

Paving the Road to Technology Integration



**By Angie Mulligan, Mary Strong,
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During the 2004–05 school year, Community Consolidated School District 146, in Tinley Park, Illinois, embarked on a journey to become more familiar with the National Educational Technology Standards (NETS). This journey culminated with the launch of a comprehensive WebQuest for third graders about the American Revolution. The detail that sets this WebQuest apart from most is that it was written by a team of seventh graders. What started as a shot in the dark has transformed into an unforgettable learning experience for both students and staff that will resonate for years to come.

One of our district technology committee's major goals was to show teachers that technology can be an integral part of the curriculum, and not just an extra to be included if and when time permits. In an attempt to achieve this goal, our district sent a team (a media specialist for grades 3–5, a seventh grade social studies teacher, and two technology specialists), to ISTE's Leading with NETS Institute. Our challenge was to develop and implement a project using the NETS. Team goals included providing professional development in technology for classroom teachers and integrating it into the existing curriculum. Because of the unique composition of our team (cross-district and cross-grade level), we searched for ideas that would use the specialties of our team members. As we brainstormed, we realized that third and seventh grade students in our district both studied the American Revolution. In years past, third grade teachers at Sandidge Elementary expressed a desire to fortify their learning resources for this unit. Thus we began to pave The Road to Freedom.

Once we had agreed on our topic, we chose to provide professional development for teachers by implementing a hands-on project instead of a one-time training seminar. Un-

derstanding the desire to improve this unit, we drafted a project that could achieve the desired instructional outcomes, while overcoming a reluctance to incorporate technology. Throughout the project's creation, the third grade teachers from Sandidge assisted us in evaluating the information they felt their students most needed to know. Their excitement for our project increased as they realized that a lack of information or resources would no longer be an issue, because we were developing the unit to fit their students' needs. Although they were at first concerned about how this technology project would fit into the limited time they had to teach the American Revolution, they were willing to collaborate with us as long as we committed to assist them with its implementation.

Our goals for this project included: designing a WebQuest with a time line; using reference and nonfiction materials to enhance a textbook unit; aligning curriculum to Illinois Learning Standards and NETS; teaching seventh grade learners to find, evaluate, and use information to design a WebQuest appropriate for third grade learners at various reading levels; designing an ending product that could be created collaboratively between the third and seventh grade students; and helping students make connections in multiple learning environments (classroom, computer lab, and media center).

With an undertaking this size, the support of the administration has a direct effect on the likelihood of its success. We knew that we would have to present a sound project to receive the support necessary to carry it out. Starting with the first planning session, we used district goals and priorities as a guideline for planning this project. We were quite fortunate to have support on all levels right from the start. As we returned from the Institute and reported our vague project outline and some of the many “what

if” thoughts to the superintendent, we were greeted with support and encouragement. The building administrators at both our elementary and middle schools were also very supportive throughout the entire process. They demonstrated their support by providing the flexibility to meet, assisting with organizing a culminating project with 150 students, celebrating our successes, calming our fears when we were feeling overwhelmed, and encouraging us to continue when we were ready to throw in the towel. The students also felt this support as our administrators discussed the progress with them and shared their enthusiasm and excitement.

The seventh grade students were at first skeptical of the responsibility and leadership being placed on them. However, as the project progressed, they saw their creative input mold this project, so they rose to the challenges presented with a greater determination than is regularly observed in the classroom setting. It was amazing to witness the transformation of their ideas from abstract and unrealistic to concrete and possible, whether it was as they talked with a third grade teacher about the needs of her students, or discussed Web page construction and design with the parent who volunteered his assistance as a computer consultant.

As the project began to take shape, the seventh graders researched the American Revolution using the Internet, reference materials, and nonfiction books, while paying close attention to the details of the third grade standards and the outline presented to us by the third grade teachers. This research led to summaries about each event at an appropriate level, which were then attached to the interactive time line in the Road to Freedom WebQuest. You can view the WebQuest at http://www.schooldistrict146.org/schools/central/Revolution/revolution_default.html. It contains several

activities, including a scavenger hunt of questions for which students had to read every page of the time line with a partner to find the answers; a matching time line for the classroom wall, complete with pictures for each event drawn by seventh graders; and the How to Make a Timeline activity and quiz.

Although the WebQuest was the largest portion of the unit, we also had to decide how to combine it with the rest of the materials. We started with the time line portion of the WebQuest because it contained all of the topics that third graders needed to learn about the Revolutionary period. Appropriate lessons in the classroom using the textbook, reference sources, and nonfiction books were coordinated with lab sessions for each section of the time line. For example, before students went to the lab to do the section of the scavenger hunt that included the year 1773, students read about the

Boston Tea Party in the textbook. After the lab session, the teacher read an appropriate trade book about this topic from her book collection. While students were in the media center, they were shown how to find books in the online catalog about the American Revolution and then how to find the event in the index of the book.

Throughout this project, there were various assessments for the students. We were fortunate enough to acquire a student response system that not only helped us motivate and captivate our students, but also provided us with instant feedback that we used to immediately adjust the material.



As part of the formal assessment, we created a pretest that would also be used as a posttest. The average pretest score from all four classrooms was 45%. The average posttest score was 88.4%, with

only three students scoring below 65%. Approximately 95% of all of the students scored 75% or better on the posttest. On a more informal level, assessments included the scavenger hunt, the fact square at the culmination, and various oral assessments with teachers and peers.

The much anticipated culmination of this project was a face-to-face meet-



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ing between both groups of students. Each third grade student was paired with a seventh grade partner to work in the computer lab. The seventh graders were responsible for teaching their partners how to insert a picture, and together they wrote and formatted a brief paragraph about a topic related to the American Revolution. These squares were then printed on iron-on transfers and turned into wall-sized quilts signed by the students and displayed in each of the participating buildings.

The benefits of this project were as numerous and varied as the individuals involved. Although the seventh graders learned valuable research, writing, and Web design skills, they also learned about focusing on student needs, collaboration, and the job of being a teacher. The third graders benefited from varied instructions, overwhelming success on their assessments, and gaining ownership and passion about a new topic. This excitement led to the students taking an active role in their education as they sought out information on their own and shared their new-found knowledge with anyone willing to listen. Teacher and district benefits included glowing testimonials that technology integration really does work and that it should not be isolated as an extra. Our district plans to use this project as a template for future integrations, and the ISTE Institute team now has a much better idea of how to approach such an endeavor.

As we worked through this project, we witnessed its progression from a simple brainstorm into a successful event that made a lasting impression on everyone involved. We initially focused on creating something that the teachers involved would be able to use in the future, and quickly shifted to something that could be used throughout our entire district (four elementary schools). When the project transformed from an abstract vision to

something concrete, we decided that with adjustments and a few additional components, we could provide teachers anywhere with a complete unit that they could use in their classrooms with little additional work. With this in mind, we made sure to include each component of the WebQuest we found most valuable to the success of our project. The sparks of excitement, enthusiasm, connections, and memories this project has created for students and staff alike far outweigh the sleepless nights, long hours, and the feelings that a war that started 230 years ago would never actually end.



Angie Mulligan graduated from Eastern Illinois University and recently completed her master's at Governors State University with a concentration in educational computing. She has taught seventh grade for eight years. Angie presented this project at the 2005 NECC conference in Philadelphia.



Mary Strong graduated from Governors State University in 2002 and is currently enrolled in a master's program with a specialization in technology integration. She's been the media center director at Sandidge Elementary for four years and enjoys promoting reading and the use of technology.



Jill Crabbe has worked at Community Consolidated School District 146 for 13 years as an educational assistant, sixth grade teacher, and technology specialist. She has found the change from teacher-based instruction to student-based learning to be very rewarding, inspiring, and instructionally sound.



Patricia Steen is a technology integration specialist in School District 146 where she has also served as technology coordinator and reading specialist. She is a graduate of Northern Illinois University and received both a master's in education and in educational administration from Governors State University. Patricia has presented at both local and national conferences in the areas of reading and technology integration.

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