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Teacher development key to tech success

Survey confirms importance of professional development to tech integration

By Robert Brumfield, Assistant Editor, eSchool News

In their efforts to meet federal requirements for improved student performance, the nation's teachers say effective use of classroom technology is essential to conduct important administrative tasks and reach a new generation of learners weaned on technology. And key to the effective use of classroom technology, educators report, is adequate professional development. The findings are part of a new national teacher survey released by technology provider CDW-G, which uses the results to call for continued support of federal ed-tech grant programs.

July 21, 2006—A new survey of teachers and their use of technology suggests there is a clear correlation between hours spent in professional development, classroom integration of technology, and improved student performance.

Technology use by teachers continues to rise, the survey indicates; three out of five teachers said their tech skills were at least "somewhat advanced," four of five think it engages students, and two in three believe it can improve performance. Professional development in the use of technology also is on the rise, according to the survey--though one in five teachers still receives no such training.

Sponsored by CDW-G, a reseller of hardware tools to schools and governments, and administered by education research firm Quality Education Data (QED), the study, called "Teachers Talk Tech 2006: Fulfilling Technology's Promise of Improved Student Performance," polled some 1,000 K-12 public school teachers on technology's role in the classroom.

The poll offers an in-depth look at how K-12 teachers use computers in their jobs; evaluates technology's role and efficacy in education; sheds light on educators' opinions regarding the use of computers in their classrooms; and attempts to gauge the effectiveness of computers in preparing students for the 21st-century workplace, according to survey administrators. CDW-G said its findings support the need for more federal ed-tech spending, including continued support for the Enhancing Education Through Technology (EETT) block-grant program, the largest single source of ed-tech funding in the federal budget--and a program that President Bush has asked Congress to eliminate in 2007.

Although teachers report they are using technology more frequently for both instructional and administrative tasks, they also worry that obstacles such as a lack of access, time, and money are keeping them from integrating technology effectively into the curriculum, the study found.

Technology is "on the cusp of radically transforming the learning environment," researchers wrote in response to their findings; but it's not fully there yet, they said.

Bob Kirby, CDW-G's senior director for K-12 education, said technology can be an "empowering tool," depending on who's using it.

"Technology is becoming integral to the teaching process, and we're finding it makes the overall process that much better," said Kirby, who called the survey "a tool for teachers to say, 'Here's why I need something like professional development.' ... Anything above eight

hours sees a dramatic improvement in comfort levels for teachers."

The survey, now in its fourth year, found technology has changed the way teachers teach "a great deal." In 2004, 40 percent of teachers said their teaching environment had changed. By 2006, 54 percent reported such a shift. Veteran teachers who have been in the profession for at least 10 years have seen technology change the process of teaching, while younger teachers have always had some link to technology, the study found. Researchers interpret these changes to mean that technology is being used and embraced in the classroom.

According to the survey, four out of five teachers indicated that technology is very or somewhat important to teaching. Eighty-eight percent of those surveyed said technology is important to administrative functions such as attendance and grading, while 86 percent agreed it was important to communications with other teachers, administrators, parents, and students.

In addition, 81 percent of those surveyed said they use technology for research purposes when preparing lessons, and 79 percent use technology as a teaching tool in the classroom. Further, 63 percent of teachers characterize their classroom technology skills as "somewhat advanced" or "advanced," with a 5-percent increase in the percentage of users who consider themselves "somewhat advanced" since 2003.

Seventy-nine percent of teachers say they are either "competent" or "highly competent" in using instructional software, and 76 percent chose the same designations for their ability to integrate computing into lessons. What's more, 66 percent of respondents said they were "competent" or "highly competent" in using technology to develop critical-thinking skills in their students. Seventy percent of teachers indicated competence in using data analysis tools to gauge student performance--a key to achieving federal requirements ushered in under the No Child Left Behind Act (NCLB).

"Without technology, it would be impossible to meet the requirements of NCLB," the study said.

In fact, researchers say they noticed an increase in the use of technology in every major curricular category since last year, from writing to art. The number of teachers using technology to teach writing skills went from 64 percent in 2005 to 71 percent in 2006, while the use of technology to teach scientific concepts also increased significantly, from 51 percent in 2005 to 60 percent this year. Teachers have even increased their use of technology for "performing artistic activities," the study found, from 36-percent saturation in 2005 to 42 percent this year.

Teachers overwhelmingly agreed that the use of technology in the classroom makes students more engaged, and most agreed that students' academic standing has improved as a result of technology's use. Eighty-two percent of teachers surveyed said students are more engaged when technology is being employed in classroom activities. Sixty-five percent said students' academic performance improves with the use of classroom computers. Teachers also noted that computers have been found to help students think more creatively (64 percent), and more independently, if those computers are in the classroom (47 percent).

But there are still obstacles to achieving technology's promise, teachers reported.

Fifty-five percent of survey respondents believe the biggest impediment to effective technology integration is access to computers; 48 percent believe they lack sufficient time to properly integrate technology into lessons; and another 48 percent say district budgets do not allow the level of technology integration they would like to see in their classrooms, the study said.

Professional development also is on the rise, the study found.

The percentage of teachers reporting they did not receive any professional development in the use of technology dropped by 12 percentage points from 2005 to 2006. Still, at least 19 percent of teachers interviewed said they did not have any professional development training in the past 12 months, according to the study.

"It was a surprise that nearly 20 percent of respondents are still getting no professional development," Kirby said. "As much as technology is integrated in business and higher education, 20 percent of our teachers are not getting any training around technology. That is very surprising to me. Twenty percent of our teachers are not getting technical professional development, and yet we're cutting back on funding EETT--the main source of professional development funding for technology?"

Despite this gap, researchers contend there is a clear link between professional development in technology use, classroom integration of technology, and improved student performance. According to the survey, 78 percent of teachers who have had at least 16 hours of professional development in technology say they incorporate 21st-century skills into their curriculum, and 66 percent believe teaching those skills strengthens skills for standardized testing. Similarly, 74 percent of teachers who have had at least 16 hours of professional development believe students' academic performance is enhanced with the use of classroom computers, the study found--that's 9 points higher than the percentage of teachers overall who hold this belief.

"I think the biggest 'aha' of the study is that we are starting to see a direct correlation between hours of professional development and how thoroughly technology is being integrated into the classroom," Kirby said. "These are things we've always suspected, but now we have some actual statistics through the surveys that validate the correlations."

CDW-G said its report represents a call to action for the education community.

"Funding needs to go toward technology, not away from technology," Kirby said. "You've seen some school districts that are making great strides here, and some that haven't. You're going to see a large gap [between those that are achieving greater integration and those that are not], and with a funding cut, that gap will get bigger. It's very bad timing to cut back on this effort, because it's just starting to get some traction. I can't think of a worse time to cut back on technology funding."

QED conducted telephone interviews with 1,000 K-12 public school teachers. The random sample was drawn from QED's National Education Database of K-12 schools, which is a census of all schools and districts in the United States.

Links:

"Teachers Talk Tech 2006: Fulfilling Technology's Promise of Improved Student Performance"
<http://www.cdwg.com/ttt>