

IT Plan Implementation: Making Change a Friend



U.S. President Woodrow Wilson said, "If you want to make enemies, try to change something."

Technology is change, unremitting constant change, change that's often disruptive and inconvenient but, in the long run, necessary. The goal for school district information technology directors in districts large and small is not to make enemies but to organize and implement their district's transition into the digital age. The best way to effect such a transformative transition is to augment technology know-how with consensus-building diplomatic skills in order to gain necessary buy-ins from district stakeholders and then continue moving ahead together.

As any district IT director can attest, that's easier said than done. There's no such thing as a small and simple districtwide information technology plan. Whether a school district is small and rural or huge and urban, the process is complex.

Maribeth Luftglass is the Assistant Superintendent and chief information officer (CIO) of the Fairfax County (VA) Public Schools. Serving 173,000 students, including 24,000 with Individualized Education Plans (IEPs) and 3,300 supported with assistive technology, with 12,000

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*Maribeth Luftglass,
Assistant Superintendent and
Chief Information Officer,
Fairfax County (VA) Public Schools*

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teachers in 245 schools and centers, Fairfax County, in the Washington, DC suburbs, is 12th largest school district in the U.S. Like many in her position in school districts of all sizes throughout the nation, Ms. Luftglass has traversed the digital age from its mid-1980s blossoming to today's digital moment, from clunky desktop computers whose primary purpose was word processing, to the birth of email, to laptops, WiFi, cellphones, iPods and smartphones of every description, from rudimentary assistive technology to fully wired inclusion classrooms. In the most literal sense Ms. Luftglass is a digital immigrant roaming the information age, keeping an enormous school system abreast of the latest technology even in an economic environment in which frugality holds sway in the scramble to allocate scarce resources for general education and special education purposes alike.

While the sheer size of her domain dwarfs many districts nationwide, the lessons Ms. Luftglass has learned in her decade as CIO should benefit all those faced with similar tasks. As she states, in every IT planning and implementation process, communication, consensus building, collaboration, buy-ins from all stakeholders and budgeting skills ease the pain of change for those whose support is essential for an IT plan's successful implementation.

Maribeth Luftglass, District CIO, Speaks

When Maribeth Luftglass was a middle school and high school student in northern Virginia she recalls staying up late doing her homework and then helping her mother with her homework. Education, Ms. Luftglass says, is the family business. Her father was president of Northern Virginia Community College, the nation's

largest, and for a time headed the state's community college system. Her mother was a teacher for decades before becoming a guidance counselor. "All her tasks had to be performed manually," Ms. Luftglass remembers. "I thought that there had to be a better way – and I wanted to help find that way to help teachers and guidance counselors by automating tasks that would lighten their workload, especially the college recommendations that kept my mom working so late into the night." Beyond that, she continues, "I wanted to be part of a movement that would make technology beneficial to kids in their classrooms."

Ms. Luftglass cut her technology teeth far from the world of education. Before arriving in Fairfax County in 1999 she spent 15 years as Senior Director/Information Technology at the American Red Cross national headquarters, where she learned lessons in diplomacy and consensus building that eventually helped her implement the county's first-ever school system IT plan.

"At the Red Cross we implemented a chapter information system that allowed our chapters worldwide to communicate. The scale, though, was similar to Fairfax County, despite the geographic difference. We found a way to track volunteers, to track course registration for CPR courses, and keep track of disaster relief information. We obtained buy-in and built consensus for an information system just as we had to do later here in Fairfax County."

As with Fairfax County, she explains, "many groups and individuals had a stake in not changing the status quo. They had built their own systems when there had been nothing.

Also as in Fairfax, we used many of these individuals as part of our strategic team to help us determine what the new system would look like. There was a lot of expertise that was usable – and everyone had a stake in the plan's ultimate success."

When Ms. Luftglass began her job at the Red Cross the organization was just starting up its IT operation. "The IT unit consisted only of word processing and a semi-mainframe. We implemented portable solar panels, disaster relief kits that we could deploy at a moment's notice and disaster relief technology that underpinned our disaster operations worldwide. Her team set up emergency communications and provided technology systems to support armed forces families overseas.

"We were the first major non-profit to do online donations. We set up the IT associated with disaster relief efforts. I managed that. I left because I had my third child and I could no longer travel the world with almost no notice. I had my first child just before Hurricane Andrew. He was two days old and I was at our operations center working 24/7."

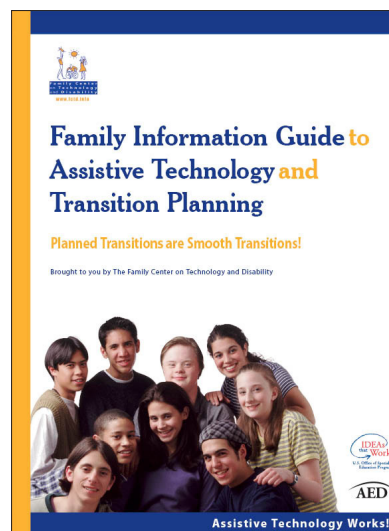
Today, her children are ages 11, 15 and 17. She has returned to her education roots to fulfill the mission she set for herself as a high school student and there is no place she'd rather be or job she'd rather have. "Through all my travels," she says, "change has been my friend, and I have learned that the best way to implement change is to make change a friend to all who have a stake in it."

Supporting our interview with Maribeth Luftglass are resources related to IT planning and

classroom technology. We also feature members of our Knowledge Network. We invite you to contact these members for further information. Please share this newsletter with other organizations, families and professionals who may benefit from it. We invite you to visit us at <http://www.fctd.info>. welcome feedback, new members and all who contribute to our growing knowledge base.

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To request one or more print copies, send an e-mail to fctd@aed.org.

The Role of a School District's Chief Information Officer: Communication, Consensus, Collaboration, Buy-Ins and Budgeting

An Interview with Maribeth Luftglass, Assistant Superintendent and Chief Information Officer, Fairfax County (VA) Public Schools

When they begin a new job, the chief information officers (CIOs) in nearly all government, non-profit or corporate organizations encounter a problem, a seemingly minor dilemma whose resolution may have far-reaching strategic ramifications, including the eventual disruption of an organization's status quo in pursuit of a new technology paradigm. Maribeth Luftglass recalls the 1999 epiphany that set her career as an education CIO in motion:



Maribeth Luftglass

"I'd just begun my job as Fairfax County CIO. Task #1 was to help my superintendent send an email message simultaneously to all of the FCPS teachers and staff. He'd been unable to send that message, she explains, "because there had been no central standardization or support." Instead, she adds, "there were six email systems in use at the Fairfax County public schools. Some of our schools had separate systems. For example, administrative support at the central office used Microsoft Exchange. The teachers used First Class, a school based email system. None of the systems talked to each other. But the superintendent needed to talk to all 25,000 employees. It seems like

a simple problem now but not then. It meant that people had to give up their various proprietary email systems that they loved."

"My Job Would Entail Far More than Technology Expertise"

To put everyone on the same email system, "I had to get the board's support. Overall, though, in the beginning, the prospect of change was not popular. But we successfully worked our way through it. Now everyone's on the same system. The email system is community-based as well so that we can communicate simultaneously to all parents and others."

The transition process was completed in two years, she says. "Part of the reason it took so long was that I was brand new and had to ease my way in. We completed the technical part during one summer. But getting the buy-ins, obtaining board approval and funding took a while. It was much less a technical challenge than a political and operational challenge."

She quickly learned, "that my job would entail far more than technology expertise: I'd have to be a diplomat who was able to manage effectively, a consensus builder, a budget expert and a communicator in order to get anything done. I had to meet with the various stakeholders, including teachers, the school board – I was part of the executive leadership team in the schools – and principals. It was a great way to introduce myself to pivotal groups and individuals."

Regardless of a district's size and the scope of an IT plan, at least two rules of successful implementation are universal, Ms. Luftglass insists. The plan must be directly tied to the overall

strategic plan of the school system and buy-in must be obtained from all pertinent sources.

“We all have limited resources, so making sure that the priorities of the systems we’re going to be implementing directly align with the strategic goals of the school district is essential.”

Comprehensive buy-in, she emphasizes, is a constant and necessary exercise in diplomacy. “For example, we have a technology working group that has representation from throughout the school district, including teacher representation, principals, school-based technology staff, special education, our instructional and curriculum instruction department, human resources and facilities. We gather monthly to make sure that our technology plan is supporting the overall mission and priorities of the district and that we have buy-in from all key stakeholders. Since resources are limited, we have to ensure that what we are doing is critical for our school system as a whole.”

Avoiding conflict over IT plan costs in a low-funding era is a challenge tempered by the buy-in process, she says. “All of the planning participants are involved from the outset and all have buy-in. We have to be willing to scale back if the funding isn’t there. Occasionally, we may decide to do a pilot program rather than full implementation.”

The IT team consists of several levels, she explains. “In all of our major initiatives we have a steering committee made up of assistant super-



intendents. Our 245 schools and centers are divided into eight clusters. Our team includes one or two cluster assistant superintendents to represent the schools. The team also includes assistant superintendents of instruction and special education.” Also included are the district’s chief financial officer (CFO) and the human resources head.

Curriculum and special education are permanently represented on the district steering committee, which meets quarterly on major initiatives. A working group consists of directors of various aspects of technology and instruction. Teachers, including special education teachers, and principals from all three school levels are represented. The technology contingent includes security personnel and software developers. “We have a very strong project management office that coordinates all relevant participants and vendors in any major technology initiative,” she says. The project manager, too, is a member of the steering committee and the working group.

“The best decisions are made jointly by the entire project team and referred to the steering committee for approval. Once a decision to move ahead is made, we track and monitor to ensure that goals are met on time and on budget. Even if we have to scale back we use the same structure to make sure we’re on track.”

Universal Challenges

District CIOs nationwide, regardless of district size, she notes, “experience the challenge of ensuring that a system will be compatible with the other technologies we employ. In the past couple of years the county implemented a major special education system automating

the IEP process so that a student's IEP can be routed and tracked. We wanted to be certain that this application was going to work for our teachers and would be compatible with business requirements. We also wanted to make sure that it would not adversely impact our network or interfere with other applications."

A segmented technology assessment lab improved the likelihood of compatibility, she says. "We can



bring any kind of new technology – including hardware, software or peripherals – into our lab so that we can have a closed-off environment, not on our full wide area network but in a segmented environment so that we can determine whether the application works. We use a lot of performance testing. With a school district our size something that may look really good when it's seen in a demo or at a conference may not work so well when 100,000 students are using it. The system can crash and burn if it's not properly tested as to whether it can handle our volume. So we do performance benchmark testing. I'd recommend that all school systems with an IT plan perform create a facility to conduct this kind of testing.

"We also bring our key stakeholder users into our lab to make sure that the technology works as advertised and that it's compatible with all the other technology running in our system. We have hundreds if not thousands of applications that we use in our schools for various purposes and curricular areas, all of which

have to be working in happy harmony on our systems and network.

"We have various laptops, desktops and wireless access; we also want to make certain that they, too, are compatible with all of our school technology."

One for All: Blackboard Is the Glue

The Fairfax County schools, in which 3,300 students carry IEPs calling for assistive technology use, run a single IT system that accommodates general and special education students. "We don't separate the systems out, although we do have specialized applications for our special education students, especially if they have a need for assistive technology." Special education classroom technologies, she says, include the Dana Alphasmart notetaker (http://www.ioddev.org/inventory_detail.php?equip_id=2716), the Neo portable word processor (<http://www.dyslexic.com/item-Matrix.asp?GroupCode=NEO2&eq=&MatrixType=1>) and [Dell Notebooks](#).

Special education software in use in the county's classrooms includes the Kidspiration graphic organizer (<http://www.inspiration.com/Freetrial>), the Intellipics multimedia report creator (<http://assistivetech.sf.k12.sd.us/intellipics.htm>), the Intellitalk word processor (<http://atto.buffalo.edu/registered/Tutorials/IT2/index.php>) and the Buildability authoring tool (http://www.donjohnston.com/products/access_solutions/software/build_ability/index.html.) According to Ms. Luftglass, "we have several speech/voice recognition applications, not only for classroom use but also online for standardized testing use. Our AT kids use a wide variety of software and hardware

devices.”

Because inclusion, Ms. Luftglass says, “is a very important part of our mission, many of our special education stu-



dents share classrooms with general education students. Therefore, we determine whether these applications are effective in all of the classrooms in all of our schools. We make certain that all of the devices, whether they are AT devices or other devices for students with learning disabilities who may be using a laptop for classwork, are compatible and operate seamlessly with other technology in all classroom environments.”

Even if individual students have special accommodations or special needs, she says, the students all participate in an inclusion classroom environment appropriate to his or her needs. “For example, all of our general education and special education students use Blackboard (<http://www.blackboard.com/>), as do all parents and teachers.”

Adapting the Curriculum to New Technological Advantages: eCART

Ms. Luftglass advocates curriculum adaptation even before the IT plan implementation process commences. “Adaptation of curriculum to technology should occur as the plan is being developed,” she declares. “Our technology plan is developed jointly between our special education, instructional curriculum and technology offices. We work hand in

hand. We meet regularly. We are on the superintendent’s leadership team. Our entire summer curriculum, for example has technology that is fully integrated into the planning process.”

Her IT plan employs eCART (Electronic Curriculum Assessment Resource Tool <http://www.fcps.edu/DIS/FCPSeCART/>), a formative assessment online curriculum system. “eCART provides our teachers access on the web to curriculum resources that are directly tied to our formative assessment system. A student, for example, will take a practice test that identifies students in a classroom who are not achieving a certain standard or benchmark. The test ties into curriculum resources, lesson plans, web resources, and video resources related to the specific standard or benchmark that the student is failing to achieve.”

The information gleaned from this connection, she explains, enables the teacher to access resources associated with the curricular area of student weakness, helping the student’s teacher teach in a more targeted way. “That application is developed jointly between our curriculum instruction staff and the technology staff,” she notes.

No decisions involving curriculum and technology are made independently, she insists. “For example, we just did a presentation to our school board on the e-CART application. The presentation was conducted jointly by me and by my counterpart, the assistant superintendent/instruction. If the technology staff does not operate hand in hand with the curriculum staff success will not be achieved. That’s how we get successful roll-outs: by having every-

one on the same page all the time.”

The Elephant in the Room: Content Filtering

Yet despite the wide scope of her IT team's influence and operations, Ms. Lustglass explains that as a matter of policy she has no control over an issue vexing many teachers: convincing a school's IT staff to eliminate Internet filters in order to enhance teacher access to web resources for classroom use.

Explains Ms. Luftglass: “We abide by federal law and CIPA (Children's Internet Protection Act) by having Internet content filtering in place that restricts certain websites which may be harmful to juveniles. Inappropriate content that is filtered includes content known to be obscene, harmful to juveniles, or child pornography (as defined in the Code of Virginia), and content known to promote, encourage, or provide the skills to commit illegal, criminal activities (in accordance with Student Responsibilities and Rights). If there is a particular site that is blocked that should not be, or that is needed for an instructional purpose, such as a discussion on gun control in a civics class, we have a process to unblock a particular site.” Moreover, she adds, “The school IT staff does not approve or deny a student/teacher web access request. Those requests go directly to the school principal. When a principal approves a specific request, the IT staff implements it (either the local IT staff person or the central IT service desk). If we get such a request/complaint, we refer it back to the local school prin-



cipal.”

Retaining Infrastructure and Network Fidelity

A high degree of cooperation also exists, she says, between IT planners and curriculum professionals in the support of networking that connects the classroom to the larger community.

“When we conduct any kind of major initiative we do extensive piloting and testing, especially in our labs, and we don't just have the technology people testing certain applications and technologies; we ask our curriculum professionals to participate in the testing.”

The school system runs a complex video application for video clips associated with the county's curriculum, she explains. “Having lots of video on a network can eat up bandwidth and bring the network down. We work with the curriculum staff collectively to try to devise best practices and policies on how to implement video in order to learn when to most efficiently download video onto the local system and run it live across the network.

“Either we have to upgrade our bandwidth to accommodate video volume, which we do; or sometimes we have to admit that the application is not going to work over wireless unless we add access points so that a school can handle increased multimedia volume. This is another example of the necessity and effectiveness of joint planning. If there are only 10 students in a classroom watching the video in question on separate computers we are going to have capacity issues. We have various ways of making sure that our infrastructure remains abreast of our curriculum needs.”

The process, she emphasizes, is an ongoing and negotiated process. "Like every public school system in the U.S. regardless of size, ours lacks an infinite amount of money to invest in our infrastructure. Therefore, we sometimes advise teachers that they can't download videos during our peak use time between, for instance, 10 AM and 2 PM. If they download their videos after 2 PM they can view them locally in their classroom and there will be no impact on the system, or run the videos on their Smartboard instead of permitting students to run the video on their individual laptops. We work on best practices so that we continue to embrace the new technology as it becomes available – but we still work to retain the fidelity of our network and infrastructure."

Providing Ongoing Tech Support for Educators and Students

The county's IT plan offers a multi-faceted approach to providing ongoing tech support to educators and students, Ms. Luftglass explains. "We utilized industry best practices via the International Technology Infrastructure Library (ITIL), which features international best practices for technology support worldwide. Many businesses are ITIL-certified because they use ITIL best practices methodology for implementing infrastructure and tech support. The program is not yet as visible in the education community although I'm seeing more and more of it there."



In Fairfax County, she says, "we are ITIL-certified and follow ITIL best practices. For example, we have a service desk that can take a wide range of inquiries from students, teachers and others. The desk has a knowledge bank and can handle much of the first-tier support. We also have a school-based technology specialist imbedded in each of our schools whose job it is to help teachers integrate technology into the curriculum. Most of their technology training is administered in the school by our local school-based technology specialists."

"To supplement that training we conduct online training. We do a lot of e-learn training employing applications including Microsoft Office, Blackboard and apps that are locally developed. We conduct multimedia online training that's self-paced. Teachers can access this online learning at their convenience. This multi-tiered approach includes our service staff and a local imbedded staff development professional." Online training augments that support, she adds.

Students are also part of her support infrastructure, she says. "We use student support teams to assist in basic troubleshooting with printers and other equipment in our schools, making sure, of course that the students do not have access to critical information systems."

Coping with the Influx of Personal Devices: Striking a Balance

The Fairfax County IT plan takes pains to avoid creating specific duties, regulations and policies that run counter to the collaborative technology plan and to the constantly evolving nature of technology, Ms. Luftglass notes.

"We create our policies in close collaboration with other departments. For example, in the past couple of years we've seen a big influx of personal devices in our network: iPods, iPhones, personal laptops, smartphones, to name just a few. At any given point during the day there are 101,000 county-owned computers on our network, plus another 50,000 personal devices. We embrace the new technology but we maintain strict policies and procedures regarding its use.

"We also segment our network. We have an internal secure network and public wireless network in all of our buildings. Our policies state, 'Yes, you can bring in your own laptop but it must run our standard virus-protection software,' which we license because we don't want anyone to have an excuse not to have our McAfee Virus check (http://download.cnet.com/McAfee-AntiVirus-Plus-2010/3000-2239_4-10581368.html) running on a laptop. Those who bring their personal devices to school must use this virus check. Users must sign an acceptable use policy stating that they will abide by our rules and procedures in school. If a teacher tells a student not to use a device, the student is not permitted to use it. Devices are never allowed to be used for non-educational purposes in our schools or on our network. We're not saying, 'Don't bring your technology to school.' Instead we say, 'Bring your devices but abide by the rules.' The approach, she says, "helps ensure that we don't introduce viruses into our network. It also helps teachers manage their classrooms more effectively when their students have their own devices in class.

"We've integrated individual technology into

our Smartboards. When appropriate, students can bring out their devices, use them and integrate them into the curricular day. When students are taking a test, however, that technology is off and out of sight."

Those policies, she remarks, "should evolve with the technology. There was a time not long ago when we had no policies for personal devices inside our network. We didn't



allow cellphones in our schools. The kids are still not allowed to use their cellphones during the school day but they are allowed to carry them, even in the elementary schools."

There are now specific circumstances, she says, when students are permitted to use their cellphones in class. "It sometimes seems that these policies evolve almost on a daily basis, like our acceptable use policy and our policy for personal devices. Yet these policies, too, are formulated jointly between the technology staff, network security and our teaching, instruction and curriculum staff to ensure that the policies aren't overly restrictive or, sometimes, too loose. Occasionally our school and classroom management professionals might prefer use policies that are tighter than we'd like. The goal, though, is to strike a balance that all are comfortable with."

Powering Up in School

Nationwide, studies say, students "power up" their personal technology devices as soon as

the school day ends, Ms. Luftglass says, and then “power down” at eight o’clock the following morning when school doors open. “That’s not our philosophy. We believe that we need to adapt to our kids’ world and our kids’ environment.



You can find “Fairfax County Public Schools” on Facebook. You can follow us on Twitter. We embrace these technologies, but we have to do so in a thoughtful way. If we let them, students would spend all day on Facebook. However, embracing the world they live in and the world in which they’ll be working is what we have to do. This approach keeps our kids engaged. They live in a video world, a multimedia world and we should too.”

This approach, she states, “may contribute to the 98% daily attendance rate in our schools, as opposed to the 50% daily attendance rate in some New York City schools, for instance. We strive to make our schools places where kids want to come. Part of the reason we’ve adopted this approach, frankly, is parent pressure, but we believe that school ought to be an engaging environment for students to learn in – and our technology plays a major role in that belief.

“Technology literacy is one of the strategic goals we’ve established for all of our students. This goal is backed by our school board and leadership teams. For instance, we have a school board policy stating that all of our 12,000 teachers will have their Blackboard sites up by back-to-school night.” These sites, she

points out, keep parents, students and others informed online about classroom activities.”

This requirement, she says, is non-negotiable. “Teachers must respond to emails within 24 hours.” Is there some resistance to these iron-clad policies? “Sure,” Ms. Luftglass admits, “and some teachers will update their sites more often than others. We have parents who expect and demand this approach. They want to see those homework assignments posted. They want to know what’s going on at school every day. Parents want to be part of that process.”

In Fairfax County, she notes, 60,000 of the 120,000 parents have access to Blackboard. “All students and teachers must have access. That said, we’re careful to grant our teachers the autonomy they need in order to teach many of the curricular areas, but we’re also tight in some areas. For example, [in the requirement that] everyone in the district use Blackboard. When students move from one school to another school in the county they have a common application. They know how to use it as do the teachers. The same with email. They can use any email system they want as long as it’s Microsoft Exchange.”

Not everyone, she readily concedes, was happy with these policies. “Many weren’t thrilled with them. We had some early retirements.”

Training, she says, has played an ongoing role in implementing this approach. In-school training, she points out, has been 100% successful among the district’s teachers. “While not all of our classrooms have Smartboards, many do. Our teachers have grown accustomed to having electronic interactive libraries in their classrooms, and teachers have a local resource if

they need help.

"We're also finding that we have some super-user teachers who will help each other. Professional learning communities are a huge part of our culture. Teachers work in collaborative teams. This approach is associated primarily with academic instruction, making sure that all kids are learning, but that professional learning community is also collaborating on the use of technology."

Great resources, she remarks, can be developed using a Smartboard. "Teachers share those resources. With Blackboard, sometimes our teachers will work together to come up with one site for their various algebra classes, for example, and they'll do so together and jointly. That's perfectly fine as long as everyone has it and all students' classes are using it. We encourage this collaboration and sharing. If teachers come up with a great lesson plan, share it! We've moved a long, long way from 'my proprietary classroom' and my lesson plan to sharing and collaboration, which is good for kids."

Surprisingly, she notes, it is not only the incoming teachers who have taken enthusiastically to the powered-up in-school environment. "Most of the incoming teachers are technologically experienced and have been using Blackboard in all their courses, for example. They expect the technology to be in their new school. Yet we have more than a few veteran teachers who are fabulous when it comes to technology use. Not only do they have experience in their respective curriculum areas, they also have experience with and enthusiasm for technology. They go all out for technology.

"My mother, a former teacher and guidance counselor, is an avid Facebook user. She organized her 60th high school reunion on Facebook. There is enthusiasm for technology among all age groups and there is resistance to technology at all age groups."

Given the accelerated evolution of information and instructional technology, not to mention the consumer technology students bring to her district's schools, does Ms. Luftglass anticipate significant changes in her responsibilities three or five years from now? "My core responsibility won't change," she predicts. "In the future, as in the present, my primary task will be to follow the changes in the education environment. Whatever the latest and greatest technology is years from now, we'll be there to deploy it for the benefit of our students and teachers."

RESOURCES

ARTICLES

Critical Issue: Developing a School or District Technology Plan

North Central Regional Technology Laboratory (2008)

School or district technology plans should include the following goals, the authors say:

- The plan for integrating technology into the school is based on the school or district's educational vision and is part of an overall school-improvement plan.
- The technology plan aims to improve student learning, to help students perform authentic tasks, and to help students learn skills that will prepare them for future careers.
- Educators, parents, students, and community members support the school's initiatives in the use of technology.
- Professional development and support for staff is provided on an ongoing basis.
- The technology plan is periodically reviewed and updated.
- Evaluation plans are in place to ensure the technology plan generates the desired outcomes.

Potential plan implementation pitfalls include:

- Failure of decision makers to provide the right mix of technology and wiring to support networking and collaboration between the classroom and the larger community.
- Failure to plan for the inevitable obsolescence and necessary upgrading of technology.
- Excessive reliance on vendor advice when

selecting hardware and software.

- Failure to provide ongoing training and tech support for educators and students.
- Failure to define or enforce security policies, threatening frequent replacement or repair of equipment, copyright infringement problems, or access to inappropriate files. Thorough research, comparison shopping, and planning are essential to the successful implementation of the technology plan.
- Although the curriculum may change as a result of technology-enhanced instruction, assessment models may not be updated and may fail to measure improvements in students' skills. It is essential for schools to use assessment models that are compatible with the goals of the technological innovation.
- Instead of emphasizing higher order thinking skills, complex problem solving, and cognitive research, the technology may be used to teach merely the same curriculum. Using technology effectively in education requires shifting the focus from teaching to active learning.
- To manage the implementation of technology in the school, decision makers may create specific duties, regulations, and policies that are counter to the collaborative nature of the technology plan or the ever-changing nature of technology. It is imperative that the vision statement and the technology plan are developed with foresight, consensus, and long-range goal planning.
- If the planning team lacks focus, members may lose interest. To prevent this situation, the team leadership must be dynamic and enthusiastic. Priorities must be established

and tasks completed according to a reasonable time frame.

- The cost of implementing a technology plan may be a source of conflict in a school that is already struggling with low funding.

Money to purchase computer equipment may be taken from instructional budgets, causing cutbacks in what some educators consider to be necessary materials. To provide alternate sources of money for technology, schools may wish to investigate grant opportunities and funding sources. Participation in the technology planning team offers educators an opportunity to voice their concerns about essential materials needed in the classroom.

<http://www.ncrel.org/sdrs/areas/issues/methods/technlgy/te300.htm>

Information Technology Making a Difference in Children's Lives: An Issue Brief for Leaders for Children

By Wendy Lazarus and Laurie Lipper
The Children's Partnership (April 2008)

This report, compiled by The Children's Partnership co-founders, illustrates how information technology aids children in areas that include education, workforce preparation, health and social involvement. The report features:

- Examples of how technology is being deployed to improve children's lives related to their education and health
- New tools technology offers for conducting child advocacy
- A National Digital Opportunity Agenda for Children
- Ways leaders for children can take action

Hard copies of the report can be obtained

from:

The Children's Partnership
2000 P Street, NW, Suite 330
Washington, DC 20036
Phone: (202) 429.0033
Fax: (202) 429.0974

<http://www.childrenspartnership.org/AM/Template.cfm?Section=Home§ion=Technology1&template=/CM/ContentDisplay.cfm&ContentFileID=2550>

The Technology Plan: Fairfax County (VA) Public Schools

(2009-10 school year)

The detailed IT plan for the current school year for the nation's 13th largest school district includes a compact executive summary, which states, "Technology is no longer a 'nice-to-have' for instruction and school administration; it has become mission critical to the business of educating the students of Fairfax County."

<http://www.fcps.edu/DIT/pdf/files/FY2010TechnologyPlan.pdf>

WEBSITES

Free Mac Classroom

Created by veteran educator Simon Elliott, this site features numerous links to free and open source programs and resources that can be used on the Mac platform. The categories of software include productivity, communication, video, audio, graphics, education, recreation and utilities. Information at the site is free to students and teachers but users are asked to credit the source if material is downloaded for public viewing. http://www.thefreemac.com/simon_elliott%40mac.com/Software.html

Smart Educator Resources

SMART Technologies ULC

This website links to activities conducted with Smartboard technology and Smart Notebook software. Site users can obtain practical information in the use of Smartboard technology from the company's Smart Exchange. User groups and online conference access are available. Teachers are encouraged to post their ideas regarding their use of Smartboard technology.

<http://education.smarttech.com/ste/en-US/Ed+Resource/>

GUIDES

Technology Quick Guides and Video Tutorials Montgomery County (MD) Public Schools

The HIAT (High Incidence Accessible Technology) Quick Guides are a collection of user-friendly resources for teachers using common AT software in the classroom. Each guide is designed to help educators use the software effectively and integrate it into the classroom. Each guide provides general overviews and answers to frequently asked questions; some also outline common tasks facilitated by the AT software. A number of the resources have Web-based videos.

http://www.montgomeryschoolsmd.org/departments/hiat/tech_quick_guides/index.shtm

Twelve Essentials for Technology Integration

By Richard Byrne

Yudu.com (2009)

The author, the creator of freetech4teachers.com, describes a dozen free education technology resources for teachers. The guide focuses on four major purposes for education

technology: creating documents and presentations; communicating with students and parents; creating collaborative projects; and using educational videos. Byrne provides brief summaries for each resource included in the guide and offers examples of how each can be used successfully. He also includes links to each resource and to additional related resources.

http://content.yudu.com/Library/A18dcc/TwelveEssentialsforT/resources/index.htm?referrerUrl=http%3A%2F%2Fwww.yudu.com%2Fitem%2Fembedded_reader%2F59772%2FTwelve-Essentials-for-Technology-Integration%3Frefid%3D19189

BLOGS

The Connected Classroom

The Connected Classroom is a blog devoted to education technology and policy, professional development and the resources and support teachers need when using technology in the classroom. Written by a teacher, Kristin Hokanson, the blog includes videos, conference notes, and education technology resources. Ms. Hokanson is the technology integration coach at Upper Merion Area High School, King of Prussia, PA. She states that she initiated her blog to:

- Reflect on the fairly imposing personal and professional changes I have made as I moved from a classroom teacher to a mentor and eventually an administrator and to model transparent practice.
- Solicit thoughts and opinions from other educators regarding how they use technology to best serve and meet the needs of their students.
- Try to sort out how I can best utilize techno-

logical tools as both a teacher and a mentor.

<http://khokanson.blogspot.com/>

AT TIPScast: The Blog

This blog, by educator Christopher Bugaj, is a collection of webcasts, resources and tips to help AT professionals and educators collaborate and develop effective strategies when using AT with students.

<http://attipscast.wordpress.com/>

Accessible Educational Technology

The AET blog provides strategies to support students with technology. A recent post revisited a question submitted for discussion in 2007: "Given the realities of our modern age and the demands of our children's future, is it really ok for teachers to choose whether or not to incorporate modern technologies into their instruction?" Pertinent links are plentiful.

<http://accessedtech.blogspot.com/>

Lisa's Lingo

Maintained by 20-year teaching veteran Lisa Parisi, who teaches fifth grade, this blog focuses on technology tools, Universal Design for Learning (UDL) and hands-on learning in her classroom. Links to other blogs with a similar focus are provided.

<http://lisaslingo.blogspot.com/>

Talking Smartboards & Much More

This blog is written by a special education teacher with 25 years of experience. She presents discussions and reviews of applications

designed to address the needs of special education students. This includes instructional technology conceived for general education use that can be adapted to meet special education needs. All tools cited in the blog are used with Smartboards to create kinesthetic and visual learning experiences.

<http://annemarie80.edublogs.org/>

Langwitches Blog: the Magic of Learning

Langwitches is written by Silvia Tolisano, a technology integration professional, who focuses on classroom technology and encourages professional development and collaboration. Ms. Tolisano explores issues in education technology and advocates for technology leadership. Her blog is current and resource-rich.

<http://langwitches.org/blog/>

My Point of View Blog

Written by AT professional Jeannette Van Houten, My Point of View focuses on AT issues, conferences, and reviews of useful devices for children with disabilities. The blog includes an extensive archive. Topics include: education technology integration; technology as a tool; using technology vs. wasting technology; educational toys; and the role of technology in daily life.

<http://jvanhouten.blogspot.com/>

KNOWLEDGE NETWORK MEMBERS

Knowbility, Inc.



Knowbility is a national non-profit organization that has grown from a community collaboration that produced the first Accessibility Internet Rally in Austin, Texas. The organization promotes the use and improving the availability of accessible information technology. Knowbility's Accessible Internet Rally (AIR) program increases public awareness of IT's potential for individuals with disabilities. Knowbility staffers provide accessibility consulting Services to help organizations understand and comply with today's accessibility standards. The organization provides accessibility training to professional web developers. Finally, Knowbility's educational and community Initiatives help local communities provide wider access to IT education and training. For further information, contact:

Knowbility, Inc.

3925 W. Braker Lane, 3rd Floor

Austin, TX 78759

Phone: (512) 305-0310; (800) 735-2989 (TTY)

Contact:: Sharron Rush, Executive Director

Email: knowbility@knowbility.org

<http://www.knowbility.org/main/>

Computer Using Educators, Inc. (CUE)

In supporting student achievement in educational technology, CUE operates seven special interest groups (SIGs): administrators, eLearning, independent schools, library media educators, teacher



educators, technology coordinators and video in the classroom. The organization maintains an active advocacy program in California, sponsoring SB 1510 and the Digital High School Initiative. Most recently, CUE sponsored both SB 1006 and SJR8 (Chapter 95) EETT Restoration Resolution, both of which were passed by the California legislature. For more information, contact:

Computer Using Educators, Inc.

877 Ygnacio Valley Road, Suite 104

Walnut Creek, CA 94596.

Phone: (925) 478-3460 Fax: (925) 934-6799

Email: cueinc@cue.org

<http://www.cue.org/>

Minnesota Educational Media Organization (MEMO)



Founded in 1976,

MEMO serves

Minnesota school media and information technology professionals. The organization provides leadership and professional growth opportunities for media and technology programs that meet MEMO quality standards. For more information, contact:

Minnesota Educational Media Organization

Phone: (763) 786-5571

Contact: Tori Jensen, tjense@district16.org

<http://memotech.ning.com/>

Animation, Media and Technology Education in Canada (AMTEC)

The organization provides information on the role of media and technology in Canada's federal education system via a series of detailed articles. <http://www.amtec.ca/>



ADA Technology Corporation: Schools Assistance Project

The ADA Tech schools assistance project supplements limited community and school resources for severely disabled students by providing them Internet access. ADA Technology seeks to improve access to information technology for the disabled. The corporation upgrades school computers, enhancing their capability with accessibility equipment and installing accessible software tools and learning packages. The organization trains students and teachers as well as students' parents and helpers on how to use and benefit from these improvements. The training is conducted through workshops and on-to-one sessions. ADA Tech is developing a local fully accessible Internet learning network connecting severely disabled students with teachers and each other. Learning materials are distributed in fully accessible electronic form. Individual computers and terminals will be connected to this network with the goal of connecting all disabled students locally and expanding the network to include students from other communities, including colleges and universities. For additional information, contact:

ADA Technology Center
 35 Seventh Street
 Lowell, MA 01850-2153
 Phone: (978) 937-5170
 Contact: Cary L. Renault, M.Sc.
 Email: information@adatech.org

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Project Officer: Jo Ann McCann
Project Director: Jacqueline Hess
Newsletter Editor: Thomas H. Allen
Design and Distribution: Ana-Maria Gutierrez



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