EDUCATION

Personalized Instruction.

Savings from LampFree projection helps California district fund innovative instructional program.

Four years ago, Dawn Kale, Director of Information Technology at Poway Unified School District outside San Diego, decided to try something new – LampFree projectors from Casio.

"The maintenance of our projectors had become overwhelming for our technicians," she recalls. "The cleaning of filters, the replacement of lamps, and the cost of the lamps, as well as the poor quality of the images we were getting, made it a priority to find something new."

PUSD is a large district, with 36,000 students in 26 elementary schools, six middle schools and six high schools, and about 1,600 projectors installed in classrooms. Becky Thurmon, Account Manager at Poway-based Pathway Communications, who has supplied the majority of the LampFree projectors the district has purchased, says they were paying anywhere from $100 to $200 per lamp, depending on the brand and model of the projector.

Still, she and Kale describe the costs of the lamps as a secondary issue. With lamp replacements, cleaning, repairs, and the need to install loaner projectors when one goes down, the district was spending several man hours per lamp-based projector per year. Worse, these thousands of hours had to be spent after school, because the teachers use their projectors all day, every day. "Maintenance became an ordeal," Kale says.

Advanced Series

An even bigger problem was the quality of the image these projectors would create as they aged. Because a projection lamp generates a great deal of heat, the LCD or DLP imaging component deteriorates with time, darkening the picture and softening focus. "We worried that children in the back of the classrooms struggled

to really see," Kale says. "In some cases, teachers stopped using the projectors." But now, with nearly half of the lamp-based projectors replaced with LampFree, PUSD has been able to move funds and technician time to a much better use: their highly innovative initiative to bring more and more personalized instruction to their students.

Options for students

"What we focus on here is individualized instruction," Kale explains. "We know that every child learns in a different way and at a different pace." In August, 2014, PUSD opened the Design39 Campus, a non-traditional K-8 elementary school designed to maximize the district's individualized approach. "The idea is to give the kids options in how they learn," Kale explains. "Some gravitate to technology, but others do not. Some learn best in groups, but others on their own. The teachers tailor instruction based on input from parents, students, and a testing system called Measures of Academic Progress. They try to get them to advance in the ways they are most comfortable."

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DAWN KALE

So, for example, the 1,150 students at Design39 are broken up into pods of 150 kids, with five to six instructors serving each. Within each pod, students work individually or in groups and have a great deal of choice on the specific topics they study. For example, every Tuesday students take a "Deep Dive" into one of several enrichment activities. Collaboration is encouraged, but not everyone has to work in a team on every project. Because there are so many teachers for each pod, they have an unusual amount of flexibility in catering to the needs and interests of each student.

Flexible Displays

Given the emphasis on individualized instruction, it's interesting to note that the principal and instructors who created Design39 decided to stay with projection rather than move to the individual sets of flat-panel displays now gaining popularity in collaborative settings. As in any school, large-screen displays are crucial at Design39. They offer instructors a way to share materials to small or large groups and allow students to make presentations as well. Yet at Design39, Kale says, teachers do not want to be tied to a specific room configuration, as active learning classrooms using flat-panels must be. Projection can be far more flexible.

At Design39, all but one or two instructional spaces are equipped with rolling podiums that contain a Casio LampFree projector as well as plug-ins for teacher and student devices, an Apple TV used as a wireless receiver, and a document camera. Rather than installing projection screens at specific locations, the builder painted all walls white. Teachers simply roll the podium to whatever section of the classroom is most appropriate for a group or class-wide activity, plug it in and turn on the projector. One reason the design team chose Casio LampFree is that these projectors turn on and off instantly, with no need for warm up or cool down before or after use. The teachers can move the podiums and power them up without delay.

Another reason the teachers like the LampFree Casio projectors is that they can be used with almost any laptop, Chromebook, tablet or smart phone, via a wired or wireless connection. The new Casio Advanced XJ-F210WN, for example, includes two HDMI inputs for connection with all current video and computer technology. A high-power USB port connects to USB sticks, phones and tablets. Network and RS-232 connections provide control and remote status monitoring capabilities, and an optional wireless adapter allows for wireless streaming from Windows and Apple computers and (with a free app) from IOS and Android devices.

Of course, eliminating the cost of projection lamps and maintenance is the most important advantage of going LampFree. Personalized instruction takes a major investment, if you consider the cost of curriculum development, testing, instructor's computers and individual devices for students who can't afford their own. Any savings on lamps and technician time can go directly toward these costs.

By freeing up funds to buy more Chromebooks and other technology, providing better images and more flexibility in Poway schools, the LampFree projectors have proven a valuable addition to the district's educational toolbox.

"When you look at the total cost of ownership, the manpower needed for maintenance, and the image quality over time, it's just a no-brainer to go LampFree," Kale says.