype as it is more likely they have access to a low cost webcam.
- It's easier to bring in guest speakers via Skype as they don't need to find access to expensive H.323 videoconferencing hardware.

Disadvantages

- Network concerns. Some school districts block Skype out of concerns for how it behaves on the network.
- Skype can't connect to standards-based videoconferencing (H.323). A wealth of content is available from zoos and museums (see www.TWICE.cc), but these are only available with standards-based videoconferencing (H.323).
- Potential echo cancellation problems. The technology keeps getting better though; this has been a problem much less often for me this year.
- Most webcams have little to no pan/tilt/zoom ability. No camera presets either.
- Difficult to manage Skype's use of bandwidth at the district level.
- No multipoint video calls.
- May have inconsistent results with quality.

Resources for Using Skype in the Classroom

Visit <http://vcoutonalim.org/skype/> for links to online communities, resources, lists of authors who use Skype, and best practice tips and tools for classroom management and preparing for your videoconference.

H.323 STANDARDS BASED VIDEOCONFERENCING

H.323 is the standard to connect disparate videoconferencing systems using the Internet. Companies that make H.323 solutions include Polycom, Cisco-Tandberg, Logitech-LifeSize, Sony, and Mirial. Solutions include standard-definition systems, high-definition systems, stand-alone desktop client software, and server-client software solutions. Read about the full continuum of videoconferencing at <http://wp.me/pmtK-AE>. Some of these solutions are available via the REMC Bid Buy program.

Advantages for H.323 Videoconference Carts [the cart picture goes with this section]

- The microphone is designed for classroom use and can pick up sound from around the room.
- The camera can zoom, pan, tilt, and you can set presets to quickly zoom from one area to another.
- You can connect multiple inputs: document camera, DVD/VCR, a computer, etc. and easily use presets to switch back and forth.
- You can connect to a plethora of content available from zoos, museums and other organizations, as well as connect to thousands of classrooms with H.323 videoconferencing.
- A remote control allows you to manage the videoconference from anywhere in the room.
- When installed appropriately on the network, you will have a more consistently higher video quality than Skype.

Disadvantages for H.323 Videoconference Carts

- It may be difficult to share the cart or to move students to where the system is located. No access in the classroom for all teachers.
- The cost may be prohibitive (\$2000-\$9000 depending on peripherals purchased).

Advantages for H.323 Desktop Videoconference Software

- Access right in the classroom
- Access to all the H.323 content available that cannot be used with Skype.
- Most solutions allow for switching the camera source during the video call.
- Using the server-client solutions adds management and control and removes firewall challenges with stand-alone H.323 software solutions.

Disadvantages for H323 Desktop Videoconference Software

- Most webcams have little to no pan/tilt/zoom ability. No camera presets either.
- The cost is higher than free! (\$200-300 for stand-alone desktop software; \$20,000-\$75,000 for server-client software solutions that can be shared across a district, county, region, or consortium).

Resources for Using Standards-Based Videoconferencing (H.323) in the Classroom

Visit www.twice.cc for many resources and an online community for using H.323 videoconferencing in the classroom. Berrien RESA also offers resources, projects, and training available to schools across Michigan: www.berrienresa.org/technology/vc/.

BOTTOM LINE COMPARISON

Skype is good for short learning experiences that aren't critical or super frustrating if the call doesn't work when you want it to. However, standards based (H.323) videoconferencing is better when:

- you've paid for a program
- you need the videoconference to work well at a specific time
- you have a guest speaker only at a specific time, or
- you are planning a more in depth interaction.

Ideally, all 21st century classrooms would have access to both types of videoconferencing so they could easily connect for all types of project based learning activities.



Janine Lim, PhD, serves schools in the tri-county area of southwest Michigan as Instructional Technology Consultant at Berrien RESA. Follow her on twitter at [outonalim](http://twitter.com/outonalim) <http://twitter.com/outonalim> or her blog at <http://VCoutonalim.org/>.