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Most schools lacking tech muscle

Survey finds few would be adequately equipped to give standardized exams

By **James Vaznis** | GLOBE STAFF   JUNE 16, 2014

As the state explores shifting its standardized testing system into cyberspace, about two-thirds of Massachusetts schools face a major technological challenge: They lack enough computers, other equipment, or broadband capacity to test large numbers of students online simultaneously, according to a statewide survey.

The survey of nearly 1,700 schools did not include a potential price tag for the technological investments, which are covered by local schools. Nor did it provide any information on the number of additional devices schools might need.

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But school officials say the investments could be significant and are asking the state for financial assistance.

The survey was conducted by the Massachusetts Department of Elementary and Secondary Education.

Guidelines for the proposed online testing system, known as the Partnership for Assessment of Readiness for College and Careers, recommend a student-to-computer ratio of approximately 3 to 1, a level hundreds of schools have not reached.

"Superintendents are saying, 'There's no way we can ramp up to that extent in the next several years,' " said Thomas Scott, executive director of the Massachusetts Association of School Superintendents.

As of now, state lawmakers are considering only one potential avenue for financial relief. A bond bill in the Legislature could offer $38 million to help schools with network upgrades — an effort that could have limited effects. The survey, conducted this school year, found the greatest need was for computers rather than network upgrades, with 1,057 schools requiring more devices compared with 226 schools needing external network upgrades.

Lagging technology

Responses from a survey of nearly 1,700 Massachusetts schools on their technology and broadband capacity status.

Insufficient data
162

Enough technology, broadband capacity
391

TOTAL
1,678

1,125
Need more
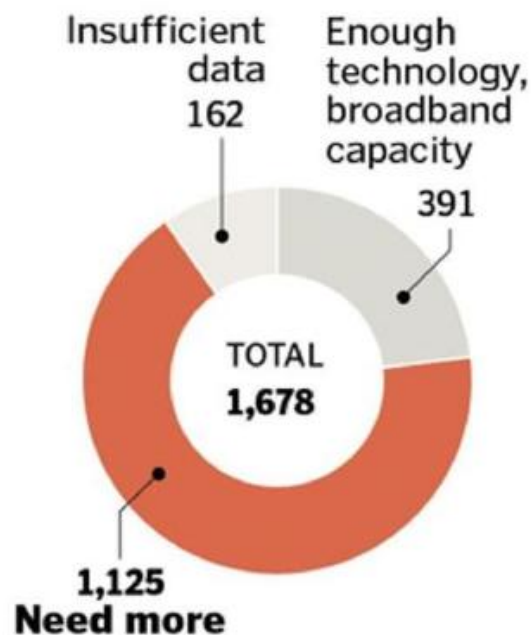
SOURCE: Massachusetts Department of Elementary and Secondary Education

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State officials have not decided whether they will adopt the online testing system, which is being tried out by schools statewide in the next two years and could replace the MCAS English and math tests.

But many school officials and education advocates expect Massachusetts will embrace the online tests because Mitchell Chester, the state commissioner of elementary and secondary education, is heading up a consortium of states developing the new test.

Regardless of the future for online tests, Chester said school systems should routinely be using computers and other devices in their classrooms to engage a technologically savvy student population and if they are not, they should be making the appropriate investments.

"The conversation has been jump-started by PARCC assessments, but my main goal here is to make sure classrooms are 21st-century learning environments," said Chester, noting that many school systems have already made technology investments a priority.

He also said the state would offer a paper-and-pencil version of the tests in the first few years in recognition of the technology gap. But that move is raising questions among some educators and policy makers about whether students who take the online tests — where questions have flashy three-dimensional images and videos and keyboards make it faster to write and revise essays — could have a performance edge over those using paper booklets, pencils, and erasers.

Some education advocates believe switching to online tests would be a mistake.

"The kids will be traumatized by a user-unfriendly system at a time when they are under a lot of stress," said Glenn Koocher, executive director of the Massachusetts Association of School Committees.

Others support the idea.

The statewide average for the student-to-computer ratio is the recommended 3 to 1, but hundreds of schools are well above that threshold, with many exceeding an average of 6 to 1, according to the most recent data the state collected three years ago. The vast majority of classrooms also have Internet access.

But schools might be in worse shape than the data suggest, educators say. The student-computer ratio, for instance, obscures the fact that many devices are antiquated and require replacement, such as computers relying on the Microsoft XP operating system, which is being phased out, or on Macintoshes that lack an Intel-based processor.

They also note that classrooms that have Internet access often do not have enough network capacity to accommodate an entire classroom of computers logging onto the Web at the same time, especially if dozens of students in other classrooms are trying to jump on, too.

The online tests can also create additional broadband demands when questions include video or audio — a component that requires test-takers to use headphones.

This spring, Braintree schools ran into a problem as they were trying out the new online tests: the rapid growth of smartphones coming into school buildings.

Although phones are banned from the testing rooms, students and staff in other parts of the building who had their smartphones on were using up broadband capacity, preventing students in the testing rooms from getting onto the system.

"We found out there are a lot more of these things than we thought," Bill Kendall, Braintree's director of math and technology, said of the phones. "We found one access point we thought would have 25 kids taking the exam, but we had 82 kids on it."

Aside from expanding broadband access, Kendall says Braintree schools will need well more than 500 new computers, each costing about $400.

Braintree officials sent a letter to the state this month expressing concern about the technological needs for and the content of the new tests.

Many school systems are stepping up spending on computer purchases — mostly laptops, iPads, or other hand-held devices — and, if necessary, expansion of wireless networks.

Boston is setting aside $2 million in its budget next year to purchase equipment and upgrade its network specifically to prepare for the state tests. That's in addition to the millions of dollars the school system routinely spends each year on technology.

Mark Racine, the School Department's chief information officer, said the investments are worthwhile regardless of the state's decision on PARCC.

"We are fully committed to getting wireless access in every classroom and a device into the hands of every student," Racine said. "There is not a single job out there or college course that doesn't require technology. We do feel giving students those tools will give them a leg up in college and their careers."

But, he added, "We have a lot more to do to get more technology into the hands of students and teachers."

Newton has also been investing heavily in technology. All of its schools are completely wireless, but the city still needs to boost its student-to-computer ratio, which can range between 3.5 to 1 to 4 to 1, depending on the school. To help in that effort, the school system is adding hundreds of MacBook Airs, which are lightweight laptops.

Leo Brehm, director of information technology for the Newton schools, said the proposed online tests are "kind of forcing the hand [of school systems] in a positive direction."

"It will provide resources for learning outside of testing time," he said.

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