

Strengthen link between technology and student achievement

Educators and policymakers who advocate the learning of skills relevant to the 21st century strongly argue that literacy in information and communications technology (ICT) – which relies on skills such as thinking and problem solving, communicating effectively, self-direction and productivity – requires fully integrating technology with classroom learning.¹

Many districts that are engaging their students with a multitude of technology-enriched curricula and instruction are demonstrating positive links to student achievement in a variety of subjects.² In fact, researchers are finding a clear link between technology, achievement, and motivation.

PSEA Recommendations

Improve access to technology. Educators have been remarkably creative with limited computer access, but if technology is to be integrated into instruction, more computers must be made available for students' use, through stand-alone computers or portable and wireless technologies.

- Increase Internet access, address software issues, and expand technical support. Efforts should address any equity issues related to Internet access, software, and technical support.
- Expand professional development in technology. Technology training, most commonly offered for administration, communications, and research, should focus more on applications for instruction. Those entering the profession, as well as experienced educators, should have access to high-quality professional development in technology.
- Capitalize on teachers' and students' enthusiasm about technology. The Commonwealth should help districts seek more ways to use technology for the greatest gain in student achievement, particularly in urban and rural/small-town schools.
- Identify funding for Classrooms for the Future, or a similar program.

Technology helps achievement

Most experts engaged in the technology debate agree that students and teachers tend to be more engaged and interested when technology is an integral part of teaching and learning. Most educators agree that technology improves student learning, but the vast majority also believe their students enjoy learning more with technology. Urban educators are particularly strong in their belief that technology has a positive impact on their students.³

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Enthusiasm for technology has led many school districts to successfully alter not only the curriculum but also the way the curriculum is delivered. By recent counts, at least 23 states are now operating virtual schools where students can receive instruction online.⁴ In Pennsylvania, PA Learners Online serves students in kindergarten through 12th grade and is managed by the Allegheny Intermediate Unit. Any student between the ages of five and 21 who is a resident of Pennsylvania may apply to enroll. The school is chartered by several western Pennsylvania school districts, including Allegheny Valley, Baldwin Whitehall, Bethel Park, Chartiers Valley, Deer Lakes, Moon Area, Shaler Area, South Allegheny, West Allegheny and Woodland Hills.



Technology also has a significant effect on the quality of the work experience for classroom teachers. While teachers are generally positive about technology, newer teachers are even more enthusiastic. More of them are satisfied with their general knowledge of technology and see it as improving their job effectiveness. Studies show that when educators use technology they feel they are able to do their job more effectively.⁵ Also, while most educators agree that technology is essential to teaching and learning, educators in urban and rural/small town schools are more likely to agree strongly about the value of technology for them and their students.⁶ Perhaps the value of technology in urban and rural schools rests mostly with its usefulness as an engaging, assistive-learning tool, particularly since students in lower income urban and rural areas have less access to technology outside of school.

The Power of a Great Education: PSEA's 20/20 Vision for the Future

Maintenance support for computers must also be adequate to ensure that computers function properly and reliably. Quality technical support for computers and other technologies should be available in every school. Particular attention should be given to schools located in urban areas, where maintenance and technical support are less likely to be provided. Another important point is separating the instructional support role of paraprofessionals from that of providing maintenance and technical support.

Classrooms For the Future is an initiative that attempted to integrate technology into the curriculum and improve teaching and learning in designated content areas of English, math, science, and social studies by providing enhanced technology resources such as laptops and other resources. It also sought to transform the role of teachers from that of instructors to facilitators, and that of students to co-explorers. In 2008-2009, the initiative served 453 schools and 490,000 students. For the 2009-2010 fiscal year, the Governor requested funding to expand the effort to reach 545,000 students, but this line item was eliminated in the final budget. This or a similar program should be resumed.

(01/10)

¹ Partnership for 21st Century Skills. (2002). "Learning for the 21st Century: A Report and Mile Guide for 21st Century Skills," www.21stcenturyskills.org/resources/mile_guide.asp.

² Murphy, R.F., W.R. Penuel, B. Means, C. Korbak, A. Whaley, and J.E. Allen. (2002). E-DESK: A Review of Recent Evidence on the Effectiveness of Discrete Educational Software. Menlo Park, CA: SRI International, http://ctl.sri.com/publications/downloads/Task3_FinalReport3.pdf.

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³ NEA-AFT technology survey, see note 1.

⁴ Robelen, E. W. (2007). "E-Learning Curve," *Education Week* 26(30):34-36.

⁵ National Center for Educational Statistics. (2000). "Teachers' Tools for the 21st Century: A Report on Teachers' Use of Technology," U.S. Department of Education. <http://nces.ed.gov/pubs2000/2000102.pdf>.

⁶ NEA-AFT technology survey, see note 1.