Four Takes on Technology

Susan M. Allen, Karen M. Dutt-Doner, Karen Eini, Rona Frederick, Hsueh-Hua Chuang and Ann Thompson

Diving into primary source documents, reaching out to classrooms on the other side of the world, tapping into a cultural identity, turning students into technology advisors: See how educators are exploring the potential of technology.

Using Digitized Documents in the Classroom

Susan M. Allen and Karen M. Dutt-Doner

Until fairly recently, students studying history had to rely on those few historical documents that secondary sources, such as textbooks and encyclopedias, reproduced. However, with the advent of such Web sites as the Library of Congress (www.loc.gov), classrooms now have access to millions of digitized documents. Students have the opportunity to use these documents as historians and scholars do: analyzing and evaluating information; interpreting snapshots of a given person, place, or event; and synthesizing their findings.

In the past, students rarely incorporated handwritten documents into their research because of the difficulty of reading script from previous generations. Technology can now help. Memorial Hall Museum Online offers a Magic Lens (www.americancenturies.mass.edu/activities/magic_lens) that superimposes a typed transcript over a primary source document written in elaborate copperplate script (see illustration, p. 67). The Gilder Lehrman Institute of American History takes this one step further in Battle Lines: Letters from America’s Wars (www.gilderlehrman.org/collection/battlelines/index_good.html), which features correspondence from more than 200 years of American conflicts, ranging from the Revolutionary War to the current war in Iraq. Again, a typed transcript appears over the handwritten script, but each letter is also read aloud. This feature not only provides additional scaffolding for students but also opens up the use of these primary sources to the visually impaired.

Technology enables us to manipulate documents. Students can change the font size for easier readability or adjust the contrast in a photo for better analysis. In some cases, the researcher can view the document in its original language and translate it with the help of an online translator. Technology has the added advantage of bringing these materials into the classroom without subjecting the originals to harmful usage.

Technology offers a further benefit: searchability. Several major document collections, such as the Gilder Lehrman Institute of American History (www.gilderlehrman.org/collection) or the
Library of Congress's American Memory (www.memory.loc.gov/ammem), offer searchable databases of primary source documents.

Using digitized documents in the classroom encourages critical thinking and promotes information literacy skills. A textbook might allude to multiple interpretations of an event, but a typical document-based inquiry assignment engages the student in a more proactive way. Teachers can compile packets of primary source materials that they have printed from the Web that offer disparate views of an event. Take, for example, a lesson on the history of the western United States. As groups of students look at photographs and read first-person narratives, they interact with historical problems firsthand. They address bias, veracity of source, the fact that each document reflects only a slice of the complete historical picture, and multiple points of view. Each group then creates a final product—a first-person narrative, a debate, or a poster, for example—that conveys its interpretation and analysis of the documents in its packet.

As students work with primary source documents and learn from scaffolded analysis tools and procedures, they gain confidence to start to frame the problem in their own way, seek solutions on their own, use their own methods, and make their own mistakes. Their experience with modeled document analysis provides the structure that allows them to take risks—they develop their own hypotheses and discover that there is no single right answer. On the basis of photo analysis, for example, students might hypothesize that migrant labor played a large part in the history of the western United States. Regardless of whether they are right or wrong, as they work with these living documents and collaborate with one another to create meaning, students develop more positive attitudes about social studies.

**Friends and Flags: A Multicultural Learning Project**  
**Karen Eini**

As a 9th grade English teacher in Israel, I was interested in providing my students with a meaningful social, cultural, and personal learning experience through which they could practice their English skills. I wanted to involve them in a global exchange that would positively affect how they related to others in their own country and abroad. After researching best practices and effective online projects, in 1999 I launched Friends and Flags, a cultural exchange program that engages students as foreign ambassadors.

Friends and Flags (www.friendsandflags.org) is a collaborative learning project that promotes multicultural awareness by connecting classrooms around the world in international learning teams made up of two to six countries. The theme of the exchange is multicultural awareness, which fosters mutual respect, tolerance, and communication.

Friends and Flags uses communication technology to bridge cultural barriers. Students interact in English through e-mail, blogs, discussion boards, electronic mailing lists, and a project Web site. Team members also create packages of authentic print materials and items representing their cultures to send to their partners. For example, in 2004, classes of students in the United States, Poland, Iceland, and Israel collected cultural items and created original guidebooks about their own countries. Each class prepared three packages and mailed one to each partner class in its team. These packages authenticate the exchange and enable all team members to set up multicultural learning exhibits in their schools.

Since 1999, more than 30,000 students from 50 countries have collaborated in the program, gaining valuable cultural communication skills while practicing their English. By adapting the project to suit various learners' needs, the program has promoted equal learning opportunities for diverse student populations as well. Friends and Flags has also fostered unique opportunities for collaboration among Jewish and Arab educators and learners within Israel.
Fifth grade students from Irving, Texas, collected data from their international partners in Sweden, Israel, and Canada and presented cost-of-living comparisons among the countries using Excel worksheets, which they sent to their partners and posted on their school Web site. Special education students from Finland presented their work at Netdays, an international conference promoting the use of new media in the area of education and culture. Blind students in Slovenia sent their work in both Braille and English to their international partners in Israel, Australia, and the United States. Students from these three partner countries considered the needs of their Slovenian peers and created cultural packages that consisted of audiotapes. Students also rallied to support their country partners in the aftermath of September 11, the 1999 earthquake in Turkey, and the 2004 tsunamis in Asia.

My English as a foreign language students have learned about themselves, their own cultures, and the cultures of their peers in such countries as Brazil, France, Senegal, Mexico, Croatia, the Philippines, South Korea, Denmark, Russia, and China. They have increased their active English vocabularies, improved their reading comprehension skills in English, and developed their writing skills as they communicate with diverse audiences. They have learned about self-respect and respecting others. Most important, they have learned about commitment, global collaboration, and the joy of giving. Although these qualities may not be part of a core curriculum, they are at the core of human relationships. This has been one lesson that my students will never forget.

Tapping Into Students' Cultural Identity

Rona Frederick

I've always wondered how teachers working in urban schools integrate computer technology into their classroom practice. How can teachers, in spite of limited and outdated resources, use computers in instructionally meaningful ways to meet their students' personal and cultural needs?

I found my answer in the teaching practices of Mrs. Jones, a graphic arts teacher in an underresourced high school located in the mid-Atlantic region of the United States. Jones spent much of her time redefining and broadening her students' understanding of such terms as blackness and African to counteract negative stereotypes. Jones believed that computer technology could help her students tap into their cultural identity. For students who initially expressed little understanding of their cultural heritage, Jones designed a number of computer-enhanced thematic units that incorporated her students' personal experiences while simultaneously connecting students to a wide range of African experiences and viewpoints.

In a project about Amistad, the notorious slave-carrying merchant ship, Jones used computer technology as a counterhegemonic tool. Technology enabled her class to access knowledge rarely discussed or studied in the official curriculum as students searched the Internet to find empowering, African-centered material. Students then used software programs, such as PowerPoint, PhotoDeluxe, and Microsoft Word, to design, reproduce, and represent images about the horrific Middle Passage. Through this project, Jones and her students challenged dominant relationships of power that sustain racism in and out of school. She used technology to present invaluable information to her students about the perseverance, resilience, and resistance of people of African descent.

After students viewed the movie Amistad, they designed spot drawings based on an important symbol in the movie. Jones transferred the images to the computer and demonstrated how students could shrink and flip images and change dimensions and colors. When she finished the minilesson, she pointed out to her students, "You have control over what the viewer sees." She urged her students to think of themselves as the creators and constructors of images for and about their African culture.
One student created an image called "Keep Your Head Up," which ties into an episode in the movie in which a character, Senge, encourages his "brother" to keep his head up, to not be ashamed, to not lose hope. The student went online and located an image of an African woman. Then she took a digitized photo of herself looking up at the sky and placed it side-by-side with that of her African counterpart. The stark contrast of color between the two photos—one dark, the other light—and the student's eyes looking longingly upward give the impression that this student is empathizing and building connections with her ancestor. The student wrote, "We can accomplish anything. Keep your head up."

Jones fostered an environment and designed a curriculum reflecting positive images of the school's black students. In essence, black people, their history, and their experiences became the subject of the official curriculum in the classroom. Jones used the Internet and graphic technology as a way of finding liberating stories, disseminating those stories, and encouraging her students to develop their individual voices.

Students Teaching Teachers
Hsueh-Hua Chuang and Ann Thompson

The well-known GenYES (www.genyes.com) mentoring model, which originated in Washington State's Olympia School District in 1996, makes teachers and students collaborative partners in learning. This program has developed and implemented an instructional technology support model that includes authentic involvement of students in grades 3–12. Instead of having teachers take online courses or attend workshops or college courses for professional development in technology integration, the program makes it possible for students to mentor teachers and serve as resources at the teachers' schools.

Effective professional development in information technology is a major issue for educators. Using students as technology mentors for teachers is becoming an increasingly popular response to this challenge. Students represent the greater part of the K–12 education population, and they likely possess most of the technology expertise in their schools. Most such programs pair one student with one teacher to provide individual technology tutoring.

The GenYES model trains students to provide continual on-site content-related technology support to teachers. Hundreds of programs are now in place in the United States and worldwide. The training courses, which last 18 weeks for secondary school students and 30 weeks at the elementary school level, teach students technology, collaboration, and project development skills before the mentoring stage begins.

After students at one elementary school in Maryland completed the GenYES training course, they were each paired with a partner teacher. Together, teacher and student decided which unit or lesson might be enhanced by including technology. Students suggested a variety of approaches to incorporating technology into the lesson, including finding appropriate Web sites and helping teachers learn to use fitting applications—for example, PowerPoint for presentations, Kidspiration to form a concept map, and KidPix to create a slide show.

One group of GenYES elementary students helped their partner teachers create a video-embedded PowerPoint project in a visual arts lesson on sculpture. Student mentors first conducted research on the Internet and then visited the National Gallery of Art in Washington, D.C., to take photographs of sculptures. The PowerPoint presentation included photographs, text about the sculptors, and a step-by-step video to help students create sculptures of their own. Exposed to both text and video formats, students learned to develop and apply criteria to evaluate their own and others' artwork. Partner teachers learned how to insert a movie into a PowerPoint slide and were able to teach students to insert a video into their electronic portfolios.
during a subsequent lesson.

In this way, students share their skills with teachers who might not have time to infuse technology into a class unit or who might be reluctant to use technology in their teaching because of lack of knowledge or assistance. Teachers benefit from continual ongoing assistance from the student mentors. Students also benefit by developing their technical, collaborative, and leadership skills. One teacher commented that her student mentor went from barely participating in class to explaining, demonstrating, and teaching computer procedures and programs.

At the secondary school level, GenYES students consistently help maintain the network system in addition to working on technology-infused class units with partner teachers. GenYES students in Washington State have also collaborated with members of the community and local college faculty. One group of students helped museum staff create a virtual tour of the state capitol and worked with preservice teachers at the local college to develop technology-infused lessons. Another group of GenYES students used geographic information systems software to map out district schools so that local police and fire departments could operate more efficiently in case of emergency.

Using students to mentor teachers is a powerful way to celebrate and capitalize on intergenerational differences with respect to computer and technology use. These students have also become a force for change as they share leadership roles and accomplishments with teachers and school administrators.

Susan M. Allen is Director of Libraries and Academic Technology, Nichols School, 1250 Amherst St., Buffalo, NY 14216; sallen@nicholsschool.org. Karen M. Dutt-Doner is Director of the Graduate Childhood Program and Associate Professor, Canisius College, Department of Graduate Education and Leadership, 2001 Main St., Buffalo, NY 14208; duttdonk@canisius.edu. Karen Eini currently teaches college-level English at Ruppin Institute for Higher Education, Hagoren 3, P.O. Box 5548, Katzir, Israel 37861; karen@friendsandflags.org. Rona Frederick is Assistant Professor in the Department of Education, The Catholic University of America, 620 Michigan Ave. NE, Washington, DC 20064; 202-319-5000. Hsueh-Hua Chuang is Assistant Professor in the Teacher Education Center, National Chiayi University, Taiwan; hhc@mail.nchu.edu.tw. Ann Thompson is Professor of Curriculum and Instructional Technology at Iowa State University and Interim Associate Dean for Research and Graduate Education at Iowa State’s Department of Education.