Technology in Education
Virginia Society for VSTE
www.vste.org

Live and Unedited: Videoconference Applications in the Social Studies Methods Class

by Anthony P. Dralle, Ph.D., Amy J. Good, Ph.D., and Katherine A. O'Connor, Ed.D.

In 1997, professor and researcher Peter Martorella looked for the emergence of the "sleeping giant" in social studies education, by which he referred to technology's still-slumbering role in teaching and learning social studies content. Since that time, the availability of one technological tool—the internet—has increased to the extent that most teachers and students are able to access a great variety of internet-based resources with little difficulty. Social studies teachers' increased use of the internet in their teaching must be credited at least in part to inservice programs' emphasis on using internet resources in teaching (Bolick, Berson, Coutts, & Heinecke, 2003). At the same time, instructors in teacher candidates' methods classes must continue to prepare teachers to use the newest technology tools, which are becoming available in public schools at an increasingly rapid rate (Bolick et al, 2003).

While the internet will continue to offer new and exciting resources for teaching and learning social studies, continued hardware and equipment advancements make possible many additional uses of internet technology as a teaching and collaborative tool. Specifically, continued expansions in Internet 2 bandwidth and the greater availability of high-speed internet connections at public schools facilitate using such videoconference applications as teleobservation and telecollaboration much more easily than even just five years ago. Using these technologies, along with affordable (between $1,000-$3,000) videoconferencing equipment, instructors in methods classes for teacher candidates can conduct real classroom observations and real-time collaborative classes with teachers and students thousands of miles from their on-campus college classroom. Skeptics have warned of videoconferencing's lack of reliability (Thorsen, 2003), but these concerns are diminishing quickly as more public schools and a great number of colleges and universities purchase the equipment needed to telecollaborate seamlessly.

Teleobservation in the Methods Class

Teleobservation is a type of collaboration between a university and public schools that provides instructional and observational opportunities among classroom teachers, university professors, K-12 students, and preservice teacher candidates. Teleobservation is an observation method that includes team teaching and utilizes videoconferencing to enable a university professor and a K-12 classroom teacher to meet and plan a content lesson for K-12 students. The lesson can be taught by the classroom teacher, the university professor, or by both as team teachers. The preservice teacher candidates remain

Videoconference applications, continued

on campus to observe the social studies lesson in real time via videoconferencing. Before the lesson begins and at the end of each teleobservation class period, the classroom teacher(s) can stay on camera, giving the preservice teacher candidates an opportunity to ask specific questions regarding the content, methods, or management planned for the lesson or observed during implementation. Preservice teachers may also communicate with the classroom teachers via email or threaded discussion before or after the teleobservation, making possible additional reflection and conversation.

Setting up a Teleobservation Partnership: Equipment Considerations

Equipment needs for videoconferencing are surprisingly affordable, with a school's entire setup costing less than $3,000. For videoconferencing and telecollaborative teaching experiences, both university sites or the university site and the public school partner site need an Internet Protocol (IP) address, microphones, H.323 video conferencing equipment (i.e., Tandberg, Polycom), software, a way of displaying video (i.e., a television monitor or Liquid Crystal Display (LCD) projector), a speaker system, and transmission lines. The videoconference units are portable and need only electrical power, a high-speed internet connection of 384 kilobits per second, microphones, and a television monitor for displaying the video and playing the audio. Once purchased, this equipment can be used in multiple classrooms, or classes can reserve space in a room dedicated to hosting videoconferences (Holston, 2005).

During teleobservations between public schools and methods classes at East Carolina University, video and audio signals from one site are digitized and made available to videoconferencing equipment via the internet. For internet safety reasons, the university site should dial up the partner school site. When executed in this way, the partner school site has the authority to answer the calls. When the partner school recognizes that it is the university calling in, they answer. In this way, the partner school is in control of permitting or not permitting any calls from unknown IP addresses.

One additional preparation consideration is securing necessary permission forms. It is important for K-12 students to sign their school-based permission forms and the preservice teacher candidates to sign the university tele-education forms. See Appendix A for an example of a tele-education permission form.

Personnel Considerations

There are multiple productive formats for conducting teleobservations. Key personnel include a K-12 classroom teacher and two technology support staff members. Depending on the type of observation, one university professor may be present at the K-12 school, teaching or team-teaching the observed lesson, while a second professor remains on campus with the preservice teacher candidates to guide their social studies methods observation in the university classroom. Alternatively, a single university professor may guide the preservice teachers' observation experience, while the classroom teacher teaches the observed lesson. These arrangements nurture seamless technology integration because it is the technology support personnel who set up the mobile equipment, while the classroom teacher and university professor teach social studies content and concentrate on the K-12 students' learning.

Videoconference applications, continued

Scheduling Considerations

As Cochrane (1996) noted, "merely linking distant groups or individuals at different locations… [does not in itself]…create an effective learning environment" (p. 320). Scheduling time in advance of the teleobservation to meet with the classroom teacher and children is essential to the success of this technology-infused collaboration. Important considerations include: 1) organizing the teleobservations during regularly scheduled classroom times that also coincide with the university scheduled methods classes, 2) planning the goals of the teleobservation and the objectives of the classroom lesson together, 3) adhering to the school's pacing guide content guidelines, and 4) (when the professor will be teaching in the classroom) building a rapport with the classroom students by volunteering in the classroom several times before the teleobservations. As with other technology tools, it may be necessary to have a backup plan; for example, a scheduled teleobservation was canceled due to hurricane worries, leading to an unscheduled "face-to-face" class session without the aid of videoconferencing.

Educational Benefits: Preservice Students' Perceptions of Teleobservation

Teleobservation allows preservice teacher candidates the opportunity to see an actual social studies lesson being taught. While most teacher preparation programs already include field experiences for those students, as Vannatta and Reinhart (1999) have noted, there are clear advantages to an entire preservice teacher class sharing a common observation experience. After the observation, methods instructors can refer to strategies and content taught in the lesson which all students observed. It would not be feasible for an entire class of preservice teachers to observe inside a single classroom, and even observing several teachers in a single school requires travel time and scheduling complications, which can eased by the teleobservation experience. In addition, particularly in the elementary school setting, it is difficult to arrange placements in the social studies classroom for preservice teachers, as state and national testing procedures often limit the time allotted for social studies instruction (Heafner et al., 2005; Van Fossen, 2005). Teleobservation allows the entire class to observe a social studies lesson at once.

Evidence collected from a survey in a secondary social studies methods course suggests that preservice teachers in our classes find the teleobservation experiences to be beneficial in several ways. The preservice teachers stated that they appreciated observing a real-time, unedited lesson taught in their content area, with all students surveyed indicating that the observation was more valuable than a videotaped lesson from which mistakes might be edited. There are few technology limitations, in most students' views. Survey respondents found the audio and video quality to be good or acceptable, and nearly all found the technology to be very or somewhat satisfactory overall.

One secondary student summarized the advantages he found in the teleobservation:

> I liked how we could talk about what was going on in the classroom as it happened and didn't interrupt the actual class or their instruction. It also didn't distract the students from their learning because there weren't 30 extra people in their classroom.

Videoconference applications, continued

K-6 preservice teachers reported that they learned social studies content taught in the observed lessons, effective teaching strategies, and classroom management techniques. The students' respect for their methods professors increased as they saw strategies discussed in class modeled successfully with students in the actual classroom (O'Connor, Good, & Greene, 2005).

Methods Professors' Considerations

Teleobservation makes possible what face-to-face observations could not duplicate: Having as many as 30-60 preservice teacher candidates observing the same social studies lesson in one classroom is not realistic. Advantages for using videoconferencing for observation also include less travel and gas money for preservice teacher candidates and less disruption at the partner school site including the signing-in, parking, and observing from the back of a classroom. The preservice teacher candidates also obtain knowledge on the *same* lesson during teleobservations, not several different face-to-face lessons. Teleobservation fosters a more comprehensive conversation about a social studies lesson because everyone observes the same lesson simultaneously, and the preservice students and methods professor are able to discuss and reflect on the similar example together (O'Connor et al., 2005).

Challenges to Teleobservation's Use as a Teaching Tool

Teleobservation challenges occur with the scheduling and audio/visual capabilities. University professors must plan at least six months in advance of the actual teleobservation dates. Time is needed for the university professor and classroom teacher to arrange departmental approval, have organizational meetings, plan content, and discuss teaching methods for the team teaching teleobservations.

Audio and visual capabilities can be another challenge. Although both sites may have access to the proper equipment, a strong bandwidth and high speed internet connection are needed for the equipment to accurately digitalize the audio and pictures. Testing the equipment before the teleobservations is essential. In our observations, the only visual limitation for the remote observers occurred when the teacher used the overhead projector, an image the video camera was unable to capture. More powerful technology now much more commonly available at public schools and universities makes any sort of teleobservation much more reliable today than ever before, but if the user finds that video images are shaky or if the sound is inaudible, increasing the bandwidth may be advantageous.

The Telecollaborative Experience in Methods Instruction

Like teleobservation, telecollaboration offers realistic, exciting opportunities in the methods class for the preservice teacher. Telecollaboration is using videoconferencing to work jointly with other professionals at a remote location. Telecollaboration builds on the principle of educators connecting lessons and content with other subjects and viewpoints. Educators are not limited to working with their colleagues in their school or community; they can develop collaborative working relationships with specialists in a variety of educational fields, regardless of their location.

Videoconference applications, continued

The University of Virginia / University of South Florida Experience

The researchers first experienced telecollaboration as an educational tool as graduate students, participating in a telecollaborative experience in which videoconferencing served as an innovative, effective technology tool in social studies methods and graduate educational courses conducted between the UVa and the USF. Each day, in a telecollaborative format, these courses provoked new ideas and considerations for classroom instruction. The preservice and in-service teachers observed and participated in the seamless integration of technology and were taught through telecollaborating instructors (see Mason & Berson, 2000 for more information on this telecollaborative experience). Now, as social studies methods instructors, we are able to collaborate with colleagues and build on telecollaboration's capabilities.

The East Carolina University / University of Southern Mississippi Experience

After participating in telecollaborative experiences as graduate students at the University of Virginia, instructors at ECU conducted a search for a social studies methods instructor interested in integrating technology into his or her social studies methods course. The search was narrowed to a respondent who shared a common technology interest, a common social studies philosophy, and a common commitment to collaboration at USM. In the beginning, many conference calls and emails were shared. Decisions regarding the specific dates for telecollaboration hook-ups were set, and the instructors at both institutions reserved the appropriate equipment and labs.

Creating learning communities that transcend geographic limitations is both challenging and beneficial. Detailed ideas about social studies instruction and hands-on student activities to utilize during the hook-ups were exchanged, and electronic pal (e-pal) topics and protocols were designed. Protocols included a personal history artifact discussion, thinking like an historian, and family history (Good, O'Connor, & Luce, 2004). Students communicated by email with their e-pals during the weeks that the telecollaborative hook-ups did not take place. Several program issues were considered: a) class size, b) accessibility of technical support staff, c) compatibility and availability of telecollaborative equipment, and d) possible time zone differences.

In their first collaborative class, students presented historical artifacts they had collected and attempted to summarize, contextualize, and infer information regarding each artifact. This collaboration helped students see how their own diverse personalities and backgrounds all contribute to the social sciences.

Subsequent collaborations were related to family, local, and state history. During these collaborations, the class heard from guest speakers and worked in groups consisting of students from each campus. The social atmosphere allowed the students to be exposed to other perspectives of time and history.

Perceptions of the Experience

Preservice teachers commented that through interaction with their remotely located colleagues, they learned more about content and pedagogy. Additionally, their comments indicated that they experienced the kind of powerful, inquiry-based, constructivist social studies learning that the National Council of the Social Studies (NCSS) en-

Videoconference applications, continued

courages. The preservice teacher candidates also commented that telecollaboration hook-ups went beyond such traditional teaching methods as lecture and textbook discussion.

The telecollaborative setting proved to be similar to that of a regular classroom. Instructors' field notes indicated that the technology seemed to "disappear" while the participants became engaged in the instruction and learning. The instructors did not need to "produce the show," as the technology support services at both universities were comprehensive. Similar to the participants, successful moments of implementation occurred when the professors reached the point of not feeling like TV hosts or news correspondents, but rather, simply teachers.

Challenges of the Experience

Many of the issues that students mentioned after the first telecollaboration day were modified before the final telecollaborative meeting. When students were asked what was unsuccessful about the telecollaborations, they most frequently mentioned technical components and logistical issues. The desire to "compete" between classes by outtalking one another was one challenge faced throughout the semester. Other instructor-observed difficulties included inadequate planning and use of inappropriate teaching strategies such as overemphasis of teacher talk versus student talk. The instructors also realized how important it is to follow through, facilitate, and supervise the informal, additional computer mediated communication (CMC), including e-pal communication and discussion threads. Students only tend to participate in these additional technology-based communication mediums if they receive frequent instructor feedback. These challenges and time demands have a bearing on the quality and benefits of the experience related to the teaching and learning that should occur.

Additional Uses for Teleconferencing in Education

The national demand for highly qualified teachers continues to grow, and East Carolina University, like many other universities offering teacher preparation, has seen its enrollment grow rapidly. Often, nearby public schools cannot support all the teacher candidates needing internship placements. As a result, placements of 50 miles away or further are not uncommon, posing great challenges to faculty observing their many teacher candidates in the field.

Teleobservation technologies can alleviate this problem by enabling faculty to conduct preservice teacher observations from their home university setting. At East Carolina University, professors report that these observations appear to be as effective as face-to-face observations, and professors can actually communicate with classroom teachers via email during the observation without interrupting the preservice teachers' teaching.

As more public schools acquire the equipment and technological competence needed to facilitate teleobservations, universities may increase their use of this technology to enhance the observation process. Potentially, each university supervisor could observe more student interns, regardless of their distance from the university. When necessary, multiple supervisors could observe an individual student teacher's lesson. Student teachers and public schools also stand to benefit, as student teachers will have more

Videoconference applications, continued

choices of schools in which to intern, and schools in more geographically remote areas will have the opportunity to work with and possibly hire new teachers.

Conclusion

Already, most users find that teleconferencing is a rich, worthwhile experience in which the collaboration, not the technology, takes center stage. Additional research and practice in the use of teleobservation and telecollaboration should refine and improve the usefulness of these technology tools. Other videoconference capabilities will continue to emerge as the technology's accessibility increases. The exciting reality is that, over time, equipment costs should continue to drop, and more public schools and universities will be able to explore additional uses for these powerful technologies.

Teleconference technologies rely on collaboration between interested parties, and all users will benefit as more partners sign on. Collaborative class sessions between university methods classes and those involving public school students and teachers will become more useful when users have more choices of collaborative partners. Particularly in social studies, increased use of these technologies will be beneficial in terms of bringing collaborative partners from diverse regions of the United States, and eventually from around the world, into the conversation.

Social studies educators sometimes struggle to impress upon students how important the study of world cultures is to students' lives. Though we are all active participants in the global community, some students still question the relevance of learning about life outside their own physical community. As teleconferencing already makes students at universities in different regions of the United States partners in the same classroom, students in the near future may be able to share ideas and talk with students in classrooms around the world[1] (Harris, 2006).

When considering technology's educational application, the user should always ask, Will the technology allow me to do something with my students that I could not do before technology? Will the technology allow me to do something with my students better than I'm doing it now? (Harris, 1998). Clearly, teleobservation and telecommunication satisfy these criteria as tools for methods instruction.

[1] Judi Harris of the College of William and Mary has been a leading advocate of telecollaborative experiences between schools; her website Virtual Architecture's Web Home serves as an example of some interesting telecollaborative possibilities (Harris, 2006). See Harris's site at: http://virtual-architecture.wm.edu

Videoconference applications, continued

References

Bolick, C., Berson, M., Coutts, C., & Heinecke, W. (2003). Technology applications in social studies teacher education: A survey of social studies methods faculty. *Contemporary Issues in Technology and Teacher Education* [Online serial], *3*(3). Retrieved April 11, 2006, from http://www.citejournal.org/vol3/iss3/socialstudies/article1.cfm

Cochrane, C. (1996). The use of videoconferencing to support learning: An overview of issues relevant to the library and information profession. *Education for Information 14*(4), 317-330.

Good, A., O'Connor, K. & Luce, E. (2004). Making long distance relationships work. *Meridian, 7*(2), 1-15.

Harris, J. (1998). *Virtual architecture: Designing and directing curriculum-based telecomputing.* Eugene, OR: International Society for Technology in Education.

Harris, J. (2006). *Virtual architecture's web-home.* Retrieved January 26, 2006, from http://virtual-architecture.wm.edu/

Heafner, T., Rock, T., Passe, J., Good, A., O'Connor, K., Oldendorf, S., & Byrd, S. (2005). *Has anyone seen the social studies?: The marginalization of social studies in elementary schools.* Paper presented at the annual meeting of the College and University Faculty Assembly (CUFA). Kansas City, MO.

Mason, C. L., & Berson, M. J. (2000). Computer mediated communication in social studies methods: An examination of students' perceptions and perspectives. *Theory and Research in Social Education, 28*(4), 527-545.

O'Connor, K., Good, A., & Greene, H. (2005). *Lead by example: The impact of teleobservation on social studies methods courses.* Paper presented at the annual meeting of the College and University Faculty Assembly (CUFA). Kansas City, MO.

Thorsen, C. (2003). *Techtactics: Instructional models for educational computing.* Boston, MA: Pearson Education Incorporated.

VanFossen, P. J. (2005). "Reading and math take so much time…": An overview of social studies instruction in elementary classrooms in Indiana. *Theory and Research in Social Education*, *33*(3), 376-403.

Vannatta, R., & Reinhart, P. (1999). Integrating, infusing, modeling: Preparing technology using educators. In *Proceedings of Society for Information Technology and Teacher Education International Conference 1999* (pp. 1210-1215). Norfolk, VA: Association for the Advancement of Computing in Education

Videoconference applications, continued

Appendix A

TELE-EDUCATION PROJECT

CONSENT AND RELEASE

In consideration of being permitted to participate in Tele-education project at East Carolina University ("ECU"), I hereby grant to ECU the absolute and irrevocable right and unrestricted permission in connection with the Tele-education Project on _____(date or dates) with respect to my/my child's name, photographic portraits or pictures, likeness, or voice or any or all of them or in which I/my child may be included with others, to copyright the same, in ECU's own names or otherwise; to use, re-use, publish, and re-publish the same in whole or in part, individually or in any and all media now or hereafter known, and for any purpose whatsoever, for illustration, promotion, art, editorial, advertising, or any other purpose whatsoever without restriction as to alteration. My signature below acknowledges my understanding that this may involve the use of recordings of video conferencing for educational purposes. I understand that the potential audience for viewing Tele-education Project will be faculty and students in the College of Education at East Carolina University and others for educational purposes. I understand and consent to the possibility that any reproduction of the demonstration may be used without my prior examination and/or approval.

In consideration of being permitted to participate in this Tele-education Project, I , the undersigned, do for myself, my heirs, and personal representatives, agree to hereby release, hold harmless, and discharge ECU, all of its officers, agents, and employees from and against any and all claims, actions, or causes of action, liability, and demands whatsoever that I or my representatives have or may have against any of them which result from causes beyond the control of, and without the fault or negligence of East Carolina University, its officers, agents or employees which stem from, arising out, of or in connection with the use of my/my child's photographic portraits or pictures, name, likeness or voice, or any or all of them, including without limitation any and all claims for libel or invasion of privacy with my participation in the Tele-education Project.

I fully understand that my participation in this Tele-education Project is completely voluntary, and that I/my child am/is not under any requirement to participate, and this confirms that I am of full age and/or have the right to contract in my own/my child's name. This acknowledges that I have read the foregoing and fully understand the contents thereof. This release shall be binding upon me, my heirs, legal representatives, and assigns.

In witness thereof, I have caused this Consent and Release to be executed this _____ day of _____, 20__.

Witness: Participant (or Parent):

_____ _____

Signature Signature

Child’s name if applicable:

Videoconference applications, continued

About the Authors

Anthony P. Dralle is an Assistant Professor and Program Area Coordinator of History Education at East Carolina University in the Department of Curriculum and Instruction. Anthony has taught Social Studies and Language Arts at the middle and high school levels in North Carolina and Virginia. Anthony is currently teaching undergraduate and graduate courses in secondary and middle grades social studies methods, as well as courses in the teaching of history. His research interests include reading and writing instruction and technology integration in social studies.

Amy J. Good is an Assistant Professor at East Carolina University in the Department of Curriculum and Instruction. Amy has taught grades 4-7 in Ohio and Virginia and has earned National Board Certification. Amy is currently teaching undergraduate and graduate courses in elementary social studies methods and classroom management. Her research interests include social studies, technology integration, classroom management, and National Board Certification.

Katherine A. O'Connor is an Assistant Professor at East Carolina University in the Department of Curriculum and Instruction. Katie has taught in the North Carolina public schools for 9 years. She is certified in K-12 Reading, and in K-12 Academically Gifted and has obtained National Board Certification. Katie is currently teaching AIG licensure courses, elementary social studies, and graduate level action research classes. Her research interests include social studies, technology integration in teacher education, action research, and teacher retention.