Technology Has Found Its Way Into Our Schools . . . Now What?

by Shannon L. Cole

Along with many other states across the country, Kentucky has gone to great lengths to equip its schools with computers and with connections to the Internet. The question that presents itself now is: "Are educators and administrators integrating this available and valuable technology into their schools' curriculum?" If they are not, what can be done to help them accomplish this task?

Kentucky's Commitment to Technology in Education

Evidence of Kentucky's commitment to technology in education can be found in at least three different areas:

1. In the count of computers now present in Kentucky's schools
2. In the amount of money being allotted by the legislature to fund technology incentives, and
3. In the list of standards for "Experienced Teacher Standards for Preparation and Certification."

According to the Kentucky Department of Education (KDE), by the end of the 1999–2000 school year, 84% of the school districts in Kentucky had 75% or more of their schools connected to the Internet; 61% of the districts had 100% of their schools connected (http://www.kde.state.ky.us/oet/planning/techplans/profile.asp). The student-to-computer ratio is 6.4 to 1; KDE's goal is 6 to 1. The teacher-to-computer ratio is 1.4 to 1, with a goal of 1 to 1. In addition to installing school computers around the state, in January 2000 KDE also established the Kentucky Virtual High School, whereby students can take particular classes through distance learning via the Web.

For the 1998–2000 funding cycle, the Kentucky Legislature voted to increase funding to $127 million for the state's Master Technology Plan. This is an increase of 218% ("Kentucky lawmakers," 1998). This enormous increase in funding indicates that the Kentucky Legislature places a strong value on technology in education and is willing to support it financially.

Standard 10, adopted by the Kentucky Education Professional Standards Board, states that "teachers must demonstrate an implementation of technology" (http://www.kde.state.ky.us/otec/epsb/standards/exp_teach_stds.asp#std.10). Sixteen performance criteria are listed along with the standard. Criterion number 10.6 states that teachers must use "computers to do word processing, create databases and spreadsheets, access electronic mail and the Internet, make presentations, and use other emerging technologies to enhance professional productivity and support instruction." In 1993, Dr. Thomas Boysen, Kentucky's former...
commissioner of education, supported this by saying, "We will not simply apply technology to existing processes, but we will use it to transform teaching, learning, and management." All of these facts and statements verify the perception that technology in education is indeed a Kentucky priority.

**Educators' Attitudes Toward, Training With, and Use of Technology**

Based on the above data gathered from KDE, the conclusion can be drawn that the hardware and the funding are in place to make technology an integral part of Kentucky education. The next step is to integrate that technology into the curriculum. Is this occurring? In 1998 the Milken Exchange on Education Technology conducted a survey that addressed this issue. The survey gathered data from district technology coordinators regarding teachers' attitudes toward technology, teachers' use of technology in the classroom, the amount and type of technology training teachers receive, and skill levels of the typical teacher in their districts.

Results of the Milken survey show that 75.9% of Kentucky teachers view technology as "a powerful tool to help them improve student learning." Only 67.5% of Kentucky teachers, however, believe that their curricula are enhanced by integrating technology-based software into the teaching and learning process. Even though 75% of Kentucky teachers deem technology's role in education as important, according to the district technology coordinators, only approximately 66% of the teachers see it as a way to enhance curriculum and therefore use it on a consistent basis in their classrooms (Solmon, 1998).

Results of the Milken survey also provided statistics on teacher training, teacher skill level, and teachers' reasons for not using technology. These statistics may alarm both administrators and teachers alike. The district technology coordinators rated their teachers' computer skill levels using a Likert scale from 1 to 5, where 1 represented a beginner and 5 represented an advanced user of technology. The Milken Exchange tallied responses from the district technology coordinators who considered teachers in their districts to be above average in the use of technology (a rating of 4 or 5). The results are shown in Table 1.

<table>
<thead>
<tr>
<th>Skill</th>
<th>Kentucky district technology coordinators rating teachers' computer skill level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer use</td>
<td>22.9%</td>
</tr>
<tr>
<td>Software applications</td>
<td>15.4%</td>
</tr>
<tr>
<td>Internet use</td>
<td>18.4%</td>
</tr>
<tr>
<td>Online projects</td>
<td>7.2%</td>
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<tr>
<td>Technology integration into instruction</td>
<td>16.7%</td>
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</tbody>
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Table 1. Kentucky district technology coordinators rating teachers' computer skill level.

Unfortunately, these statistics may be tied to the number of hours of technology training received over the last 12 months. The Milken Exchange compiled information from the survey regarding the average number of hours of technology training in which teachers participated over the past year. The results for Kentucky teachers are shown in Table 2.

Teachers cannot be expected to become more than just average users with so little time devoted to training them on the use of technology in the classroom.

**Reasons and Solutions for Lack of Technology Integration into the Curriculum**

Teachers deem technology important, but many are either not using it or do not feel competent using it. Three major reasons for this lack of usage consistently arise throughout available data, research, and personal observation.

1. Technology training is being offered, but a large percentage (close to 80%) of all teachers are not participating (Couch, 1999).
2. Very little, if any, incentive or time is being made available for teachers to attend training.
3. Much of the training that is offered focuses more on how to use the hardware and the software but not so much on how to integrate those tools into the curriculum.

The solutions that follow are presented as a remedy to each of these three problems and, it is hoped, will help Kentucky teachers and administrators better use the technology they possess.

**Lack of Teacher Participation in Training**

Many teachers are simply not attending the training. David Couch, in his presentation regarding technology training and professional development for KDE in May of 1999 (http://www.kde.state.ky.us/out/customer/PD/comp_mastery/index.htm), lists two principle reasons for the lack of attendance in technology professional development sessions.