



Read the Evaluation Report

Special Report on TeachNet Successes Technology training for teachers: A better way



By Dale Mann

Everyone believes teachers have to understand technology before they use it in their classrooms, and professional development is the preferred method to grow that understanding. The U.S. invested \$40 billion in educational technology¹ in the ten years between 1993 and 2003.² But teacher use counts more than hardware installation. The No Child Left Behind Act (NCLB) reserves 25 percent of all technology expenditures for "high quality professional development to integrate technology into instruction."³

How, typically, does professional development happen? Instead of using technology to teach about technology, every school jurisdiction deploys the same in service workshops, demonstration lessons, and peer modeling that have been the supposed levers of innovation for the last 50 years. The stolid reliance on face to-face methods is reminiscent of bank managers in the 1960s who could not imagine that customers would be better served by ATMs than by standing in line to speak to a teller. When the National Staff Development Council convened a working group about the digital delivery of professional development, "participants made a running joke of whether certain individuals were 'face-to-face bigots,' educators who simply didn't believe that online learning could ever equal learning in a traditional classroom."⁴

To take an ironic example, the Bill and Melinda Gates Foundation's "State Challenge Grants for Leadership Development" are remarkable for their de facto endorsement of the status quo ante (Microsoft) in adult learning. Yes, PowerPoint has replaced overhead transparencies, but the foundation's technology leadership development activities still rely on convening educators face to face—school people as passive spectators in a delivery mode older than DOS.

A national analysis in 2000 documented that: (1) 99 percent of all teachers are exposed to "professional development"; but (2) only a third report that professional development is connected to classroom applications and (3) more than a third of all teachers (35 percent) never get any peer-to-peer professional development help.⁵

That inattention to practical support persists despite the 1988 research of Bruce Joyce and Beverly Showers. They documented that if teachers were presented with 11 concepts and theories, there was a 10 percent chance they would follow through with anything different in their classrooms. But if the help was packaged as "coaching in a work setting," the likelihood of classroom application went up to 80 percent.⁶ For technology integration in classrooms, we have self reports and scattered, inconsistent, and intermittent observations of classrooms⁷—but we lack evidence that professional development results in professional improvement.

The Education Commission of the States measured compliance with NCLB's "high quality professional development" requirement: two states are OK (Connecticut and Indiana); eight are semi-OK; and 40 states are "off-track" (in red; see map at right), the worst record, by the states, in connection with any of the NCLB mandates.

Conventional professional development is expensive and widely derided by teachers as irrelevant, ineffective, too late, or too far removed from the reality of classrooms. But, without an alternative, people who care about adding technology to teaching are left to reconcile themselves to a melancholy reality: Conventional practice may not work very well, but what else is there?

A better mousetrap: TeachNet in New York City

TeachNet was designed by Teachers Network in order to add digital networking to face-to-face (f2f) networking. New York City is a legendarily tough place to teach. In addition to all the other pressures, the city's schools seem to be moving toward testing every child in every subject every day. State standards and the

city's newly instituted "consistent" curriculum compete with anything different or new, including technology. For example, "...[O]ne third of the teachers in 'high stakes' tests [schools] reported that their school did not use or prohibited the use of computers in teaching writing, since the state writing test requires handwritten responses."⁸ That is why the experience of these teachers is so important. What they develop must meet the toughest test—urban school practicality.

In a test of this mixed model approach to professional development, 15 TeachNet participants were compared with a control group of 24 teachers who were enrolled in graduate level instruction in educational technology.⁹ The TeachNet group created a number of online projects for students, from "Rebuilding the World Trade Center Site: a 9/11 Tribute" to "Elvis Lives."

The TeachNet participants were emphatic that they design web-based curriculum units intended to maximize active student participation; the control group teachers were much less likely to do that. In a direct measure of the quality of its preparation, the TeachNet group assigned higher ratings to their professional development than did the university-connected control group.

We asked teachers to estimate their mastery of 34 productivity functions involving computers, such as creating web pages, using search engines, and inserting pictures and graphics in documents. The TeachNet participants were more confident in their rating of their mastery than the control group teachers in 28 of the 34 areas.

And when compared with the student related outcomes from other teachers in advanced training, the TeachNet group encouraged students to:

- use word processors in writing assignments;
- add graphics and images to their written assignments;
- use spreadsheets for data management and analysis (a skill not many of the teachers themselves had); and
- use eMail to communicate with each other and with expert sources of information.

The empirical evidence indicates that TeachNet is doing what it is designed to do—recruit and retain teachers in a network of professionals committed to adding learning technology to the classroom curriculum.

Summary and conclusions

In contrast to the "90-10" rule (that 90 percent of users access only 10 percent of an application's functions), TeachNet's f2f plus digital networking procedures grows a long list of expert functions in its participants—and they apply those new skills to classroom instruction and student learning.

The TeachNet mixed model suggests that there is an alternative. In the conventional mode, it takes 32 or more hours of professional development on the use of computers in classrooms to get teachers to conclude that they are "well prepared," yet only 12 percent of teachers have had that support.¹⁰ Among teachers new to the profession, only 42 percent feel "very" or "well" prepared to use computers in instruction.¹¹

TeachNet offers a more efficient choice. If ten members of a school faculty each choose one project from the hundreds now cataloged on the TeachNet web site (www.TeachersNetwork.org), then face-to-face sessions—six hours at the beginning of the school year and six hours at the end—can be supplemented with (1) online, on demand help; (2) a CD ROM; and (3) print resources, all in support of technology integration into classroom instruction.

Thirty percent of private sector training was online as early as 2000. Some districts are moving to harness the strengths of f2f and online experiences. Clark County, Nevada, offers mixed model, 15-hour courses that convene school centered team of teachers around collaborative lesson planning.¹² By adding online interaction to f2f experiences, TeachNet increases technology integration into classroom instruction; encourages new, standards based lesson preparation; and connects good teachers with each other as sources of practical, classroom improvement.



For professional development: Two states get the OK, eight are adequate, the rest are in the red.

Source: Education Commission of the States

FOOTNOTES:

- 1Benton Foundation and Education Development Center Inc., Center for Children and Technology, *The Sustainability Challenge: Taking-Ed tech to the Next Level*, Washington, DC., Benton Foundation 2003, P. 10.
- 2\$7 billion in federal expenditures over the life of the eRate program is half of what families spend on their children's back to school wardrobe in a single season. See Tracie Rozhon and Ruth La Ferla, "Trying on the Familiar and Liking It", *New York Times*, August 15, 2003, p. C2.
- 3Despite the federal injunction, districts allocate between 1% and 5% of their budgets to staff development. (National Staff Development Council, 2001 Member Survey Results, 13 August 2003, www.nsdc.org/surveyresults.pdf.)
- 4Joan Richardson, "Online Professional Development," *The School Administrator*, v. 58, n. 9, October 2001, p. 39. "E-Learning for Educators: Implementing the Standards for Staff Development" is available from the National Staff Development Council: www.nsdc.org/standards_tech.html.
- 5U.S. Department of Education, NCES, Fast Response Survey System, "Survey of Professional Development and Training in U.S. Public Schools," FRSS 74, 1999 2000.
- 6Bruce Joyce and Beverly Showers, *Student Achievement Through Staff Development*, New York: Longman, 1988.
- 7Elizabeth Bryom, "Tips for Writing an Evaluation Plan for a Technology Grant," *SEIR TEC News Wire*, v. 5, n. 3, 2002, p. 2.
- 8James Bosco, "Toward a Balanced Appraisal of Educational Technology in U.S. Schools and a Recognition of Seven Leadership Challenges," Washington, D.C., Consortium for School Networking, February 2003, p. 11.
- 9Data were collected by a self-report web survey at the end of the TeachNet year and at the end of the university course. Teachers were asked about the extent of their agreement that they were, for example, expert in, a certain computer function. Responses were coded on Likert scales and are reported as average or mean scores for each group. In addition to tests of statistical significance, we used eta2 as a measure of practical significance. The technical report—Dale Mann, "Teacher Technology Training: A New Delivery Method from Teachers Network," Interactive Inc., September 2003—is available from www.teachersnetwork.org.
- 10U.S. Department of Education, NCES, Fast Response Survey System, "Public School Teachers' Use of Computers and the Internet," FRSS 70, 1999.
- 11S.E. Ansell and J. Park, "Tracking Tech Trends," *Education Week's "Technology Counts"*, May 2003, v.22, n. 35, pp. 58-59.
- 12Richardson, "Online Professional Development," *ibid.*, P. 42.

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