

# East Irondequoit sees technology as key to improving educational outcomes

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Second of a two-part series

One might expect a school district considered a trailblazer in educational technology to be wealthy. But 54 percent of the students who attend the East Irondequoit school district receive free- or reduced-price lunch.

Located in an inner ring suburb of Rochester, the district's schools are near hulking industrial complexes that Kodak once ran 24 hours a day, but now are either vacant or converted to more modest uses.

The 3,200-student district has a lot of academic distinctions – it offers International Baccalaureate programs in all schools and serves as a National Demonstration School for a college- and career-readiness program called AVID. But only 29 percent of grade 3-8 students tested as proficient in math in 2016, and only 27 percent were proficient (Level 3 or 4) in English language arts. The 2016 graduation rate was 85 percent.

District leaders see technology as an avenue for improvement. The district is a member of the League of Innovative Schools, a national network of public schools committed to improving outcomes for students through wise use of learning technologies. (Other members in New York State are the New York City, Middletown and Mineola school districts.)

Lately, East Irondequoit is drawing attention as a leader in “digital conversion” – changing the ways that teachers

teach and students learn to take advantage of upgrades in educational technology. On Nov. 5-7, the National School Boards Association (NSBA) will bring educators from throughout the nation to East Irondequoit for a Technology Leadership Network site visit.

The district has taken a “thoughtful and strategic” approach to implementing a 1:1 learning program, in which every student has a device such as an iPad or Chromebook computer, according to Ann Flynn, NSBA’s director of education innovation (see sidebar).

At the center of the district’s digital conversion is Joseph Sutorius, the district’s chief information officer. He acted as tour guide when *On Board* recently spent a day in the district, meeting with administrators, faculty, students and visiting classrooms.

Sutorius downplays the importance of technology itself in a successful digital conversion. “Technology is the enabler,” he said. The really important issues are all academic, he said.



East Irondequoit uses the Dash and Dot robot to teach students basics of computer programming. Above, seventh graders use it to create a math game. Below, fourth graders program the robot to follow a map to reach specific points in a territory painted onto plywood.

So what does it take to have a successful digital conversion? “Lots of commitment” was the answer of Superintendent Susan Allen. The district went on a lot of NSBA site visits because a successful digital conversion involves changes in how people think, she said. “You don’t understand the culture shift until you see it,” she added.

Asked how teachers have reacted, administrators said that about one third are enthusiastic, one third want as little to do with it as possible and one third are somewhere in the middle.

The district has recruited the first group to work with the other two. It has encouraged sharing of best practices in a summer “Digifest” led by teachers. And regional workshops hosted by the district have drawn visitors from 60 school districts.

Among the less-enthusiastic teachers, some have asked what’s wrong with the way they have been teaching for decades. “You don’t have to be bad to be better,” is the answer given by Mary Grow, assistant

superintendent for instruction. “It’s very unnatural for some teachers to no longer be the ‘sage on the stage,’” said Mark Anson, director of secondary education.

“It came as a big shift for teachers,” agreed Teri Robson, director of elementary education. For instance, the noise level in classrooms tends to be higher when students are working in pairs or groups in project-based learning.

In an algebra class, teacher Angela Messenger provided an example of how a lesson can be enhanced with technology. Students were working in teams to plot an equation, using laptops or iPads. She wandered around the classroom with an iPad, which she used to wirelessly project the results of each team onto a screen.

All of the graphs looked the same except one.

“Whose is that?” the teacher asked. “Take a look. See if you can find your mistake.”

Soon the error was corrected, and the class moved on.

Enhanced group discussions and enhanced monitoring of student progress on an in-class activity is just the beginning of what’s possible with technology, Messenger said. There are many apps and system features that make it easier for students, parents and teachers to track progress.

“We are more informed than ever on how our students are doing,” she added.

Messenger is among teachers who say that students seem more engaged when they are given assignments that use devices.

“It’s something they have grown up with,” said Heather Pahuta, a seventh

grade science teacher. “It’s second nature to them.”

English teacher Kim Rovitelli said highly motivated students regularly surprise her with where they take assignments when the internet is at their disposal. For an assignment involving Edgar Allan Poe, one sixth grader created a booklet imitating Poe’s voice. “He had his tone and vocabulary down to a tee.”

A group of middle school students said they like doing independent research through the internet.

“You can learn at your own pace,” said Chris Dukto, a seventh grader.

The district is also giving students an opportunity to learn coding and programming, using robots or programs that introduce key concepts at an elementary level. Middle school students showed a visitor what they had learned about the three branches of government by creating animations in a program called Scratch Junior. In various animations, an adult character explained aspects of the legislative, executive or judicial branches to children and responded to their questions.

Why not just write a three-paragraph essay or create a display on posterboard, as generations of students have done? “As compared to a traditional report or essay assignment, the task was very engaging for the students, and they were motivated for success,” said fifth-grade teacher Nicole Charles. “The final projects were unique in that they could be shared with classmates, but also with a broader com-



Math teacher Nicole Johnson uses an iPad to control a smartboard and monitor students as they solve problems during class.



East Irondequoit Chief Information Officer Joseph Sutorius opens a symposium held in the district in February 2016.

munity beyond just the students in our school.”

Beyond that, students have got to start learning programming somewhere, as well as work on skills involving cooperation, planning and time-management. “Digital literacy has become an essential skill for today’s students,” Charles said. However, “use of technology alone should never be the sole catalyst for driving a lesson.”

The cost of digital conversion might not be as large as one might expect. “Our four-year implementation averaged \$82.20 per pupil per year after state aid,” said Deputy Superintendent John Abbott, who did an analysis at the request of *On Board*. He said that includes costs of devices, improving the district’s network, professional development and adding two data technicians.

“Since we are on a four-year replacement cycle of our iPads it made the most sense to look at this over four years. Going forward, I project that our annual cost will be \$59.30 per pupil after aid.” The drop from \$82.20 per student can be attributed to one-time startup and infrastructure upgrade costs.

Abbott is hoping to eliminate computer labs and stop buying desktop computers. “The savings would reduce our per-pupil costs going forward from \$59.30 to \$10.28 per pupil per year.”

School board member Stacey Beaumont said the board liked the administration’s plan from the beginning. “Everybody was just on the same page,” Beaumont said. The administration framed the proposal as a method of seeking more equity in education by closing the gap between students from differ-

ent socioeconomic backgrounds. At a minimum, technology offered new ways to monitor and track the performance of every student.

Some parents were skeptical, district officials said. “A lot of that went away when we adopted our learning management system,” said Sutorius. Parents saw their sons and daughters were using their devices at all hours not to play games, but to access coursework.

The district uses Schoology, which was designed by three undergraduates at Washington University in St. Louis, Mo. Sutorius noted it has a visual format that is similar to Facebook, which appeals to many students and teachers.

Sutorius is working on data dashboards that would make it easy for

students, teachers and parents to track progress on key indicators of progress.

“We are on a journey,” he said.

One of the most enthusiastic teachers in East Irondequoit about the potential of technology, social studies teacher Andy Cripps, was quick to point out that any piece of hardware or software is, ultimately, just a tool.

“It doesn’t replace good teaching,” Cripps said. “It’s just another tool.”

On the other hand, the ability of teachers to effectively use technology to enhance their teaching is becoming a core skill for today’s teachers, Sutorius said.

“It’s part of what makes a quality teacher,” he said. “It’s essential now.”



To accommodate attendees from 47 districts at a symposium in February 2016, books and furniture were moved out of the school library.

## NSBA to showcase district’s transition to technology-enhanced education

East Irondequoit has a lot to teach other school districts about using technology to enhance education, according to Ann Flynn, director of education innovation for the National School Boards Association.

She toured the district last month to help plan a Technology Leadership Network site visit to be held Nov. 5 - 7.

She hopes East Irondequoit will showcase its leading role in a regional partnership between schools and the University of Rochester (see *On Board*, June 12).

“Certainly, districts in New York State need to know about that,” Flynn said. “And I hope it inspires districts in other states to use it as a model to pursue partnerships with higher education in their localities.”

East Irondequoit has focused, as all districts should do, on using technology to produce the most benefit for teaching and learning, Flynn said. She said some districts make the mistake of buying devices first, then figuring out how to use them.

She said East Irondequoit has executed well on many steps critical to success, including:

- Building network infrastructure to provide enough Wi-Fi coverage and bandwidth to accommodate all users.

- Developing a professional development program to ensure teachers understand how they can take advantage of the devices to help them achieve academic goals.

- Creating a culture in which students and teachers enthusiastically bring their own ingenuity into the process.

- Addressing the concerns of parents, which often involve skepticism about the educational value of the devices and worries about privacy.
- Identifying high-quality applications and purchasing a “learning management system” – an umbrella software program that becomes a hub of virtually all academic activity.

East Irondequoit has been “very thoughtful and systematic” in its approach, said Flynn. She noted that district officials have attended several NSBA technology site visits, and she said they have taken full advantage of those experiences.

“People always say, ‘In hindsight, we would have done this a little differently,’” Flynn said. East Irondequoit has learned from others’ mistakes, missteps and oversights, she added.

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Photos courtesy of the East Irondequoit Central School District

