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

By Dale Mann

Education requires teachers to have understood technology before they use it in their classrooms. TeachNet, as described in this article, demonstrates the preferred method to grow that understanding. The U.S. invested $40 billion in education technology in the ten years between 1993 and 2003.1 But teacher use accounts for 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.”2

How, typically, does professional development happen? Instead of using technology to teach about technology, such introductions use the same in service workshops, demonstration lessons, and peer modeling that have been the supposed lever of innovation for the last 50 years. The steadfast reliance on face-to-face methods is reminiscent of bank managers in the 1960s who could not imagine that customers would use ATMs rather than by standing in line to speak to a teller. When the National Staff Development Council convened a working group about the state of professional development, it remarkably, “asserted that ‘face-to-face’ in the 21st century means ‘personal’; participants made a running joke of whether certain individuals were “face-to-face” bogeys, educators who simply didn’t believe that technology could ever equal learning in a traditional classroom.”

To take an ironic example, the Bill and Melinda Gates Foundation’s “Grades to Graduation 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 teachers had been exposed to “profession development,” but (2) only a third reported that professional development is connected to classroom applications and (3) more than a third of all teachers (35 percent) never get face-to-face professional development help.

Putting this intention to practical support persists despite the 1998 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 that the teachers would have 20 percent of them 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.3 For technology integration in classrooms, we have self reports and scattered, inconsistent, and intermittent observations of classrooms—but we have no evidence that professional development results in professional improvement.

The Education Commission of the States measured compliance with NCLB’s “high quality professional development” requirement states are OK (Connecticut and Indiana) and the state of semi-OH, states are “off-track” (in red, see map at right), the worst record, by the states, in connection with the NCLB.4

Conventional professional development is expensive and widely derided by teachers as irrelevant, ineffective, and a way to direct funds to their own self-preservation. 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, “[T]he three of the teachers in ‘high stakes’ tests [schools] reported that their school did not provide the teachers with proper tools or training in assessment, since the state writing test required a different kind of response.”5 This is why the experience of these teachers is so important. What they develop must meet the toughest test—urban 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.6 The TeachNet group created a successful online collaborative lesson plan, “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 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 mastery than the control group teachers in 28 of the 34 areas.

When compared with the student related outcomes from other teachers in advanced training, the TeachNet group encouraged participants 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 
- understand whether to communicate with other and with expert sources of information.

The empirical evidence indicates that TeachNet is doing what it is designed to do—recruit and retain network professionals needed 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 model, it takes 32 or more hours of professional development on the use of computers in classroom to get teachers to conclude that they are “acquainted” and only 12 percent of the teachers feel they are “proficient.” Among teachers new to the profession, only 42 percent feel “very” or “very well” prepared to use computers in instruction.

TeachNet uses a “best in class” model. If 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, one hour of this begins 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 handouts as a support of technology integration into classroom instruction.

Thirty percent of private sector training was online, according to TeachNet. Some are moving to build on the strength of F2F and online experiences. Clark County, Nevada, offers mixed model 15-hour courses incorporating webinar-based training, collaborative lesson planning.7 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.

FOOTNOTES:
2Billion in federal expenditures over the life of the eRate program is half of what families spend on their children's education in a single academic year. See Tracie Rozhon and Ruth Li Felea, "Trying on the Familiar and Liking It", New York Times, 15 March 2003, p. C2
6Bruce Joyce and Beverly Showers, Student Achievement Through Staff Development, New York, Longman, 1975, p. 121.
9Data were collected by a self-report web survey at the end of the TeachNet year and at the end of the university courses. 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 significance an x2 analysis was done as a measure of practical significance. The technical report—Dale Mann, "Teacher Technology Leadership: The Complete Package, Teachers Network," Interactive Inc., September 2003—is available from www.teachernet.org.
12"TeachNet: Online Professional Development." ibid., p. 42.

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