Two reporters walk toward the editor to share their article on Panamanian culture. Looking it over, the editor asks for a more detailed description and several pictures. Meanwhile, three other writers huddle around a computer, making decisions on the additional content they need for their article on Panamanian customs. Both articles will be included in a new Panamanian-American magazine illustrating similarities and differences between the two societies. As the deadline approaches, teams collaborate with each other, investigate, write, and read information from various Web sites. It is a busy day in the newsroom—at least, it feels like a newsroom: the reporters and editors are actually sixth graders at Sun Ridge Middle School in El Paso, Texas.

The magazine is one piece of a Panamanian-American Internet WebQuest addressing more than 40 standards from the Texas Essential Knowledge and Skills (TEKS) in social studies, writing, and reading. Find the WebQuest through March 2006 at http://www.rmcdenver.com/iste/Panama/. The project was created by the Sun Ridge Middle School campus technology coordinator Edith Carrillo-Flores and a teacher she is mentoring. Students create, synthesize, and evaluate what they find and make decisions about what is important and relevant. Rather than incorporate static facts from a textbook, thoughtful engagement with Internet resources allows students to critically question the authority of their sources as they weave together strands of meaning. “We found out that how we live here isn’t the way all Americans live,” offers a student reporter.

Carrillo-Flores created the WebQuest as part of her work with Challenge 98: The El Paso Partnership for Technology Integration, a K–16 collaborative funded by the U.S. Department of Education and focused on helping educators in the region to use technology as a meaningful and integrated part of their classroom instruction. (Editor’s note: For more information on this professional development initiative, read “What Was Challenge 98?” on p. 34.) The thread that holds these activities together, deliberately emphasized in Challenge 98 professional development, is project-based learning.

Meaningful Learning for Teachers
A group of teachers gathers at a round table, their laptops connected to the wireless network. They are busy discussing water supply issues the city is facing in its desert environment. Together they are creating a project for third and fourth graders that will cover various TEKS in science, social studies, and language arts. They divide the work in sections and two teachers search the Internet for Web sites on water conservation, while the other three discuss the process, activities, and assessment for the project, which takes several professional de-

By Bruce Havelock and Laura Reza-Hernandez

Subject: Social studies, language arts, art, science
Grades: K–12 (Ages 5–18)
Standards: NETS•S 3–6; NETS•T II, III (http://www.iste.org/nets/). TEKS (http://www.tea.state.tx.us/teks/).
What Was Challenge 98?

Over five years, Challenge 98 provided ongoing professional development to more than 700 teachers across 12 school districts in El Paso, enabling 200 of them to earn master’s degrees in educational technology. The grant’s architects envisioned a combination of sustained professional development, technology, and an infrastructure for mentoring and an ongoing professional learning. As a result, Challenge 98 has contributed to a reduction of the achievement gap while energizing the professional lives of nearly a thousand teachers and bringing creative, engaging, and meaningful uses of technology to El Paso’s student populations.

Through the Challenge 98 experience, the El Paso Partnership for Technology Integration learned valuable lessons about how the advantages of technology can be maximized to support meaningful classroom learning for students as well as meaningful professional development for educators. Whether working with adults or children, deeper meaning and long-term understanding are fostered by:

- providing opportunities for collaboration and peer role sharing
- requiring goal-oriented final products that aim to persuade, inform, entertain, or stimulate a targeted audience

Connections to the World Outside of School

Canutillo High School is located in a rural, high-poverty area. Although the computer labs are well equipped and maintained, the building itself shows signs of age and disrepair. Challenge 98 graduate Heather Cawley specializes in mathematics at Canutillo, but this year she is also teaching art class. In one class session, students quickly resumed work on their ongoing project: in teams of four, they gathered digital evidence of their own creation.
deteriorating school building for presentation to the community, hoping to influence the outcome of a pending school bond issue. Using charts, graphs, diagrams, and photos, students created electronic presentations highlighting the problems facing the school’s roof, patios, mechanical, electrical, and heating systems. Using the Internet and their own creativity, they also proposed a range of solutions. Their presentations were later videotaped and broadcast to the entire school, raising students’ awareness of the bond election and urging them to inform their parents of the school’s needs. The bond issue eventually passed.

These students harnessed technology not only to learn about an authentic community issue, but also to play an instrumental role in bringing change to their community. They learned to dissect and represent data sets by using actual data from their school district about enrollment, capacity, and growth. Through the Internet, they learned about alternative energy systems while thinking about how to warm their school given real financial and infrastructure constraints. Finally, by discovering firsthand that diligent research and persuasive rhetoric could actually help to bring about change in their community, they learned a meaningful lesson about the value of civic engagement. They improved their skills at using technology, and, by conducting inquiry into this authentic problem, learned factual and conceptual knowledge in a way that is much more likely to be retained.

**Conclusion**

In many ways, the “real story” of Challenge 98 is still being told as hundreds of educators across the El Paso region share their rekindled passion for learning with their colleagues through mentorship, collaboration, and leadership for meaningful technology integration. We feared that after their training ended, teachers might return to traditional practices and engage in minimal or lower-level uses of technology, especially given the recently amplified importance of high-stakes testing and accountability. (Editor’s note: See “Project-Based Learning and High Stakes Testing” below for more on this issue.) In reality, the instructional practices of these teachers evolved even further. Many Challenge 98 teachers took the initiative to work at a larger scale as technology leaders at their campuses and districts, bringing meaningful, technology-rich project-based learning to many more students and teachers. They found creative ways to create planning time necessary to support this instruction because they have seen the power of the results. Their students are motivated, their test scores continue to climb, and when other teachers see this work in action, they want it for their own students. Meaning generates excitement; in El Paso, with the help of the El Paso Partnership for Technology Integration, technology helped the spark catch fire.

**Project-Based Learning and High-Stakes Testing**

Challenge teachers are clearly motivated by this kind of instruction, but how does it affect test scores? Texas educators are no strangers to accountability testing; a statewide standardized test has been used to rank Texas schools for more than 10 years. Texas recently implemented a new test, one that de-emphasizes testing basic skills (the focus of the earlier test) in favor of measuring the state standards. Thus, Texas educators are now accountable not only for simple skills practice but also for providing students with authentic tasks and meaningful learning. Project-based activities are no longer a luxury or choice, but a tool that can help alleviate tensions between practice and testing. Challenge participant Rebecca Pennies agrees, though she has found some challenges in the process of aligning her instruction to the assessment:

I believe if you teach project-based, the planning has to be part of it. It has to have the standards as your basis for your planning. I think a lot of our problems with project-based learning have been that we go off with that theme before we look at the standards. We still have to tie that to our standards because the standards are what dictate to me what my kids are going to be tested on at the end of this school year.