Electric with technology

HP grant helps rural school district integrate technology into science curricula, boost student achievement

Culver Elementary School

"The HP grants have made a huge difference in our ability to meet our school's technology goals. Our school improvement plan called for integrating technology into our instructional programs."

– Stefanie Garber, Principal, Culver Elementary School

HP customer case study: HP Technology for Teaching Grant Initiative to integrate technology into its science curriculum improved student achievement at Culver Elementary School in Oregon

Industry: Education

Objective:

Culver Elementary School wanted to integrate technology into its classroom instructional programs, but its computers were outdated and unreliable.

Approach:

HP Technology for Teaching Grant Initiative.

IT improvements:

- Improved reliability.
- New HP tablets able to run current software.
- Tablets can easily be moved to classrooms via cart.
- Wireless network enables students to access Internet from classrooms.
- Multimedia projectors allow teachers to display computer-based lessons, demonstrate computer, Internet skills.

Educational benefits:

- Number of students interested in subject matter rose from 73.1 percent to 89.5 percent.
- Average number of errors in project assignments decreased from six to one.
- Average number of facts listed in projects increased from 13 to 85.
- Students able to be more specific about where to find information on topics.
- Teacher enthusiasm up.
- Discipline problems decreased.

In 1996, central Oregon's Culver School District No. 4 built new elementary and middle school buildings and installed computer stations, televisions, and VCRs in every classroom.

But the district never put a plan in place to sustain the technology. By the time Stefanie Garber was hired as elementary school principal five years later, the computers had become obsolete. Many no longer worked, and those that did couldn't run current software.

Garber knew that, ideally, the entire district should make technology a priority. But when no district-wide initiative materialized, she decided to take matters into her own hands. She began appropriating any extra budget money she could find to outfit a computer lab for the elementary-level students.

Then all at once, a number of opportunities surfaced. Two of the school's teachers committed themselves to acquiring technology for Culver Elementary and learning how to use it. The school received funds from a district grant to underwrite technology-related staff development. And the school applied for, and won, a grant from HP's Technology for Teaching Grant Initiative.

The grant enabled the school to upgrade its technology resources with HP Tablet PCs, HP digital projectors, and HP digital cameras. It also provided funds to enable the school to offer professional development to its teachers through The International Society for Technology in Education (ISTE).

"All of a sudden," Garber recalls, "our building became electric with technology."

"Thanks to HP, we surpassed our goals and have begun achieving a positive impact on our students' lives and academic progress. It's been wonderful to watch."
Stefanie Garber, Principal, Culver Elementary School

Integrating technology

Culver's goal with its new HP equipment was to integrate it into their classroom curricula.

The teachers decided to focus on their science units. Instead of relying on direct instruction, they built coursework that would cast them as facilitators. Student assignments incorporated ideas for online studies, Internet hot lists, and criteria sheets for projects.

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The teachers used HP projectors to lead lessons and present online materials, like streamlined video. The HP tablets allowed students to generate web content, write reports, and create PowerPoint presentations. The students could access the Internet from their tablets to conduct online research and take virtual field trips. They used HP digital cameras to document scientific experiments or capture images to enhance their projects. Classroom web pages were used to post student work online and link to related online resources.

Enthusiasm and results

As the year went on, the teachers' enthusiasm for the new, technology-based science units grew. And word spread throughout the building. "Teachers who hadn't begun using the technology would approach teachers who had, and ask them to show what they were doing," Garber says.

As part of its curricula development, the school had created teacher reflection forms and logs to document teacher experiences. Reviewing them later, it was clear

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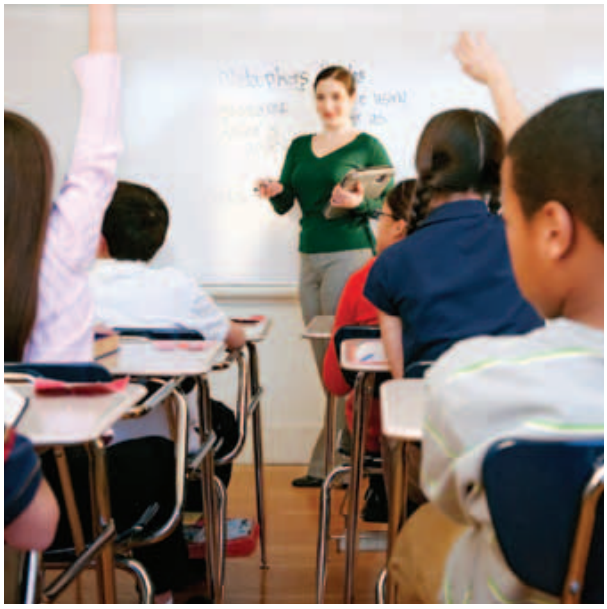


that the program was a success. "Teachers reported that the students' level of learning was increasing and that student participation was up. They were amazed at how excited their students were, and how eager to learn."

Student achievement also rose. Among fifth graders, for instance:

- The average number of errors in information presented in project assignments decreased from six to one;
- The average number of specific facts listed in projects increased from 13 to 85;
- Students were able to be more specific about where to find information on topics;
- The number of students who said they were interested in their subject matter rose from 73.1 percent to 89.5 percent.

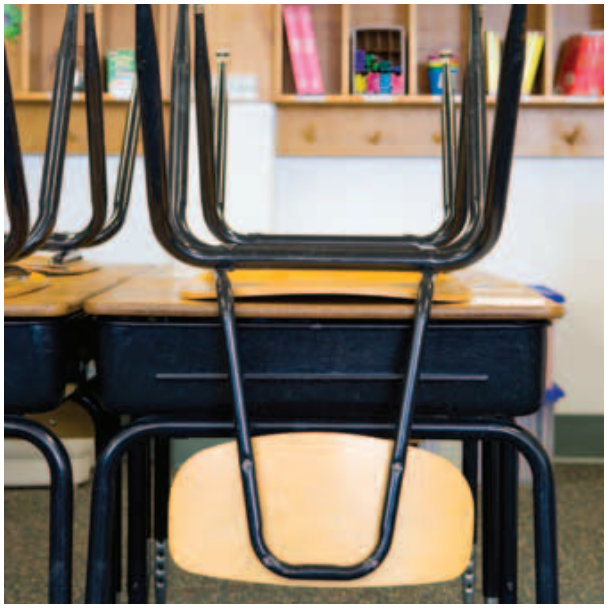
Students also acquired new computer skills, ranging from how to use various software applications to how to conduct research on the Internet.

Building on success

With enthusiasm high for the new technology programs, Culver applied for and won an additional, higher-valued investment in its HP Technology for Teaching project. The second grant provided the school with more equipment, including another 15 HP Compaq tc4200 Tablet PCs for the students. This came with a cart, an ideal set-up for wheeling the tablets into classrooms when students need them, and an HP ProCurve Networking Wireless Access Point 420 — so students will be able to access online information from anywhere in the building.

The additional grant investment will also enable more teachers to participate in the program. "Five out of our 12 elementary teachers participated in the first grant," Garber says. "Getting the second grant will let two more staff members join.

"The HP grants have made a huge difference in our ability to meet our school's technology goals," Garber adds. "Our school improvement plan called for integrating technology into our instructional programs. Thanks to HP, we surpassed our goals and have begun achieving a positive impact on our students' lives and academic progress. It's been wonderful to watch."



Customer solution at a glance

Primary applications

- Integration of technology into science curriculum
- Customized professional development funded by HP, provided by ISTE

Primary hardware

- HP Compaq tc4200 Tablet PCs for students and teachers
- Cart to house tablets
- HP ProCurve Networking Wireless Access Point 420
- HP Digital Projectors
- HP Digital Cameras

To learn more, visit www.hp.com

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