

# Superstition Springs Elementary leverages teacher's vision to design high-tech classrooms with NEC projectors

## Quick Facts

**Facility:** Superstition Springs Elementary School

**Location:** Mesa, AZ

**Challenge:** Utilize cutting-edge technology and multimedia curriculum in the classroom to better engage students and improve student performance

**Solution:** NEC NP400 projectors

**Date:** August 2009

When Scottsdale, Arizona-based CCS Presentation Systems offered a \$20,000 technology grant for teachers to design their ideal classroom, first grade teacher Valerie Gresser of Superstition Springs Elementary School saw an opportunity to realize her vision for a 21st century learning environment. With the support of school principal Patty Rogers, Gresser submitted a winning proposal that ushered in new teaching techniques at the school.

Superstition Springs Elementary is a K-6 school of 840 students and part of Gilbert Public Schools. The school opened in 1995 and has earned the highest rank of "Excelling" from the Arizona Department of Education for its student-centered learning environment and academic excellence. Gilbert Public Schools serves 35,000 students with its 41 schools.

## The Challenge

Classroom design and related equipment are often beyond the purview of a teacher, while school administrators across the country are responsible for the difficult task of matching available budget

to desired upgrade projects and new technology rollouts.

Often, teachers don't have the chance to tap the resources that will help them most, especially as their instruction methods change.

With more textbook content and teaching materials becoming available online, there is a lot of potential. But with only one computer in her classroom, Gresser faced the challenge of students huddling around one screen to view Internet content and multimedia lessons.

Further, search capabilities on the Internet can provide real-time assistance to teachers as they answer questions and seek multimedia content to support the discussion, but the classrooms weren't designed to leverage Internet content effectively. To compound the issue, students nowadays are exposed to 3D gaming and high-definition content at home, which sets a new bar for entertainment and learning. Traditional textbooks needed support in terms of multimedia to create student engagement and excitement.

"I began to experiment with NEC NP400 projectors available from the school's media center because I wanted to address these challenges and create a more dynamic, motivating, instructional environment," Gresser said. "I love the NEC projectors. They are state-of-the-art and very easy to use."



Based on a technology grant submission by first grade teacher, Valerie Gresser, Superstition Springs Elementary School was able to outfit one of its classrooms with high-tech gear, including NEC's NP400 projector.

Gilbert Public Schools had previously standardized on NEC NP400 projectors after evaluating several products and selected NEC based on ease of use, bulb serviceability, and positive feedback from staff about features, such as the volume control and quick setup button.

As Gresser gained experience with the projector, she began to envision a variety of supporting technologies that would dovetail for a complete makeover of the classroom to bring the subject matter to life and dramatically improve the way she could teach. When she learned of the CCS technology grant, she decided to develop an integrated design with her best new ideas. Her proposal included the use of projectors, electronic whiteboards, document cameras, interactive electronic tables for data input, and even entry-level digital cameras for the students to use on class projects. Developing the design concept was challenging but very exciting for Gresser, who felt that she was on the cusp of profoundly changing the teaching environment for the better. With support from her school, she submitted the proposal to CCS.



The ceiling-mounted NEC projector contributes to the class' hands-on, interactive learning environment, which includes activities such as reading comprehension, language studies and virtual field trips.

This was the first year that CCS had offered a technology grant, and CCS executives felt it would be great for teachers to have a say in the technology, not constrained by finances.

"A lot of teachers are ready to do exciting things and just don't have the budget," said John Godbout, founder and CEO of CCS Presentation Systems. "CCS is always interested to hear teachers' plans and ideas on integrating the latest state-of-the-art technology to better educate students. With this grant, CCS hopes to inspire schools and provide teachers the chance to create innovative programs through technology that they otherwise wouldn't be able to fund."

CCS is an NEC reseller partner with a heritage of innovation in audio/visual training among educators and corporate professionals. CCS trains more than 3000 educators each year through its centers in Scottsdale and Tucson, and at its Mobile Training Center, which debuted in March 2007.

After reviewing all the proposals, CCS awarded the grant to Superstition Springs Elementary because Gresser's submission focused on providing hands-on, interactive learning to students using the latest classroom technology with the goal of improving students' learning comprehension. The proposal fit perfectly with CCS's intentions for the grant.

## The Solution

After awarding the grant to Gresser, CCS outfitted her first grade classroom with a ceiling-mounted NEC NP400 projector, a SMART interactive whiteboard where the projector image is displayed, a SMART interactive electronic table for the students to input data, an elnstruction student-response system, a Mobi wireless slate, an Avermedia document camera, an Audio Enhancement audio system, two Epson heavy-duty color printers with paper and ink for life, and related hardware and network wiring. Additionally, students were provided RM Tuff Cam cameras

for taking still and motion pictures. The system interfaced with Macintosh computers that were networked with Internet access.

"We are now able to go on interactive websites like Johnny's math page for math lessons, and we also access StarFall.com, a reading site for improving skills, neither of which we could do before receiving the grant," said Gresser. "Some of our students are from economically disadvantaged homes, and one of my students didn't know what a path was – he comes from an urban environment. So I typed 'path' into Google and brought up images on the projector. As a result, when we came to that word in the reading assignment, his comprehension and recognition were evident, and he was able to bridge the gap."

The document camera proved especially useful for students who were learning English as a second language. By putting the textbook under the document camera and reading aloud while text is projected onto the screen, students can follow along easier with an increased ability to concentrate on the group task. Math lessons are completed under the document camera so that problems can be explained to ensure complete comprehension.

"I recently taught a social studies lesson about Egypt and took the students on a virtual field trip to the Pyramids," said Gresser. "Using the projector, I was able to show big pictures and text that every student could see and enjoy. We also visited the desert, where students learned about the plants and animals via images I showed using the projector. We also watched a YouTube video posted by the Arizona Department of Fish & Game that explains how plants look during the summer drought."

As the success of the rollout became obvious, Principal Rogers tapped available sources to bring the technology into more classrooms. Now, Superstition Springs Elementary has purchased 25 NEC NP400 units, with plans to buy another 21 units so all of the classrooms have NEC projectors. Preparations are underway to mount a majority of the projectors to the ceiling. Rogers has decided to focus her budget on the projectors because she believes they are the most important part of the technology upgrade. In fact, most of the classrooms rely on computers instead of electronic whiteboards to complement the projectors.

"We find that our teachers are clamoring for the projectors, and as more rooms are equipped, you can hear teachers in the lounge exchanging ideas on how to add new content to the lessons and how to improve the flow of a lesson based on these new technologies," Rogers said. "Our students are provided real-world



Rather than just reading about it in a book, faculty and students can learn about Egypt and the Pyramids in a more interactive manner using the NEC projector and whiteboard.

experiences and gain a much quicker grasp on lessons. The grant has energized students and teachers, as well as motivating senior staff to allocate funds to continue the project into other classrooms."

According to Rogers, the goal is to introduce technology with specific objectives in mind, not just for technology's sake. Rogers noted that reinventing instruction with these new tools takes some time. Teachers try the new approach one subject at a time and build from their successes and experiences.

Rethinking the curriculum has taken considerable thought, but her teachers are continually finding new ways to leverage the new tools to improve learning and interaction with students.

"We are very pleased with the results of the project," said Rogers. "We're seeing improved technology literacy among the students, enhanced student attention during class, and better reading and math comprehension. Class is more fun and engaging for our students, and that translates into academic excellence."