OVERVIEW

Customer Need
Geeter Middle School in Memphis, Tennessee wanted to improve its academic performance and spur an interest in learning among its sixth- to eighth-grade students. The school had experimented with using apps on tablet PCs, but the technology did not provide an integrated learning platform or data to substantiate improvements in student performance. In a time of tight education funding, the school wanted an interactive 1:1 computing solution that provided a demonstrable benefit.

Samsung Solution
Geeter’s sixth-grade math class was selected for a pilot program using the Samsung Smart School Solution package, which consisted of 35 GALAXY Note 10.1 tablets, a 65-inch interactive whiteboard and a wireless printer. The technology allows teachers to easily deliver content to students, share their own or an individual student’s screen with the class and monitor student progress in real time. Instructors can also conduct group activities, Q&As, tests or instant polls. In addition, digital course materials can be accessed by students at any time.

Results
Geeter reports that students gravitated to the GALAXY Note tablet technology immediately. They became excited about coming to school and no longer hesitated to ask questions in class, creating a more fun, energized and interactive learning environment. The teacher could quickly access how students were solving problems in real time and customize instruction on the spot to the student’s individual needs.
Geeter Middle School, located in Memphis, Tennessee, serves approximately 430 students in grades six through eight. It is part of Memphis City Schools, the nation’s 23rd-largest school district, with approximately 105,000 students in more than 200 schools. Of the district’s student population, 85 percent qualify for free or reduced lunches, seven percent have limited proficiency with English and 16 percent have specific learning disabilities.

In August 2012, Geeter Middle School was designated a “Priority School” by the Tennessee Department of Education, which means Geeter was among the lowest-performing five percent of the schools in the state in terms of academic achievement.

“Our biggest challenge, teaching our students in an urban setting, is the lack of tools that would make the playing field even for everyone.”
– Kenneth Pinkney, Geeter Middle School

“Our biggest challenge, teaching our students in an urban setting, is the lack of tools that would make the playing field even for everyone,” said Kenneth Pinkney, the school’s principal.

Within the school district, the Instructional Technology Department is responsible for servicing classroom technology, library services, online learning and Science, Technology, Engineering, Math (STEM) initiatives. The department focuses on applying technology in all those areas to enhance the learning experience for both students and teachers.

“Geeter Middle School is located in an impoverished neighborhood,” said Cleon L. Franklin, director of the school district’s Office of Instructional Technology for Memphis City Schools. “Some of the students might have a smartphone, but most of them do not have home computing devices.”
THE CUSTOMER NEED
Boost Enthusiasm, Quantify Learning Improvements

Geeter wanted to both improve the academic performance of its students and boost their enthusiasm for learning. “Geeter has historically underperformed academically,” Franklin said. “The students have an element of academic dis-identification, and they are intimidated by challenging and rigorous work. They don’t ask questions in class because they are worried about how they will be perceived by their friends for asking questions, because it isn’t considered ‘cool’ to learn.”

The school needed to find new ways to keep students engaged. “I do find it difficult to keep their interest, especially when they are not engaged or dealing with stuff they like to deal with,” said Michael Greene, a math instructor at the school.

It was also important that Geeter be able to quantify how any new teaching approaches improved academic improvement. “The school system had previously administered a project where students used apps on a tablet computer,” Franklin said. “The problem was, we couldn’t collect the back-end data. The students showed improvement, but we had no evidence showing how long a student was using the app, so we couldn’t isolate the impact of the technology’s contribution toward the improvement. And given the tight funding in education, you have to be able to prove, with empirical data, that a teaching mechanism works.”
THE SAMSUNG SOLUTION
Samsung Smart School Solution package

In September 2012, the sixth-grade math class at Geeter was provided with a Samsung Smart School Solution package, which consisted of 35 GALAXY Note 10.1 tablets, a 65-inch interactive whiteboard and a wireless printer. The school was the first educational institution in the United States to pilot the solution, which has previously shown success in improving student performance in South Korean classrooms.

The Samsung Smart School Solution was developed for the GALAXY Note tablet as a 1:1 learning platform that would empower teachers to lead interactive lessons and real-time group activities using its screen- and content-sharing features.

Each student in the math class at Geeter Middle School was provided with a GALAXY Note 10.1 tablet and keyboard docking station at his or her desk. The instructor also uses a tablet and can present to the students on an interactive whiteboard at the front of the classroom. When asking a student to solve a problem, the teacher passes control to the student so his work can be seen on the whiteboard display to aid in classroom discussions. If a paper copy is needed, the teacher and students can also print wirelessly from their tablets using Samsung's Mobile Print app.

“The system is expandable and content agnostic,” Franklin said. “We started with the math program because, in my professional opinion, math is the hardest subject to integrate technology into. In math all the students do is add, subtract, divide, multiply and think. They already have a calculator, so you might wonder what else they could need in terms of technology. We wanted to pass that hurdle of perception and show how technology, correctly used, can improve any type of learning.”

Further enriching Samsung’s Smart School Solution is the GALAXY Note S Pen™ technology, which provides the functionality and precision of a pen and paper so students can write, draw and interact fluidly on the tablet’s display. In addition to handwriting-to-text conversion, the device can recognize handwritten algebraic formulas, which the student can then instantly look up and graph. Similarly, when using a digital textbook, students can annotate with handwritten comments or highlights to enhance information retention and recall.

Powered by Android™, the GALAXY Note offers access to a wealth of educational apps, textbooks and digital content on Google Play™, delivering both teachers and students a feature- and content-rich educational experience.

INTERACTIVE WHITEBOARD SOLUTION

DISPLAY: 65-inch ME Series Edge-lit LED LCD Display
OPTIONAL TOUCH: CY-TM65 Optical Touch Overlay

Quick Profile:
GALAXY NOTE 10.1

OPERATING SYSTEM:
Android™ 4.0, Ice Cream Sandwich
DISPLAY:
10.1-inch WXGA
PROCESSOR:
1.4GHz, quad-core
CONNECTIVITY:
Wi-Fi® 802.11 a/b/g/n; Bluetooth® 4.0 (LE); GPS; Mini USB
CAMERA:
Rear (5MP); Front (1.9MP)
VIDEO:
1080p Playback Full HD in 1280 x 800 screen @ 30fps
AUDIO:
3.5mm Ear Jack; built-in front-dual speakers
MEMORY:
16/32GB; microSD™ card slot (up to 32GB)
DIMENSIONS:
0.35 x 7.1 x 10.3 inches
WEIGHT:
1.31 lbs including battery
BATTERY:
7000mAh Li-Polymer
SPECIAL FEATURES:
Multiscreen; Video Pop-Up Play; Drag and Drop; Handwriting Recognition
APPLICATIONS:
Access to Google Play; preloaded apps include Google Talk™; Google Maps; S Planner; Dropbox; YouTube™; Polaris Office; Nook
S PEN OPTIMIZED APPS:
S Note™; Adobe Photoshop® Touch; Kno™; Crayon Physics

INTERACTIVE WHITEBOARD SOLUTION
DISPLAY: 65-inch ME Series Edge-lit LED LCD Display
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TRANSFORMING THE CLASSROOM WITH SMART INTERACTIVE TECHNOLOGY

The Samsung Smart School Solution frees educators from the confines of standing at a chalkboard or projector and allows them to move about the classroom, conducting interactive lessons and activities using their touch-screen tablet.

“The technology and tools transform pedagogy because the teachers aren’t locked into standing in front of a classroom,” said Diane Ashby, Samsung’s business development director for education. “The teacher can become a facilitator and collaborator, as opposed to just being a lecturer standing in front of the class.”

Key elements of the Samsung Smart School Solution platform include:

- The **Interactive Management Solution**, which lets teachers easily deliver content to students, share their own or an individual student’s screen with the class and monitor student progress in real time. Instructors can conduct group activities, Q&As, tests or instant polls. When needed, teachers can instantly call the class to attention by locking student screens via voice command. “One benefit is the teacher can use the exact same teaching resources that he or she had been using before,” Franklin said. “If the teacher had developed a powerful lesson, they can continue to use that same lesson. They might have to digitize some of the content, but it’s the same lesson.”

- The **Learning Management System**, which enables teachers to easily provide learning materials and information that students can access anytime. Teachers can post course materials, such as ebooks, learning apps and timetables. They can also send school notices and news, as well as create forums for extracurricular activities — all of which helps to create a true e-school environment.

- The **Student Information System**, which enables teachers to track student attendance, general information, grade history, and prizes or demerit points. “The Smart School Solution provides teachers with an integrated platform that also helps them administratively,” Ashby said. “Samsung understands the potential of technology, and we are committed to continuing to evolve the solution to help schools and districts realize greater efficiencies and value from their technology investments.”
THE RESULTS
“Thrilled” Students, “Energized” Teachers, Dynamic Classroom

Students at Geeter Middle School embraced the Samsung Smart School Solution immediately, said Franklin. For example, two Spanish-speaking students quickly figured out how to change the language settings on the systems before it was explained to them. “As adults we are sometimes threatened by new things. With the students, all we needed to do was get out of the way.”

The system lets teachers monitor the students’ progress as they learn and do real-time coaching. “Typically, teachers don’t get feedback until the class is over and they grade a test,” Franklin said. “With this solution, the teacher gets the feedback right away, so they can tell if the students didn’t grasp the concept and need to revisit it.”

With this up-to-the-second insight, Geeter can carefully track the performance of each student and customize instruction. “The system allows the teacher to separate the classroom into groups of advanced students and those who need extra help,” Franklin said. “They can differentiate which activities they give to each, and then hone onto an individual student’s device to see if he’s on track.” And because the system tracks how students are using the technology, the school is gathering data it will be able to tie directly to performance improvements.

Franklin said the technology eliminated the stigma of asking questions in class because the “gamification” made learning fun and cool. “I walked into a classroom where children had severe issues the year before, and now they were genuinely excited about math,” he said. “Math anxiety is a common problem for the best of us. Students would freak out and think, ‘don’t call on me.’ With the system, we had the opposite reaction — they were eager to do the work.” Other students liked that they could use the technology to ask the teacher questions privately.

This all had a profound effect on both the students and their instructors. “The most powerful thing for me was how re-energizing this was,” Franklin said. “During one math class, I heard a student say, ‘This was the best day of my life.’ How often does a student feel that way about a learning environment? The typical answer you get is, ‘I hate school.’ As an educator, that reminds you about why you do this work and why you put in the extra hours.”

Memphis City Schools Superintendent Kriner Cash summed up how technology such as the Samsung Smart School Solution could benefit students. “We are excited to be a part of this innovative, forward-thinking program,” Cash said. “Technology and innovation are at the core of the ever-changing world of education. Academic success is our top priority, and incorporating technology into academics better prepares our students for the world outside school walls.”

– Kriner Cash, Memphis City Schools

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1 Total amount of available memory may be less based on configuration. GB = 1 billion bytes.

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