Tips for teaming with students to build technology-infused curriculum.

Teacher's Helpers

BY ED HAZELL

N O ONE ON THE SIXTH-GRADE TEACHING TEAM AT WASH-ington Middle School had ever used digital video in a classroom set-ting before, but that didn't stop any of them from designing a new social-issues unit that assigned students to make a digital video. Led by teacher and technology coordinator Marilyn Piper, the team knew that they could rely on in-house expertise. Unlike most schools, however, Washington's experts are 11- and 12-year-olds who work with their teachers to design lesson plans and train fellow students in technology skills.

"We recognize that we want to use tech-nology [in our curriculum], but we can't do it all," says Piper. "We like the project-based authentic learning model and feel like we can still address standards and standardized tests. The world is different and we have to do some-thing different in order to be faithful to our stu-dents and prepare them for the 21st century."

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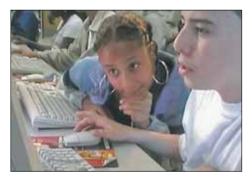khamilto@wcboe.org

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Student/teacher teams such as those at Washing-ton Middle School in Olympia, Wash., are helping their schools nationwide infuse technology into the curriculum through Genera-tion YES (see box, page 11). K–12 stu-dents attend Gen Y classes to learn technology skills as well as the basics of collaboration, pro-ject development, and assessment. They also learn about the need to align lesson plans to state academic standards and learning goals. Volunteer teachers then partner with a Gen Y student to create a lesson plan.

Several educators participating in the pro-gram shared their experiences and offered tips for harnessing the energy, enthusiasm, and practical knowledge of students to integrate technology into a curriculum.

Expand the learning community.

Piper says that when her school's faculty extended their concept of a learning com-munity to include Gen Y students as meaning-ful partners in classroom learning, students began to learn more. "The kids feel so impor-tant when they really are contributing," she says. "There's a mutual respect, and the kids get a sense of what a teacher goes through to prepare meaningful lessons every single day. The students are so engaged—they're an integral part of the team, so why would they resist the learning?"

Teachers don't have to be technology experts.

Even though only one teacher knew Photoshop, Piper says, the entire sixth-grade team inte-grated the technology into their social-issues class. "In one project, we look at advertising for women and young girls, and how images are altered so that everybody looks perfect and beautiful," she says. "We had the idea of using Photoshop so the girls could take pictures of their faces and learn the techniques that professionals use to alter images. They'd go out on the Internet, find glamorous hair, for instance, and change their looks. They really got the idea that it's not humanly possible to be that perfect.

"There was no way that the teachers could all take the time to learn the advanced skills of Photo-shop. So, the approach is to say, 'Here's what we want to do,' and then the Gen Y student figures out the techniques and teaches the tech skills to the class. Over time, the teachers learn the tech skills."

Pick high-impact projects.

Each year for the past five years, third-grade stu-dents of Delmar Elementary School teacher Carrie Lewis have learned to write stories and use the computer to format and print professional-looking books. As the culminating event of the yearlong project, the Maryland students hold an Author's Tea and read their stories before an au-dience of students, parents, and other community members. This year, Lewis' student partner video-taped the entire writing process and together they edited it into a DVD that Lewis will use in the fu-ture to introduce her students to the project.

Lewis selected this project because she "wanted something that would be used for many years and have a big impact on students. It's much more powerful for students to see other kids in action than for me to explain it."

Help students under-stand the process.

When Lewis and her student partner were planning their DVD of the story-writing process, Lewis made sure the student understood each step. "We sat down and I said, 'These are the steps and this is when we're doing it,'" Lewis says. "'This day they start with their story cards, this day we're signed up for the computer lab.' She video-taped the students doing cover pages, editing, re-vising, and discussing their work with each other.

to the math curriculum by having students make bar graphs of the favorite foods of each class. In the process, they learned more about Chinese society, families, customs, and culture than they could have from a book. "They made a connection with somebody who was like them half a world away," says professional development coach Kelly Hamilton, who was a member of the Gen Y team that worked on the project, which won a 2004 ISTE SIGTel Online Learning Award. "Reading about it is one thing, but actually seeing someone in the real world, knowing they exist at this time, made an impact on the kids. That brings in a whole new realm of experience for them. It's an authentic learning experience."

I explained the standards and why we were doing things. She was more involved with the technical end of it, but she was familiar with what we were doing and what we were doing it for."

Use technology for authentic learning experiences.

Delmar students in Sandy Andrews' second-grade class exchanged e-mails, digital photos, and a DVD with Taiwanese students during a yearlong project. Writing to their friends on the other side of the globe honed language-arts skills, and Andrews connected social-studies lessons

Use age-appropriate interactivity.

Delmar computer teacher Patti Weeg's Gen Y teams created PowerPoint presentations with standards-based information, links to interactive Web sites, and Kidspiration activity assessments. Classroom teachers and students decided on topics and content, then Weeg helped students locate Web sites. "Most elementary-school students don't have efficient searching

skills yet, and there are safety issues, so I selected a range of sites and let them choose. One of the lessons was on fractions and there are many relevant interactive math Web sites. The PowerPoint presentation included some definitions of terms and then the link to the interactive sites. Other topics were more difficult. The Underground Railroad was an exciting topic, but we found many sites with lengthy pages of text that weren't appropriate for elementary students before we found a terrific interactive site."

Go cross-curricular.

Weeg showed her Gen Y students how to design cross-curricular math problems that incorporated cultural information found in Web searches. One brought the idea to Andrews, whose students asked their e-mail pals in Taiwan to add the number of petals in the Maryland state flower to other numbers. "I gave them the URL to the State of Maryland's Web site so they could look up the state flower," Weeg says. "It was a fun way to bring in a math standard as well as global communication, along with the technology skills. I asked them to pull in something cultural, so the problems send them searching for information online." **<**

Related Resources

Adobe Education
www.adobe.com/education
Free lessons, course guides, and projects; free and discounted training; how to integrate digital photography, video, and imaging into classroom activities; innovative educational projects by educators and students; and more.

IECC: Intercultural E-mail Classroom Connections
www.iecc.org
A free service that helps teachers link with partners in other cultures and countries for e-mail pen-pal and other cultural exchange projects.

International Society for Technology in Education (ISTE)
www.iste.org
Resources, projects, professional development, research, and more to help educators and students effectively use technology.

Kidspiration
www.inspiration.com/productinfo/kidspiration
Software for K–5 students that allows them to build graphic organizers by combining pictures, text, and spoken words to represent thoughts and information.

Photoshop Tutorials
www.adobe.com/products/tips/photoshop.html
Expert tips, tutorials, free downloads, and other useful Photoshop resources.

Project Cam
www.ciconline.org/ProjectCam
Take e-mail pen pals a step further and utilize Project Cam's ability to share files, conduct Internet chats, and use live webcam feeds.

The Underground Railroad
www.historychannel.com/exhibits/undergroundrr
Biographical information about well-known abolitionists, classroom resources, and historical Underground Railroad sites.