



Osawatomie High School & Marietta Center for Advanced Academics: A Tale of Two Technology Success Stories

Summary

Osawatomie High School and Marietta Center for Advanced Academics had two distinct needs for technology. Osawatomie is a rural high school where students had minimal access to resources. Marietta is a middle-class magnet school enrolling third through fifth graders, created with the vision of endless possibilities of learning and technology.

After careful research and planning, both schools decided to implement one-to-one computing programs that granted every student and teacher access to a fully-functioning computer, Internet connectivity, software and online and collaborative resources so learning can take place anytime and anywhere. Although the rationale behind each school's decision was different, both Osawatomie and Marietta pursued one-to-one computing to ensure students keep pace with the demands of the 21st century.

The following success stories offer a behind the scenes look at these two very different implementations; the planning behind the process, the determined leadership, the challenges each school faced, and the results and affects on learning and teaching.

Osawatomie High School

Situation

Osawatomie High School, located in the rural town of Osawatomie, Kansas, enrolls approximately 350 students.

Prior to the implementation, only a handful of the large population of economically disadvantaged students had access to technology at home. Resources for Osawatomie students and teachers were scarce and technology expertise was virtually absent at the school. When Technology Integration Specialist Ken Rigler arrived on campus in 2002, his primary concern was getting students access to computers. It was clear that most students did not have computer or Internet access at home. If the school could not provide students access to resources to develop the necessary 21st century skills, students would be further disadvantaged upon graduation.

Ken Rigler and Gary French, the assistant superintendent for the Osawatomie district, began planning a one-to-one implementation to get students access to technology. Rigler and French had the insight to know that without computer and technology skills, the students would have a difficult time entering the workforce or making it to college.



Ken Rigler, technology integration specialist, Osawatomie High School.

Aside from preparing students for life beyond graduation, the computers would help Osawatomie teachers in a significant way. With Internet access, teachers would be able to incorporate a vast amount of new material into lessons, and ensure better communication with students, parents and administration. Additionally, teachers would have a new way to keep students interested and participating in a more interactive teaching and learning experience.

Background Information & Challenges

Osawatomie High is approximately one hour from Kansas City. The rural community of roughly 5,000 people has preserved the strong family values that keep the community tightly knit, but many students come from poor backgrounds and don't have access to resources to help them succeed in the 21st century. Thirteen percent of the population lives below the poverty line and 48 percent of students in the Osawatomie school district are on free and reduced lunch.

A young and enthusiastic Ken Rigler arrived at Osawatomie High in 2002 to teach Industrial Arts. But when Rigler arrived, it was clear that the school was very behind in technology and that students did not have adequate resources. Rigler decided he could change things, and began researching computers for the school.



Students use tablet technology at Osawatomi High.

In 2002, Osawatomi High had three 30-person computer labs that existed at capacity during school hours. Teachers had to reserve a lab one month in advance to get students access to the computers. Teachers and students were frustrated – no one seemed to be completing their work. The administration knew of the problems and was open to conversation to introduce new technology and try to change things at Osawatomi High. Decision-makers in the district knew Osawatomi was in need and were ready to invest the necessary time and funding on technology.

As a champion and advocate for the students, Rigler formed a technology committee to address the problem of inadequate resources. The committee researched the best possible solution. Before settling on a one-to-one implementation, the committee considered simply adding more computer labs on campus or providing desktop computers for every student and teacher.

When the technology committee heard about the option of one-to-one computing, where each student has full-time access to a fully functioning computer and the Internet, software, online research and collaborative materials, anytime and anywhere, the choice was clear.

"It just made sense for the size, convenience and access of our technology implementation to go with one-to-one. It seemed like the most effective way to get the tools to students," says Rigler.

A fellow champion and committee member, Assistant Superintendent Gary French was highly involved in helping Rigler and Osawatomi acquire and implement tablet PCs. French knew little about technology, but despite that fact, he did understand the dire need to get resources for students.

"We just knew we had to do something to help our Osawatomi high school students get ahead. The one-to-one option seemed like an easy choice," says French, "and we knew we'd be handing the students more than just a computer. We knew we'd be handing them skills for a lifetime."

Solution – The Implementation

The decision to pursue a one-to-one implementation was made in early spring 2004. The technology committee was impressed by tablet PCs and felt the options and features of a convertible notebook-to-tablet PC justified the cost to the school.

Osawatomi purchased 415 Gateway tablet PCs equipped with Intel Centrino® technology for all high school students and provided all middle and high school teachers in the district with the remaining 65 PCs. Each of the 350 high school students received a Gateway tablet PC. Students are required to use the technology in class, while making presentations, for collaborative project-based learning, and for homework. Students are welcome to take the tablets home after class, and this expands the times and places in which learning can occur; instead of learning limited to a classroom environment, students can take their tablet PCs off campus and explore their interests anytime and anywhere. When students take their tablet PCs home, the home-school connection is strengthened as well. Parents can see what their children are learning, and perhaps have access to technology that may not be available to them.

Students received the tablets at the beginning of the 2005 to 2006 school year. Osawatomi is currently in week 14 of the implementation. Now that the excitement is beginning to wear off, the administration is beginning to see the impact of the tablet PCs and how the technology is changing the learning environment.

Results

Learning at Osawatomi is becoming student-centered as students and teachers adjust to using tablet PCs. Internet research encourages curiosity-driven results and students are learning to value and pursue their interests with resources that provide on-demand information. Classroom management now poses new challenges as teachers try to get students to view the technology as a tool, rather than a toy.

As with any new implementation results are varied, but one thing is clear: the changes in the learning processes and environment look promising.

Kinda Williams, a business and computer teacher at Osawatomi High, has noticed positive changes in student learning. "Without a doubt, students are more technologically advanced than in the past," says Williams. "The tablet PCs give students the freedom to explore and learn programs they never would have known about prior to the implementation. Students teach themselves and each other – and while they may be burning CDs, copying DVDs, playing games and chatting, they are still becoming very techno-savvy!"

The tablet PCs require teachers to learn more about technology. With the technology, teachers are becoming facilitators of learning instead of a figurehead lecturing at the front of the classroom. "We encourage and facilitate discovery and thought and the tablets enable students to continue learning in new ways," says Williams.

Students are also helping teachers with the technology and teaching peers. Although this makes some teachers apprehensive, administration requires all teachers to use the technology in the classroom to feed the need for interactive learning and knowledge sharing.

Students use tablet PCs in the classroom for project-based activities because students now have the time and necessary resources to create

incredible work. Osawatomi teachers report an increase in student excitement in learning. According to Ken Rigler, it is evident that students appreciate the computers and consider them a privilege.

Additionally, the one-to-one initiative helped bridge the digital divide for nearly all 350 Osawatomi students. Simply granting students access to tablet PCs has leveled the playing field for disabled and socioeconomically disadvantaged students. "Our goal was to give all students an equal opportunity to learn and we felt the tablets would accomplish that goal," notes Williams. "Our focus now is to continually get better at challenging our students and utilizing the tablets more each day."

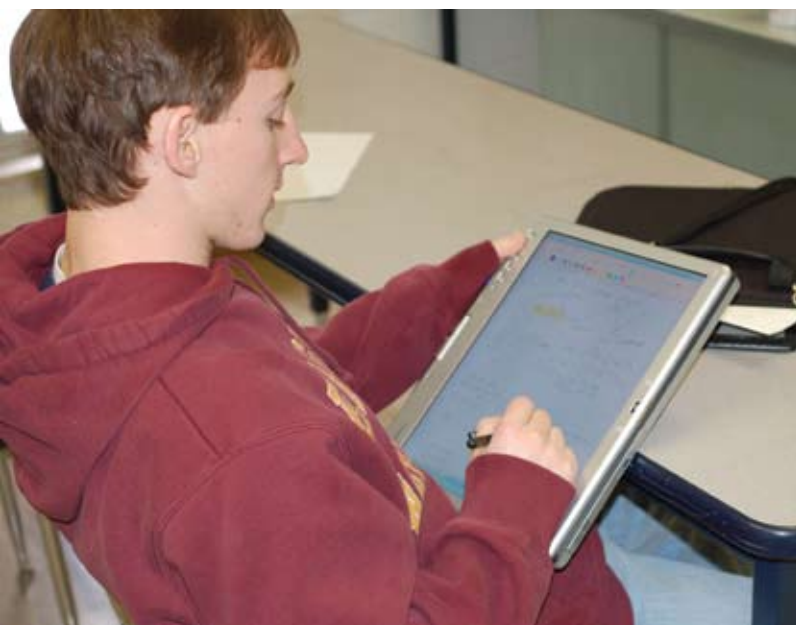
Challenges Raised by the Implementation

There have been three main challenges for Osawatomi High School after the implementation and roll out of the tablet PCs: infrastructure, classroom discipline, and lack of familiarity with the tools.

The technical infrastructure initially in place at the school was inadequate. The first week of the school year, Osawatomi's wireless infrastructure crashed. It had just been built in the summer and administrators and teachers had to spend their Labor Day vacation rebuilding the entire infrastructure. The school also had to buy entirely new wireless access points. But Osawatomi leaders learned that unfortunately, sometimes you get what you pay for.

Changes in classroom management came as another unforeseen challenge for administrators and teachers. Initially, students were easily distracted by the computers in class. Reportedly, students see the technology as a toy rather than a tool. In the sixth week of the implementation, the tablets had not been engaging students as much as serving as an entertaining distraction. The challenge for Osawatomi administrators and teachers has been to transform the perception and use of technology from a toy to a tool. Rigler explains the problem: "We've given them an mp3 player, DVD player, gaming tool, Internet surfer and *then* something for school."

Tablet technology increases note-taking capabilities for Osawatomi students.



And because of the distraction, students' grades suffered immensely, according to Kinda Williams. "We are just now coming out of the initial 'newness' phase and students are realizing they need to use the computers as an educational tool. It took almost the entire first semester," Williams mentions, "but now we are seeing a lot of improvement and are very hopeful for next semester."

After the first quarter, administration called an in-service day to brainstorm solutions and vent about the challenges brought about with the new technology. Administration wanted to hear teacher's concerns and address their frustration. That in-service day and a few professional development workshops have quickly improved classroom management, and discipline problems are starting to decrease.

Lastly, many teachers at Osawatomi were not familiar with computers and did not possess basic computing skills when the school began the one-to-one program. This made Instructional Technology Specialist Ken Rigler develop a broad professional development program that teaches to every skill level.

Professional Development

When the tablet PCs first arrived, all teachers received basic software skills training to make sure they could operate essential programs such as the grade programmer. Now Ken Rigler leads professional development sessions one day per week for Osawatomi teachers on more advanced subjects and skills.

In addition to the one day per week training, the school has professional development in-service days. Rigler also works one-on-one with teachers, whether they simply need a reminder on how to use a certain program, or if they want help creating ideas to use technology in class to support a lesson.

The goal of professional development is for teachers to be able to use the resources. "I'll consider the professional development successful when the technology becomes second nature to the teachers and students," says Rigler. He explains that technology should become such a familiar tool that it makes work more efficient but is successfully embedded within learning, and thereby does not serve as a distraction. Rigler uses the analogy of a calculator to explain how he hopes the tablets can be used in the future. "Success is when technology becomes integrated to the extent that curriculum isn't separate," says Rigler. "Technology becomes merely an addition, seamlessly entered into curriculum."

Osawatomi Conclusions

The one-to-one implementation has changed many aspects of the classrooms at Osawatomi, from instruction to student learning, classroom layout and design. Teachers now place desks in clusters to encourage collaboration among students. And students now participate in more project-based learning – there is less lecturing and more discussion. Students can pursue their own interests and complete their own hands-on research during appropriate class time with the tablet PCs and Internet connection, and also progress at their own pace. These classroom changes have transformed students into active learners, instead of a passive, captive audience.

As Osawatomi High and Osawatomi School District look toward the future, they envision a paperless school within the next couple of years, where all



curriculum and learning moves toward the innovation of technology and away from the traditional paper methods, such as textbooks.

"I think all schools around Osawatomie are going the direction of one-to-one computing," says Rigler, "because the purpose of the one-to-one program is to teach students how to be successful with technology. They know how to use it for fun – we don't have to teach them that, and those abilities are not going to help them be successful in life," Rigler explains. "We have a responsibility to help students use technology to be successful later in life and really push the envelope in self-development and learning."

Marietta Center for Advanced Academics

Situation

Marietta Center for Advanced Academics is located in Marietta, Georgia and enrolls 300 students from third through fifth grade.

Currently in its inaugural year, the school welcomed its first students in the fall of 2005. Principal Jeri Hatler was hired to create a school in the suburban area just outside Atlanta that looks toward the future. Not only did Hatler envision Marietta Center for Advanced Academics from start to finish, she also ensured students would have ample technology resources and a well-informed staff to help them use the technology to enhance learning for all students.

Hatler created Marietta Center for Advanced Academics as the first magnet school within the Marietta City Schools system. Students must apply for admittance and have entrance requirements. Because the school curriculum focuses heavily on math and science, Hatler decided every student should have access to a tablet PC during the school day.

Marietta Center for Advanced Academics is committed to putting technology at the forefront of a great education. To that end, the computers have been a requirement for teachers and students from the start.

Background Information

The motivation for a one-to-one implementation was to do something academically oriented for students. Hatler weighed technology options and tried to decide what was best for students. When she found out about tablet PCs, she thought the technology was age-appropriate. "The tablets are much better for elementary students who are still working on handwriting," explains Hatler. Third graders are introduced to cursive and tablets let them practice handwriting in another medium. "Tablet PCs give us the capability to save student work in students' original handwriting or text.

This is great for some students whose writing needs improvement because it assists them in the revision process – they can use a different medium for revision," Hatler says.

Solution – The Implementation

The tablet PC rollout occurred at the beginning of October 2005. Every enrolled student received a tablet complete with Intel Centrino® technology for use in classrooms, from art and physical education to science classes. Students can take the computers anywhere on campus but cannot take them home. In addition to saving their work on the hard drive of a tablet PC, students use jump drives. The jump drives allow students to access a different machine every day. The tablet PCs are provided to students at no additional charge.

Aside from the tablets PCs, the school is designed to meet the academic and personal needs of each student through an array of exciting technologies and learning environments. Facilities include three science labs for environmental engineering and aerospace studies, a telecommunications and presentation station with a video production studio, outdoor learning labs, graphic arts equipment and software, a fully-automated media center, and every student has access to handhelds for use in wet lab areas. Additionally, each classroom is equipped with technologically-enhanced multimedia instructional tools.

How to Get From Here to There, From New to Know Professional Development

Professional development does not pose the typical challenge at Marietta Center for Advanced Academics. All teachers are required to have the ability to successfully integrate technology into lesson plans. Teachers were hired and arrived with advanced technology skills and ingenuity.

The school does, however, offer professional development opportunities and encourages collaborative training between teachers, parents and guardians. The faculty participates in a program called Learning-Focused Schools training. The four main components of this training are curriculum, instruction, assessment and organization. This training program offers sustained, school-based improvement where teachers and administrators collaborate to enhance learning and improve student achievement using the four main program components. Administration welcomes parents to attend on-site staff development sessions as well, so they can keep pace with what their children learn.

The school requires ongoing professional development for faculty and staff, and employs one specialist to train teachers every Thursday morning. The school offers a spectrum of training courses. In early December, teachers learned how to create Web pages and now more teachers have their own Web sites.

Lastly, Marietta Center for Advanced Academics partners with two local universities to help accomplish technology and professional development needs. The partnerships with KSU and Southern Poly provide many opportunities to expand professional experiences beyond the elementary environment.

Results

Classroom activity is centered on project and product-based learning and every assignment involves writing. One of the most exciting projects students have completed using technology is a PowerPoint presentation and brochures.

Students created PowerPoint presentations for health class and in November 2005, they designed, wrote and produced brochures for a history walk in downtown Marietta. The students used Microsoft Publisher to design the brochures for their peers so children could have information suited for their age group. The students expressed frustration at the lack of literature aimed toward informing youth during such community events and thought the brochures would be an excellent way to help younger participants be involved in the community event. Students also used software specifically developed for tablet PCs to write music in music technology classes.

Lisa Bush, an art teacher at Marietta, uses the tablets in imaginative ways. She encourages students to create art using images and words. Bush also plans to teach students how to use graphic programs such as Photoshop and wants to enhance art history lessons with Internet research during class. In this way, art history can become an interactive lesson for students.

"I am a huge advocate of incorporating writing into the visual arts and the tablets have made it possible and very easy to do," says Bush.

Students have only had access to the tablets for a little over a month and teachers and administrators at Marietta agree that at this point, their capability is amazing. "You have to see the students in action – it's quite gratifying for everyone involved; the administration, the students and the

parents," says Hatler. The tablet PCs give students access to software they'll need to know to be successful after high school graduation, but because the students are so young to be proficient in such advanced skills, they really have an advantage in learning. The technology provided at Marietta Center for Advanced Academics allows students to experience success with 21st century resources early on. This success will put them ahead of what most students in the same grade level are learning.

Challenges

When asked of the challenges, Principal Hatler simply states the age-old challenge of not having enough time to meet the learning curve head on. Hatler would like to provide more training for students and teachers, but knows that sometimes just using the technology is the best training. "Not having enough time is the same challenge it always is," Hatler notes optimistically.

Review

At Osawatomie High School, technology has transformed a grateful community by bridging the digital divide and providing equal access to technology resources for all students. Although the implementation is still new, administrators are confident that the tablet PCs will help the school overcome some of the challenges they face with teaching and learning. Osawatomie promises to increase student achievement with the help of technology and graduate superior students. Leaders such as Ken Rigler continue to act as advocates on behalf of students and demonstrate vision and success in pushing Osawatomie into the 21st century.

At Marietta Center for Advanced Academics, Jeri Hatler provides an extraordinary example of leadership. The school offers students various opportunities to develop 21st century success early. As a math, science and technology school, the technology in place promotes the same activities, curiosities and learning possibilities the school promotes. Third through fifth-grade students show amazing promise to finish ahead of their class, ready to meet the demands of the future.

Conclusion

These schools present two strikingly different examples of successful one-to-one implementations. The students, teachers and administrators have seen amazing accomplishments in this transformative opportunity for education. Perhaps your school can achieve similar results.



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Please visit the following Web sites to help with your one-to-one implementation:

Osawatomie Web Site - www.usd367.k12.ks.us/ohs/index

Marietta Center for Advanced Academics - www.marietta-city.k12.ga.us/mcaa/index.html

Intel Education Resources - www.intel.com/go/education