

WHITE PAPER

Going Mobile: Strategic Best Practices for K12 IT Leaders

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EXECUTIVE SUMMARY

IT leaders planning for mobility initiatives should consider an array of key factors—both infrastructural and educational. This white paper provides strategic advice and reviews key issues to consider on the way to achieving successful adoption by students, teachers and administration.

Have we reached the end of the line—the end of wires that tether students to school desks? What’s clear is that wireless mobile computers and related technologies are in demand in today’s K-12 schools. IT leaders, as a result, must begin planning for this inevitable wave of technology and opportunity.

By 2015, 80 percent of people on this planet will be accessing the Internet with mobile devices, according to research from Ericsson. Indeed, mobile computing and communication devices like smartphones and tablets are now outselling traditional personal computers, contend researchers from Morgan Stanley.

It’s a trend that’s having a clear and present impact on schools. Nearly 50 percent of middle and high school students are now carrying some form of smartphone—a 47 percent increase from 2009, according to Project Tomorrow. And computing devices are getting lighter and more mobile. By 2014, education organizations will purchase twice as many tablet computers as laptops and notebooks, contend researchers from Gartner.

Such findings and predictions are leading to some striking conclusions about what’s coming in education.

“Through mobile devices and instant access to the Internet, students now see the world as their classroom and they have clearly stated that using their own mobile devices anytime or anywhere to learn will help them improve their personal productivity and learning,” states Project Tomorrow.

“Students will no longer come to school and power down their technology, but will use it to create an education environment that reflects their lives,” state the Gartner researchers. “The teacher becomes the learning coach, not a gatekeeper to all things academic.”

PLANNING FOR MOBILITY I: CORE IT FACTORS

While enthusiasm for mobile technology is clearly quite high, it’s up to IT leaders to ensure that the vision is aligned with the reality. They will be the ones challenged with ushering in the tools, technologies and infrastructure necessary to make mobility successful in K-12 schools.

So what should IT directors and managers be focusing on as they begin planning for mobile technology adoption? Here are several IT-focused best practices that leaders should consider:

- **Budgeting and Investment.** While K-12 funding is increasingly constrained in today’s economic environment, mobility offers some new cost advantages from the perspective of IT leaders. It’s possible to rely on less-expensive tablets, rugged notebooks and, in a growing number of cases, even encourage

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students to bring their own devices into a school setting. By welcoming this influx of consumer devices, IT leaders may even be able to scale back overall school spending.

- **IT Infrastructure.** Mobility, from the perspective of IT, is essentially an infrastructure issue. It raises questions about management, networking, server infrastructure, end user devices and security standards. Some observers contend that schools should invest less per device and focus on making computing and communication capabilities available in a wireless environment. That said, IT leaders can expect to invest more in centralized infrastructure—such as desktop virtualization and wireless local area networks—that cost-effectively support mobility.
- **Broadband Access.** While federal rules around the e-rate program have been employed effectively by IT leaders to help fund network connections to the Internet (through telecommunication discounts), the program does not cover data services. IT leaders must consider access demands and likely fees when planning to provide connectivity for mobile devices. They also must consider other infrastructure decisions—such as investments in wireless LANs—that will be critical to broadband campus access.
- **Security and Control.** In an environment where many different devices (both owned by school and students) are in use and boundaries are less clearly defined, it can be challenging to ensure that data and personal privacy are secure. Concerns about stolen property may also rise as the array of possible devices proliferates. IT leaders will have to seek ways of addressing these factors within reason. Some schools have introduced identity management, access control and mobile device management solutions to ensure wireless networks are used responsibly and safely.

- **Tracking, Measurement and Refinement.** Mobility is not a one-time project rollout. Providing users with mobile access involves a series of actions—taken over time—that bring new wireless capabilities into the school setting. Recognizing the iterative nature of this initiative, it's important to learn from feedback and experience. By setting clear objectives upfront, it then becomes easier to track, measure and monitor outcomes. The responses of administrators, staff, students and families should all contribute to ongoing enhancements in mobile strategy, policy, investment, architecture and infrastructure.

These are the factors most closely linked to the roles and responsibilities of the IT group. But they are not the only factors that matter in terms of planning for mobility.

MOBILE TECHNOLOGY ACCESSIBLE DESPITE TIGHT BUDGETS

Schools are certainly constrained in budget terms. But wireless technology presents new opportunities for efficiency. Take the case of one school district in Minnesota. It has been able to roll out mobile computing capabilities to its 21,000 students in a way it couldn't have funded in the past.

“We don't have dedicated technology funding to support a major 1-to-1 initiative,” says Tim Wilson, chief technology officer, ISD 279-Osseo Area Schools. “But now there is a revolution in mobile technology, and the prices have dropped tremendously.”

The school district now has multiple mobile programs involving devices provided by the district. In addition, students are now encouraged to bring their own devices to extend their learning options. “We seeded the program, but now the goal is student-provided devices,” Wilson adds. “Some schools can do their own fundraising if they want, that's up to them. It's not a lot different from students having to purchase a graphing calculator. Colleges and universities have been doing this for years.”



CARY ACADEMY MAKES IT PERSONAL

Located in the Research Triangle Area of North Carolina, Cary Academy has demonstrated the power of mobility in terms of enabling 1-to-1 student learning. The school, which serves 700 students in sixth through 12th grade, adopted tablet PCs in 2009 as part of a program to encourage “anytime, anywhere” access to learning resources.

“Ten years ago, it was all about desktop applications. Fast-forward to now, and that’s the least of what we do,” says Sam Morris, former instructional technology director for the school. “Our shift of focus has become more about student creativity and individualized learning.”

By ensuring technology was treated as a means to an end, and that its application in the classroom mirrored the untethered nature of technology elsewhere, school and IT leaders were able to create enthusiasm for the program. Ensuring the hardware was reliable and durable added further value by reducing maintenance challenges.

Now students can engage in research, access source materials and create presentations as easily at home as they can on campus. Their devices can endure bumpy bus rides and spills in the cafeteria. Mobility, durability and personalization are now recognized as core design principles in the school’s technology plans. As Morris explains, “We know we are doing 1-to-1 right when we don’t think about the technology—when the technology is a tool just like anything else.”

PLANNING FOR MOBILITY II: CORE EDUCATIONAL FACTORS

To ensure success, it’s important to recognize the overlap between core IT issues and other factors that will contribute to a successful mobility initiative. This is where the IT infrastructure challenge is linked to the objectives and agendas of administrators, staff members and students. IT leaders must give these factors equal consideration in their planning efforts:

- **School Policies.** One factor that is evolving significantly is mobile policy. Some schools have actively resisted the introduction and use of student-owned devices (including laptops, smartphones, tablets and MP3 players) on campus, while an increasing number have begun to relax such restrictions and encourage student responsibility (and liability). While the nature of policies may change in relation to student grade level, it’s clear that school policies will have a significant impact on what actions can (and cannot be taken) by IT leaders in terms of mobility.
- **Curriculum and Instruction.** Nothing is as important, ultimately, as the impact of mobility on student learning and achievement. One mistake often made in the past is to introduce new technologies without sufficient focus on how they should be incorporated into the learning process. Mobile technology makes it possible to access learning resources in a more flexible fashion—even blurring the boundaries between school, home and other sites. It makes it possible to design the learning experience in new and compelling—often collaborative—ways. IT leaders are challenged to ensure their efforts enable and are in keeping with these new approaches to learning.
- **Professional Development.** New technology will be resisted if users fail to understand it or its uses. That’s why professional development is critical to mobile technology adoption. But that’s not enough. While teachers and staff have often been trained on new technologies, what’s often been missing is training in context. Training efforts will only have a productive and enduring impact if they are effectively integrated with the teaching and learning experience. IT leaders will want to ensure that training is relevant and actionable.
- **Digital Equity.** The nature of the equity issue continues to change. Whereas there



were once huge concerns about access to computers or the Internet, now concerns are rising about how equitably such capabilities as mobility on campus or home-school connections will be offered. Clearly, this will continue to be a concern in the coming years. Administrators—and by extension IT decision makers—must determine how to strike a balance between equity and progress.

Ultimately, the process of planning itself is critical to the adoption of mobile technology. By ensuring key issues are anticipated and addressed, IT leaders will play a powerful role in ensuring the success of these endeavors.

CONCLUSION

Mobility initiatives represent an array of new considerations that are different from traditional rollouts of personal computers in schools. By planning effectively for these endeavors IT leaders can ensure mobile technology is successfully adopted and leads to impressive gains in student learning and staff satisfaction.

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