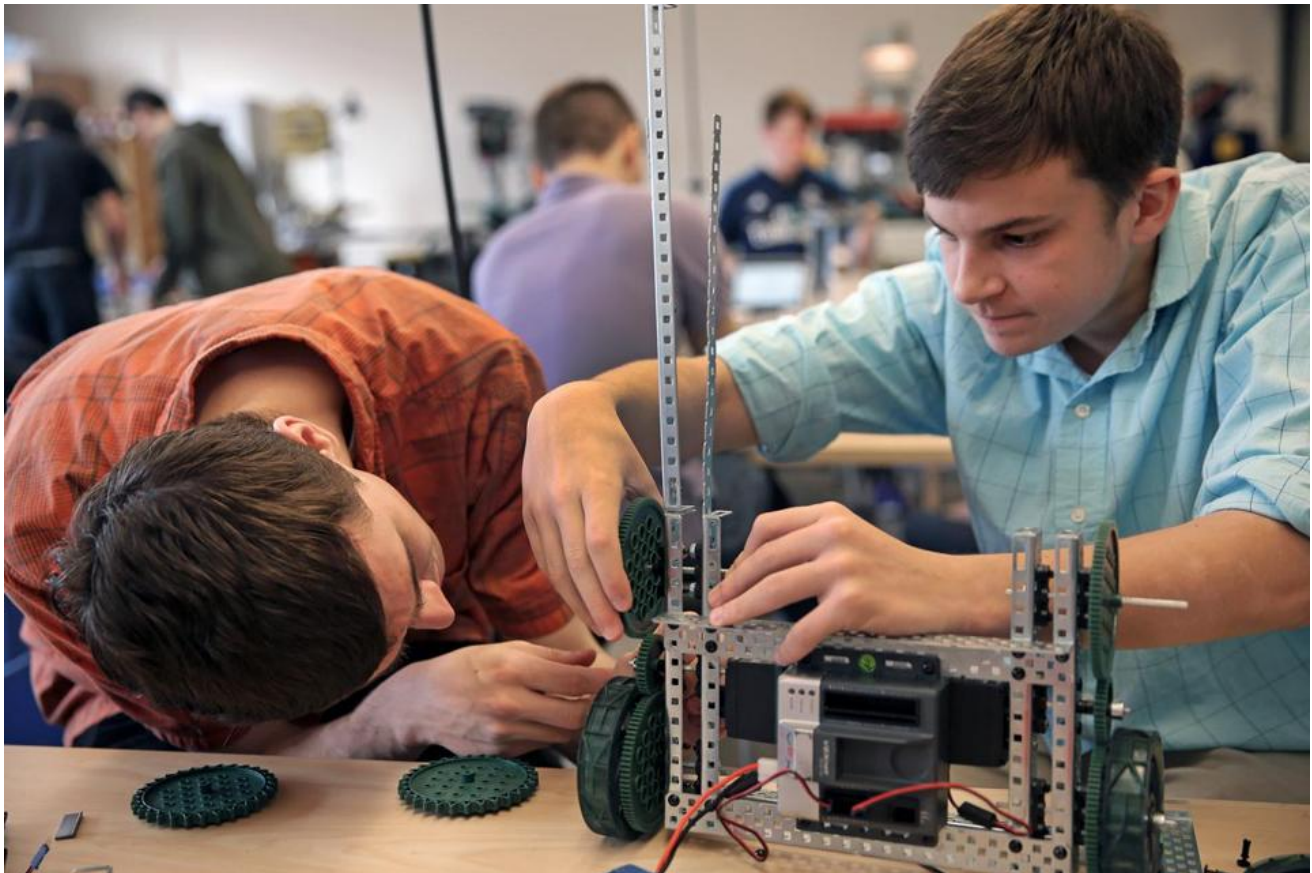


Salute To **Teachers**

New Mass. schools focus on technology, security



DAVID L RYAN/GLOBE STAFF

Students Brad Bedarian (left) and Ross Carboni worked on a robotics project at the modern Franklin High School. The new Angier Elementary School in Newton (below) has wireless technology in every classroom.

By Steven A. Rosenberg | GLOBE STAFF FEBRUARY 27, 2016

If you're a teenager and your laptop won't boot up, you could be looking at an expensive fix. But if a school-issued computer dies at Franklin High School, a classmate might have it up and running in a matter of minutes — and it won't cost a penny.

That's because the school library has an on-site, student-run repair desk, part of a range of amenities and improvements offered by new schools across Greater Boston that are revolutionizing the look and feel of public education.

“Most of the time it's a quick fix,” said Blaine Roche, a Franklin sophomore who repairs three to four student computers during his volunteer shift.

Just a decade ago, schools struggled with weak Wi-Fi signals and many didn't allow laptops in the classroom.

But as more communities replace their aging schools — with some new buildings costing \$100 million or more — educators have placed technology at the top of their priority list, along with building state-of-the-art science labs, airy media centers that are flooded with natural light, and security systems that can lock down a school and notify police at the touch of a button.

“I think the priorities are technology, security, and creating places where students can have a hands-on experience in the learning,” said Jack McCarthy, who oversees the Massachusetts School Building Authority. Since 2004, the MSBA has spent \$11.8 billion on school reimbursements to cities, towns, and regional school districts.

Even elementary schools are racing toward wireless classrooms.

Angier Elementary School in Newton, which opened last month with a price tag of \$37.5 million, has wireless projectors, white boards, and laptops and iPads in every classroom — including kindergarten.

“Technologically, it’s a totally new world,” said principal Loreta Lamberti.

Amid heightened worries about school violence and shootings, the new elementary school in Newton places a high priority on protecting students. The building includes security cameras, and guests must enter a secure holding area where they speak through a bank-teller window before they are admitted.

Planners built the school’s gym, library, and cafeteria on the first floor and classrooms on the second and third levels.

“We wanted to make sure there were no classrooms on the main floor in case someone came in,” Lamberti said.

MSBA subsidies — which can cover between 31 and 80 percent of construction costs — offset the high price of new schools. But most of the new buildings are going up in well-off communities that are willing to raise property taxes to cover the cost.

NEW SCHOOL TECHNOLOGIES

The interactive white board serves as a large computer screen.

The projector can send videos and presentations to the white board.

Windows and corridor skylights allow students to learn in a natural-light setting.

An inside door lock allows teachers to lock the classroom in case of a security emergency.

Rainbow-shaped desks allow teachers to work collaboratively with small groups of students.

Smaller desks allow students to work in pairs.

Tablets and laptops allow students and teachers to work together in real time on projects.

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While no Massachusetts cities and towns have come close to the \$197.5-million Newton North price tag — it opened in 2010 and remains the most expensive public school to be built in the state — communities now recognize that a new high school could top \$100 million.

In Billerica, the town has proposed building a \$175 million high school, and in Lexington, a \$145 million high school is in the works.

With the MSBA declining to reimburse districts for pools, field houses, or skating rinks, schools have scaled down their gyms and shifted their focus to building larger science labs with movable tables that can be used for chemistry, physics, or biology.

New schools are also focusing more on the arts, and typically include stadium-seating auditoriums, television and recording studios, and band practice rooms.

Some districts are building secondary auditoriums. At the new \$105 million Franklin High, which opened in 2014, students use an 80-seat lecture hall for debates, mock trials, and poetry competitions.

At Duxbury's \$128 million combined middle and high school that opened in 2014, drama students perform in a black box theater. And in North Reading, at the new \$108 million middle and high school, architects included a two-floor distance learning theater that allows students to interact with lecturers who appear on large video screens.

"It's a hallmark feature for us," said Jon Bernard, the North Reading superintendent.

With a new emphasis on natural light — skylights are now being included in main corridors and cafeterias — schools are paying greater attention to air flow. Franklin High is now fully air conditioned, and at Duxbury High School, the air is filtered through a schoolwide dehumidifier.

"When you're in a place that's lighter and brighter and more airy, and in a climate system that works well, that makes a big difference in morale," said Andrew Stephens, the principal of Duxbury High School.

Tina Stanislaski, a Cambridge architect who is designing an \$80.2 million middle/high school in Winthrop, said districts are also moving away from the traditional library and providing media centers instead.

“This trend is caused by many things, including reduced book collections due to more e-books, and students having one-to-one technology in the form of personal computers and tablets,” said Stanislaski, who also is the chairwoman of the Boston Society of Architects K-12 Educational Facilities Committee.

At North Reading High School, which is connected to the middle school, students arrive at 7 a.m. and chat on their phones and surf the Internet on sofas in the media center. And in Franklin, high school students can have a bagel for breakfast or sip a smoothie at lunch in the media center’s cafe.

They can also take out a book, but that’s happening less frequently as students turn to online e-books. At the old Franklin High School, the library held 40,000 books; now it has 10,000.

That shift doesn’t seem to concern Peter Light, the school’s principal.

“Just about everything we did in building this school was about looking at what’s best for kids,” he said on a recent school day, looking out at around 100 students eating lunch in the media center. “And our kids are engaged.”



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