

New York School District Improves Student Outcomes with Video in the Classroom



Learn how **Troy City Schools** implemented video in classrooms – and read some of their best practices for success.

The classroom – everywhere

From their desks in upstate New York, students in Troy City Schools are seeing it all. Students who had never been on an airplane are going on private tours of a cockpit. They're getting an inside look at the Baseball Hall of Fame. And they're asking biologists *all* their questions about butterflies.

They used Cisco Video Conferencing and WebEx to make it happen.



Challenge:

- Supporting an expanded collaborative learning environment that meets the evolving needs of students with 21st century technology
- Managing learning technologies seamlessly within a single platform
- Deploying a solution that scales to accommodate new teaching and learning approaches, as well as new innovations in technology



Solution:

- Design a classroom environment that leverages technology—including Cisco Video Conferencing Systems and Cisco WebEx—to foster collaborative teaching and learning
- Enable complete visibility and control of the learning environment
- Ensure integration with existing learning systems and support new applications



Results:

- Broad access to new learning resources and approaches—often outside the walls of the traditional classroom
- Multiple technologies consolidated onto a single platform for simplified operation and management
- Improvement in student engagement and proficiency rates

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John Carmello

Superintendent, Troy City Schools

Challenge

Located on the eastern banks of the Hudson River, just minutes from Albany, New York's capital city, Troy, N.Y., is nicknamed the "Collar City" for its deep roots in the textile industry. Troy is also credited with being the birthplace of the iconic Uncle Sam. Troy City Schools serve 4,300 students in five elementary schools, one middle school, and one high school, as well as at an alternative school, which shares a facility with the district's administrative offices. The motto of Troy City Schools—Today's Students, Tomorrow's Leaders—embodies the district's core philosophy: to help every student become college and career ready, ensuring that all students achieve their full potential.

As was the case with many school districts across the country, economic challenges that began in 2008 meant that Troy City Schools did "more with less." Tight budgets required a focus on only the most critical investments, and upgrades to technology were at the bottom of the list. "Today we are a 'district on the rise,'" notes John Carmello, superintendent of Troy City Schools, "but during the economic downturn, we had several tough budget years, and we weren't able to update our technology at an acceptable pace. Administrators, educators, and parents were concerned that access to only out-of-date technology placed Troy students at a disadvantage."

In fact, within just a few years, almost all the technology Troy educators and students relied on was nearly a decade old. It became clear to the community as a whole that there were no quick solutions for their challenges: Troy needed a cultural shift to focus on academic excellence, and a complete overhaul of the technology used in city schools would be an important catalyst. At about the same time, Carmello was promoted to superintendent, and, with the support of the Troy Board of Education, guided the way as Troy City Schools launched a capital project, beginning with a multi-million dollar investment in the Troy Middle School. Carmello travelled the district, meeting with community leaders, educators, and parents to promote the importance of the project. Troy also won a New York State Pathways in Technology grant, designed to help prepare New York students for high-skills jobs of the future.

Students work

in groups with contemporaries from across the district and beyond via video.

Specialized educators,

who used to travel constantly from school to school, log in to classrooms online.

Content specialists join classes remotely.



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Christina Kole

Technology Coach, Troy City Schools

Investments in technical innovation were a critical element of the district's capital project. Troy City Schools considered technology-focused challenges that districts like theirs faced, looked at the best practices used to resolve them, and then issued an RFP with the goal of identifying a holistic technology solution to deploy across the district. "This effort was emblematic of a very hopeful time for Troy, and the community was completely invested in ensuring that our educators and students had the tools they needed to be successful in the 21st century," Carmello says. "We had a strong relationship with Cisco, having used the company's switching and wireless solutions, and we believed that with the addition of Cisco collaboration technology, we would have the holistic approach and robust platform we needed to facilitate our technology evolution."

Solution

In their conversations with Cisco, Troy decision makers came to understand that implementing cutting-edge technology in the classroom extended far beyond what they had used in the past, and they selected Cisco collaboration solutions, including Video Conferencing and WebEx. As the first phase of the capital project, implementation began in the middle school, where many students struggled to meet proficiency standards. "We were a school district in need of improvement, and we knew that something had to change," says Christina Kole, technology coach for Troy City Schools. "We implemented 10 video collaboration devices in the middle school and saw almost immediately the potential that video can bring to the curriculum and classroom. Our teachers and students had opened a 'window to the world,' and student engagement increased dramatically. After that first very successful year using Cisco video technology, we knew that we wanted a device in every classroom."

Over the next 18 months, Troy deployed the full spectrum of Cisco Video Conferencing and WebEx solutions, bringing video technology to every school and classroom in the district. These collaboration tools are fully supported on a Cisco platform that includes Cisco switching, routing and wireless solutions, many of which were refreshed as part of the capital project. The technology refresh was an important first step in updating and connecting classrooms to ensure ubiquitous wireless access for the Apple iPads and Chromebooks students rely on. Security is provided through Northeast Regional Information Center (NERIC), which operates a large Cisco Firepower Security platform.

In an important best practice, Troy City Schools focused on professional development and training for educators throughout implementation because, as Carmello notes, "It's not enough to build state-of-art classrooms; the power lies in what we use those rooms for." To complement training sessions, Troy relies on experienced technology coaches who engage with students and teachers in classrooms across the district.

"As administrators, we were sold once we saw what Cisco collaboration solutions were capable of doing," Carmello says, "but to really facilitate a cultural shift, it was equally important that the technology was easy to use. A focus on training and development would only get us so far. Our teachers needed to be excited about integrating the new technology into everyday teaching activities, and for that to happen, it had to work seamlessly, literally with the push of a button. Now that we've seen what video in the classroom can mean and the positive impact it is having on our students, teachers are actively engaged in finding new and exciting ways to use it."



Results

With Cisco collaboration technology in each classroom, Troy City Schools have pivoted from traditional learning approaches to a new collaborative model that has transformed the way educators teach and students learn. In fact, Carmello says he first understood how powerful video in the classroom would be for Troy when he heard the story of a pilot who, while grounded in Philadelphia, made a call to a Troy teacher. “He said, ‘Hey, let’s show your kids my plane,’” Carmello remembers. “Through video from his iPhone to the classroom, he shared the cockpit and told stories about flying, stood next to the tire so they could get a sense of the plane’s scale, even showed students the galley. We had students in that classroom who had never been on an airplane, and even for those who had, would likely never have heard a pilot’s perspective. You can imagine the learning that grew from that spontaneous interaction, and I can tell you that students still talk about the experience.”

Carmello points to a host of other experiential opportunities that would not have been possible without video. In one case, students studying butterflies were connected with a biologist at a butterfly sanctuary in Florida. Because they were talking with an external expert, students were completely engaged and felt empowered to ask dozens of complex questions, which deepened their work with the material. In other examples, classrooms were virtually visited by United States District Judge Mae Avila D’Agostino, children’s book author Charles R. Smith Jr., and the Cleveland Music Institute. Students also experienced virtual tours the Holocaust Memorial Museum and the Baseball Hall of Fame.

While the educational opportunities are paramount, the team at Troy also understands the value video provides when it comes to building and strengthening relationships. Several teachers have used the technology to reach homebound students and to enable connections between students and parents who are deployed overseas. In almost every case, the service member spent time with the entire class as well, relaying their experiences. Relationships with fellow students are also fostered. “Troy has five elementary schools and these students ‘graduate’ to a single middle school,” Carmello explains. “With a new school, new teachers, and so many new classmates, the transition year can be a challenge. Our elementary school teachers have used collaboration technology to connect their classrooms,



“Video technology has definitely increased engagement; I would say 100 fold. Children really do enjoy working with technology. Since we’ve had this increase in technology, we’ve increased our reading and our math proficiency rates.”

Virginia DonVito-MacPhee

Principal, School 18, Troy City Schools

and through activities like video book discussions, students from different schools have had a chance to share experiences. Everyone is a little more comfortable when they meet in person in the fall.”

Of course, for many, the proof of a successful initiative is in the numbers, and while it is impossible to tie any improvement in student outcomes directly to technology, Carmello is quick to point out that Troy City Schools have experienced sustained and consistent growth in proficiency rates in state assessment scores over the last four years. Specifically, with an increase of 7.3 percent, the district was recognized as one of the top ten capital-region schools for its improvement in English language arts scores. Troy Middle School has been removed from “Focus School” status, and Troy High School was recently recognized for its graduation rate of 83 percent, an increase of 7 percent from the previous year and above the state average.

“We are so proud of the work we’ve done; our schools have become a source of pride for the entire Troy community,” Carmello concludes. “Every day our students and teachers benefit from the shared expertise of people outside their classroom walls; with collaboration tools, we’re connecting with people with whom we never would have been able to connect otherwise, and our students are benefitting from a more enriched and collaborative learning experience. Parents tell us that their students are excited to come to school every day, and teachers are inspired to try new and innovative things. It is a wonderful time to be an educator in Troy, and I look forward to seeing what we’re able to accomplish next.”

4 Best practices for using video in schools

1. **Involve the extended community.** Administrators, educators, students, parents, and civic leaders all have a stake in the successful use of video in the classroom. In Troy, Superintendent Carmello traveled the district to engage with stakeholders, building understanding and gaining agreement. Today, the Troy City Schools are a source of pride for the city.
2. **Provide support and training.** Focus on professional development and training for educators, and designate technology coaches who can facilitate adoption. As Carmello notes, in Troy, having state-of-the-art technology isn’t enough; the power is in how that technology is used in teaching and learning.
3. **Encourage experimentation and innovation.** In Troy, collaboration technology enables virtual field trips, brings outside experts into the classroom, and allows specialized educators to be in two places at once. At the same time, it helps build and strengthen relationships: Teachers use video to reach homebound students and to connect students with parents who are deployed overseas.
4. **Start early to identify resources and build connections.** Involve outside experts, community members, parents, and other educators—who are willing to share their expertise with students via video. In Troy, teachers are actively engaged in finding new opportunities to transform teaching—and students are excited to use technology to engage with outside experts, their teachers, and one another.

Next Steps

Troy City Schools are currently evaluating Cisco Spark and hope to use the solution to extend the ability of administrators, educators and students to collaborate. Cisco is working with Troy to implement a proof of concept.



[Watch the Troy video](#)



Product list

Collaboration:

- Cisco Video Conferencing
- Cisco WebEx

Enterprise Networking:

- Cisco Catalyst 4500 Switches
- Cisco Catalyst 3750 Switches
- Cisco Catalyst 2960 Switches
- Cisco Aironet 2700 Series Access Points

For More Information

[Learn more](#) about Cisco Collaboration Solutions.

[Learn more](#) about Cisco solutions for Education.