Putting Technology to Work in the Classroom and Beyond

By embracing technology, this district raised student achievement and lowered costs.

By Mark D. Benigni and Michael S. Grove

All school districts are challenged by shrinking resources, increased accountability, and complex student needs. Some districts are launching campaigns to save their schools and picketing city hall; others are being innovative and searching for answers. Can technology save the day?

Like districts around the country, the Meriden (Connecticut) Public Schools faced increased special-education costs, challenges of the Affordable Care Act, a spotlight on teacher evaluations, and implementation of Common Core State Standards. The budget picture was bleak, and we did not expect any additional municipal funding.

So our central-office leadership team held a budgeting forum during which we discussed how to deal with those challenges while keeping students at the center of our decisions. We committed to the following themes:

- Reallocate and reuse.
- If it's not working, dump it.
- Locate cost drivers.

- Search for outside funding sources.
- Build community support and partnerships.
- Invest in staff.

Those themes became our guiding principles as we looked to improve student and staff learning and embrace operational efficiencies through technology integration.

Supporting Student Learning

The four tenets of student-centered approaches to learning include (1) personalized learning; (2) student-owned learning; (3) anytime, anywhere learning; and (4) competency-based learning. All those components can be seen in our board of education's goals and in our high school classrooms.

Our board of education reviewed, revised, and developed district policies and goals to put students at the center. The board-adopted four student-centered learning goals:

- To provide a student-centered learning environment to meet the individual needs of each student according to his or her specific background, capabilities, learning style, interests, and aspirations.
- To provide an educational program that will lead to college and career readiness for all students.
- To provide a technology- and resource-rich learning environment.
- To provide opportunities for learning outside the traditional classroom and school building (e.g., online courses, independent study, internships, and externships).

Our initial efforts to support technology-based student-centered learning included (a) collapsing academic levels to ensure rigorous coursework for all students, (b) changing mindsets to focus on the value of effort, (c) helping students succeed with new grading practices, and (d) granting all students greater access to all classes. We invested in online resources and applications to accommodate the learning needs of each student.

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Providing students with daily access to those programs required operational changes. We looked at the floor plans of our schools and identified large multiuse spaces that could support technology centers. We redesigned media centers to enhance student-centered learning and to support blended-learning instruction. Those new spaces could engage large numbers of students with minimal professional staff oversight.

The district virtualized students' desktop computers in each classroom so instructional applications could be managed centrally and delivered to the students via the Internet. This reduced the cost of product purchases, supported requests to maintain individual desktops, and reduced the cost of utilities.

More media and classroom reading selections were purchased in digital formats to support our transition to student-centered learning environments and to reduce costs. Not only did those changes improve efficiencies that helped save valuable resources for the district, they also supported best practices that enabled a smoother transition to blended learning and effective use of online tools.

We put our students at the center of their learning by empowering them, embracing technology, giving them choice and voice, and exposing them to real-world learning experiences. Student engagement spiked as they were given a voice in their own learning.

We put our students at the center of their learning by empowering them.

To highlight our focus on technology, to gain community support, and to ultimately reduce expenditures for devices, we launched a campaign to flood our community with information. A student-led technology forum—attended by hundreds of students, parents, and community leaders—highlighted the use of technology as a tool for learning. Hearing the students themselves describe the instructional technology initiatives motivated community members to throw their support behind the district's efforts. We developed online parent, staff, and student surveys. That communication helped us introduce the idea of technology as a tool and address concerns and misconceptions.

We also took an aggressive approach by passing a bring-your-own-device (BYOD) policy. From a cost-saving perspective, BYOD would allow us to pursue forward-thinking instructional strategies that had been stalled because of a lack of devices. We knew that many of our students wanted to bring their own devices to school. We also knew that our students were eager to demonstrate their responsibility with regard to digital citizenship.

The BYOD policy significantly increased the number of devices available to support instruction and learning, but not all students have their own devices. We remain committed to using technology as a means to level the playing field for students while saving district resources. In addition to implementing the K–12 BYOD guidelines, the district issues devices to students who need them. The number of devices issued to students increased from zero in 2010–2011 to more than 4,500 in 2014.

It's not the device that matters; it's what our students do with the device that makes the difference. We have reallocated funding from our textbook and library media

accounts to invest in district-wide K–12 online learning tools to support our conversion to digital learning. Hundreds of students have designed their own credit-bearing personalized learning experiences (PLEs), and hundreds more are recovering lost credits in our credit-recovery programs. The number of credit-bearing PLEs has increased from a handful to more than 200, and they continue to grow as businesses offer paid internships.

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For example, the construction company that is renovating Orville H. Platt High School created the Platt Builds Program. That program is a PLE for credit in which students who are considering construction-related careers have an opportunity for hands-on exposure to the various aspects of a live construction project. Francis T. Maloney High School started a similar PLE—Maloney Builds—this school year. Three of our neighborhood public elementary schools are expanded-learning-time schools, featuring 100 minutes of additional learning time a day. Technology-supported learning, as well as learning outside the classroom, is a key component of those programs.

As systems change and the needs of staff and students change, we know we must continue to provide support. We also need to reallocate current resources to support today's learning environments. Resources that were used to purchase books were shifted to contracts that support digital content. Paper and pencils were replaced by mobile devices, and outside consultants were replaced by well-trained Meriden Public Schools staff.

Beyond Student Learning

Having an assistant superintendent who previously served as the district's instructional technology director was helpful when the district began a complete overhaul and automation of its systems. Our automation included online employment applications, online requests for time off, automated work orders, automated cafeteria operations, an online out-of-district placement tool, an automated transportation system, a family-school liaison tracking tool, and an online substitute teacher process.

The online substitute teacher process realized an annual savings of 37%—$350,000 per year. Because the staff processes more than 4,000 free and reduced-price lunch applications each year, the automation of cafeteria operations resulted in huge time savings.

Implementing a building automation and energy management system that allows us to control our heating, air-conditioning, and lighting from one central application resulted in a major cost savings as well.

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The district also created a new website where documents and resources could be easily accessed by staff and families. The board of education now holds paperless board meetings, and flyer distribution is done electronically.

The Final Analysis

So what did we learn? We learned that if we personalize, differentiate, and engage, we will keep students at the center. We also learned that digital learning can level the playing field for all students and promote success. Most important, we learned that by embracing technology in our operational systems and student-learning areas, we can recognize budget efficiencies and improve student outcomes.

On our latest state tests, we achieved the highest scores in district history in grade 3 reading, grade 5 science, grade 6 math, grade 7 reading, and grade 8 reading and writing. Our school climate data were equally impressive. Since 2010–2011, suspensions have decreased by 58%, expulsions are down 88%, and school-based arrests have been reduced by 77%.

Although efforts to support funding increases remain part of our jobs, we have created significant efficiencies through technology that have helped us better use our funds. Technology has helped rescue the Meriden Public Schools from significant budget challenges and has ensured that our students have the appropriate learning environment to prepare them for college and career success.

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