IBM

Syracuse City School District provides a lesson in reinvention through process transformation.

Overview

■ **Challenge**

Faced with rising standards and tighter funding, the Syracuse City School District needed to improve its overall effectiveness to better engage its students and improve their academic performance.

■ **Why Become an On Demand Organization?**

To produce more engagement and better results, the District needed to transform the nature of teaching and learning. It envisioned a dynamic and interactive environment where information flows between teachers and students through a continuously available network.

■ **Solution**

The district engaged IBM to create powerful tools to help it tailor teaching approaches to student learning styles. New wireless and broadband communications systems deployed across 35 sites provide a flexible platform for teaching innovations and help make teachers more responsive to students.

■ **Key Benefits**

- Ability to tailor policies and teaching approaches to student needs has improved student performance while at the same time decreasing absenteeism and drop-out rates.
- More efficient systems enable the district to channel $200,000 in annual savings into new programs.

The Syracuse City School District encompasses 35 schools, 3,400 Teachers and Staff and over 21,000 students in the greater Syracuse, New York area.

The Syracuse City School District (SCSD) typifies the major challenges faced by today's American school systems. The most basic of these is the need to prepare its students to thrive in an increasingly dynamic and competitive world, one in which the ability to process information has become a standard requirement. To advance this aim, educational reform initiatives—most notably the No Child Left Behind Act—have sought to improve educational quality by putting in place a framework for setting performance goals and assessing results based on rigorous

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– *Don Spaulding, Former Director of Information Services and Technology, SCSD*

ON DEMAND BUSINESS™

On Demand Business Benefits

- More efficient systems enable the district to channel $200,000 in annual savings into new teaching programs
- Ability to integrate and analyze large amounts of student information helps administrators to tailor policies and teaching approaches to student needs for optimal results.
- More student engagement has resulted in improved performance, decreased absenteeism and lower drop-out rates.
- Advanced email messaging system enables teachers to be more responsive and efficient, and students to be more engaged
- Pervasive wireless infrastructure provides a platform for more flexible learning environments.
- Distance learning system leverages existing broadband infrastructure to affordably expand reach to niche student populations.

"We want our teachers to have the tools they need to fully engage students. Our goal is a very dynamic and interactive environment where information flows between teachers, students and our network in a way that's continuous and readily available."

–Don Spaulding

standards. These programs are designed to send the clear message to school systems like SCSD that they are ultimately accountable for accomplishing their missions—and are expected to succeed.

This newly energized focus on results has underscored the important link between educational resources and outcomes. Indeed, while there is no one formula for success, few would dispute the notion that a mix of resource quantity and quality—from the state of brick-and-mortar school facilities to the number of teachers per classroom—are its essential ingredients. This mindset has tended to place expanded educational funding at the top of the reform agenda. But with many state and local governments saddled with extremely tight budgets—even deficits— expansion through more funding and higher taxes has become a less and less viable option. This new reality has induced a shift in the way school systems like SCSD size up and address their resource challenge, with less emphasis on "more" and more emphasis on transforming practices to make the most of their current resources.

Through knowledge comes optimization

SCSD (www.syracusecityschools.com) is a powerful example of this dynamic at work. Faced with the challenge of improving the performance of its 21,000 students, SCSD examined all aspects of its operations in terms of their impact on the way students learn. Led by Don Spaulding, then the district's Director of Information Services and Technology, the project's initial mandate was to find a way to analyze student testing data in a way that would support the formulation of policies and practices at the district level. A psychologist by training with a background in evaluation assessment and research, Spaulding aimed to create a framework under which the district's teaching practices could be more closely matched to individual student needs to maximize educational outcomes. Spaulding sees this vision of personalized learning as a sharp contrast to the widely prevalent practice of "teaching to the middle," which applies cookie-cutter teaching approaches—to the detriment of those with special needs or talent. "When a child comes to us with a particular type of learning style or disposition, and a particular type of teaching is applied in a particular curriculum area, our goal is to know what's effective and what's not," says Spaulding.

Underpinning this knowledge-based system would be reams of hard data correlating student-specific factors such as attendance, scheduling and teaching style to testing performance. Unlocking it required an infrastructure to gather, store, manage and analyze the data for SCSD

decision-makers. It was at this level that the gap between vision and reality became evident. While the district's buildings were physically connected over a wide area network, there were no systems or processes in place to manage student data, much less leverage it within its teaching practices. To come up with some solutions to this problem, Spaulding and a handful of senior district administrators met with IBM, which discussed how it was helping other school systems—most notably New York City's—with a similar set of problems.

These consultations spurred Spaulding to broaden his vision of how the district could leverage technology to stretch its resources and improve outcomes. While his initial focus was on leveraging data at the administrative level, Spaulding expanded the scope of his inquiry to the way technology could be *directly* applied to improve all levels of the learning experience. His new areas of focus fell into three categories. First, SCSD needed a way to strengthen student engagement by making instructors more responsive to students. The second goal, also related to engagement, was to optimize the way technology is used to create the appropriate instructional setting. This means, for example, that students in a lab setting have an ability to capture data on the spot, or that young children can view information sitting in the classroom—not in a computer lab. Spaulding's third goal was to expand SCSD's reach to niche populations—such as advanced placement and non-English speaking students—in a resource-efficient way.

A platform for instructional innovation

With funding from the US Federal Government's E-Rate Program, SCSD engaged IBM to create a comprehensive infrastructure to facilitate both administrative and teaching process enhancements. To give administrators the information tools they need to optimize the district's mix of teaching approaches, IBM Global Services designed and implemented an opportunity ready network infrastructure. By having their data, voice and video converged on the same network, Syracuse City Schools can help to ensure that faculty, staff and students have direct access to all of the district's critical administrative and instructional applications anytime, anywhere. The ubiquitous access to the applications, through the wired and wireless technologies, gives the teachers up-to-date information at the point of instruction. This allows the teachers to apply varied approaches to meet the unique learning needs and styles, enabling them to have an immediate impact on student performance.

To make faculty more accessible, responsive and efficient—and students more engaged—IBM deployed a new infrastructure for email and Web services. Running on IBM eServer xSeries servers, the new system enables teachers to respond to student needs outside of the classroom, while also providing a way for students to create, collaborate on and manage their own digital content. The other transformative element of the SCSD solution is a pervasive wireless network that provides broader and more convenient access to information across all district facilities. The new wireless solution is a key enabler because it frees students to

"On a basic level, we're using technology to provide access to information. But we see the biggest value in using technology to organize and manage, information in a way that gives us the insight and intelligence to improve our instruction and—ultimately— student performance."

– Don Spaulding

interact with information in a richer variety of settings, whether it's in the library or laboratory. The SCSD architecture specifically includes Bluesocket gateways to ensure that all traffic, wired and wireless, is authenticated to a central directory. Network traffic is regulated and prioritized based upon acceptable use policies, a particularly sensitive issue for the student population.

The solution's final element, also deployed by IBM Global Services, is a digital communications infrastructure designed to fully leverage the district's high-bandwidth connections between sites while producing cost savings and efficiency improvements. One of its key features is a new Voice over IP (VoIP) telephone system that uses the existing network infrastructure and Internet technology to carry voice calls on the data network, thereby enabling the district to cut its standard telephone costs by more than $200,000 annually while improving the productivity of the district's teachers and administrators. Also improving efficiency is a new video-based distance learning capability—running on SCSD's existing infrastructure—that allows classes to be taught from a remote location. While the district's VoIP system increases the pool of resources that can

be channeled into teaching programs, the distance learning system enables SCSD to extract more from its existing resources. For example, the district is using distance learning-based instruction as a way to make up for a shortage of Spanish-speaking teachers and advanced placement classes without having to hire new teachers, thus creating more options for students and more efficiency for SCSD.

With its technology vision taking shape, Don Spaulding believes the district is well positioned to transform its educational processes to the core. "We were looking to reinvent our learning environment to help us achieve our mission more effectively. IBM not only helped us envision what was possible, but also had the diversity of technology, partners and expertise to make it all work seamlessly," says Spaulding. "We're happy to be working with a company that's a true thought leader in educational innovation."

For more information

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