

# St. Marys City Schools

Improved test scores, engaged students, inspired teachers, and saved money for the district.

Kyle Menchhofer wants to give the kids in his school district the same kind of learning opportunities that kids in more affluent areas have.

Menchhofer is the technology coordinator for the St. Marys City Schools in St. Marys, Ohio, a small, rural, Middle-American town with a diminishing tax base and not enough jobs. St. Marys' unemployment rate is above the national average, and home computer penetration is below it. More than 32.5% of the district's elementary students participate in the Free and Reduced Lunch Program.

"We're not a wealthy district," says Menchhofer. "We have a lot of kids who don't have a computer at home, or if they do, it's outdated. What I want to do is level the playing field, to give them the most positive educational experience possible."

## Challenges.

With only four computers in each elementary classroom and an average of 22 students per class, the kids at St. Marys City Schools didn't get much computer time. Menchhofer figures it at less than 30 minutes per student per week, hardly enough to prepare them for a world in which computer fluency is mandatory.

Knowing he'd never be able to provide every student with a traditional notebook computer, Menchhofer began looking for an affordable alternative. In 2008, with a minimal budget and maximum optimism, he launched a mobile learning pilot project, using personal digital assistants (PDAs) and smartphones as mobile learning devices.

The kids immediately took to the mobile learning devices, but less than a year into the pilot, Menchhofer learned that the manufacturer was halting production of the device they were using. Determined to keep the program going, he began scouting for an alternative.

"The company that provides our mobile learning software, GoKnow!, told me that there were a couple schools out in Texas that were working with Verizon Wireless," he says. "And it sounded like a natural fit: Our area has very strong coverage with Verizon Wireless. So I called Verizon Wireless and said, 'This is what we're doing with mobile learning devices in our classrooms. Would you be interested in working with us?'"

## Solution.

The Verizon Wireless government/education business specialist was immediately enthusiastic about the project. She put together a team and flew to Ohio to see firsthand how the students at St. Marys City Schools were using the devices.

"As soon as they arrived, I took them over to our pilot classrooms," says Menchhofer. "They talked to the students. They talked to the teachers. And they were able to see how these third and fourth graders were using the devices. And they were like, 'This is so cool!'"

## ST. MARYS CITY SCHOOLS

### Company description:

Located in St. Marys, Ohio, the St. Marys City Schools have an enrollment of 2,158 students in grades K through 12. St. Marys is a rural area, with an unemployment rate above the national average, and home computer ownership below the national average. More than 30% of the students participate in the district's Free and Reduced Lunch Program.

### Challenges:

- The St. Marys City Schools lack the money and space to provide all students with computers.
- Students got less than 30 minutes per week of computer time.
- The school district wants all students to have access to the same hardware and software.
- The mobile learning devices used in the district's fledgling mobile learning project were both costly and being phased out by the manufacturer.
- Students logging on to the Internet via Wi-Fi bogged down the district's WLAN/intranet.
- The district couldn't afford to add additional Wi-Fi access points to schools.

Menchhofer was delighted that the Verizon Wireless team was as excited about the project as he was. He and his business specialist quickly worked out a trial program, and he soon had 30 mobile learning devices and Mobile Broadband service. The kids can now access the school's wireless local area network (WLAN), create multiplatform projects, read e-books, exchange and share documents, take photographs, draw, and create animations.

Through government pricing, the Verizon Wireless XV6800s smartphones that the district is implementing this school year are free and, thanks to an arrangement with Verizon Wireless, the district pays for the data plans only during the months that school is in session. By using the XV6800s and the Verizon Wireless network, St. Marys City Schools need minimal IT support for the project: Verizon Wireless is responsible for maintaining both the devices and the network. Plus, the district doesn't have to add any Wi-Fi hotspots.

Students can neither text nor make calls from the XV6800s—both text and mobile phone capabilities are shut off—so they can't be used for socializing. And Verizon Wireless created a private network for the district, so only school-approved Web sites are accessible. "They can't make calls or send texts, and the bad sites are all blocked," says Menchhofer. "These are strictly learning devices." For students with visual or motor skill challenges, he adds a Celio Corp REDFLY™ terminal, which essentially turns the smartphone into a mini notebook.

All of the XV6800s are equipped with the latest versions of Windows Mobile®, Microsoft® Word Mobile, Microsoft Excel® Mobile, and Microsoft Office PowerPoint®, as well as the GoKnow! Mobile Learning Environment. With both a QWERTY keyboard and a touch screen, students can view and create drawings, animations, spreadsheets, and many other types of documents. And with professional development support from GoKnow!, the teachers in the program are transforming their existing curriculum into smartphone-based lessons.

As soon as they were distributed to the first classroom, it became apparent that the XV6800s were perfect for the program. "We put the smartphones into the hands of the third graders, and it took about 15 minutes for them to get used to them," Menchhofer says. "And they were off and running."

## Results.

One of the first things the third graders did with their new Verizon Wireless mobile learning devices was take them on a field trip to a museum about 30 miles outside of St. Marys. The kids took pictures with the devices, and then downloaded them to the GoKnow! site while they were on the bus. When they got back to the classroom, they wrote blurbs about each picture. That evening, the teacher got online and graded them.

"Our vision is for students to have anytime, anywhere learning," says Menchhofer. "By using the mobile learning devices, GoKnow! software, and Mobile Broadband service, we can achieve that vision."

Not only has learning become portable for the students, it's become fun. The kids are engaged, and it shows in their test results. Data was collected for two third-grade classrooms in the same school with the same teacher; one with the mobile learning devices and one without. The smartphone classroom increased its overall math score by an average of 3.36% in 18 weeks, while the classroom without the smartphones increased by only 1.65%. With the same testing group in a social studies unit, kids with mobile learning devices achieved average scores of 89.68% while the classroom without had average scores of 83.27%. Math, reading, and writing scores increased in another test classroom during the two quarters that the students used the mobile learning devices, and decreased during the quarter they did not.

"There's no magic here," says Menchhofer. "The students enjoyed learning using the mobile learning devices, so they spent more time on their assignments. That, in turn, translated into improved scores and learning."

## Solution:

- Verizon Wireless XV6800 smartphones with both Wi-Fi and broadband capabilities.
- GoKnow! Mobile Learning Environment software.
- Celio Corp REDFLY keyboards are added to the smartphones for students who have visual or motor skill challenges.
- Verizon Wireless Mobile Broadband, for Internet access both inside and outside of the classroom.



In statewide achievement tests, the St. Marys City Schools' kids using the mobile learning devices scored higher, or showed more improvement, than their peers. The two fourth-grade math classes using mobile learning devices showed the greatest improvement: They topped the previous year's test scores by an average of 14 points, compared to a five-point average improvement scored by classrooms not using devices. Third- and fifth-grade classes using the devices also showed marked improvement in math scores and reading. And across all of the district's classrooms using the devices, behavior incidents and late homework notices substantially decreased. "With the mobile learning devices, we've found a way to occupy their time," Menchhofer says. "Now they're too busy to get into trouble."

Students are allowed to take the mobile learning devices home, and have shown impressive levels of responsibility with them. "Our policy is that if you take the device home and you don't bring it back, then you have to do everything with pencil and paper," says Menchhofer. "To them, that is torture. We've only had two students out of 120-plus forget them—and only one time."

Parents, too, are impressed with how responsibly their kids are behaving with the mobile learning devices, Menchhofer says. "Parents tell us, 'I love how my child brings the device home and does his homework without having to be asked.'"

For the district's teachers, the mobile learning devices have brought a breath of fresh air into the classroom. "They're excited," says Menchhofer. "They're staying after school. They're collaborating with each other. They're working in the summer, developing lessons to get ready to teach their kids."

The mobile learning devices are also bringing those same teachers some much-deserved freedom. With students submitting their assignments electronically, the teachers no longer have to stay late or drive back to school to grade papers and create lesson plans. They can use their home computers to send projects and assignments directly to the students' devices.

Menchhofer has 29 new teachers wanting to join the project, and is looking at deploying around 630 mobile learning devices in the upcoming school year, making St. Marys City Schools the largest district in the country using smartphones and PDAs.

"The goal is to put mobile learning technology in the hands of every third through twelfth grader in the district," Menchhofer says. "And the Verizon Wireless team is as excited as I am at the opportunity to integrate wireless technology and education. That excitement carries over in all of our conversations, and allows us to plan together as a team. This is a great learning experience for everyone involved."

#### Results:

- Learning has become more fun and challenging for the students using mobile learning devices.
- Among students using the devices, test scores have increased, and disciplinary problems and late homework notices have decreased.
- Teachers using the devices in class have become more engaged.
- Parents are impressed that their children are enthusiastic and much more responsible about doing homework.
- Teachers can correct and create lessons on their home computer and distribute them to the students' devices.
- Thanks to government subsidies and an arrangement with Verizon Wireless, the XV6800s were free and the district only has to pay broadband connection fees when school is in session.
- The school district no longer requires IT support for the mobile learning project.

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