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# ANYTIME, ANYWHERE LEARNING

## Program Planning, Implementation & Sustainability

The world is connected and today's students are part of a digital generation. They expect schools to provide the tools they use at home and at play. Schools expect students to learn the skills they will need to live and work in the future. Educators recognize that the best way to help students learn is to use the tools in thoughtful ways.

Students' worlds are wired for action 24/7; they communicate, collaborate, create and learn on demand. They use digital tools and thrive with digital learning. Thus more and more schools are providing digitally rich learning opportunities in which students, teachers and administrators have access to technology when and where they need it. Schools are trending to anytime, anywhere access and collaboration.

Many districts have installed one-to-one computing programs. The *America's Digital Schools 2006* report noted that 24% of all U.S. school districts "are in the process of transitioning to 1:1." From high tech wired schools in which all students are issued laptops for school and home use, to the "COWS" (*computer carts on wheels*) rolling down school corridors, one-to-one is gaining momentum.

What does Anytime, Anywhere learning look like? According to a new NetDay survey, when young people use technology for school related activities, they do writing assignments, online research, check grades and assignments online, and create slideshows, videos, and web pages and collaborate with classmates.

This first paper in the Fundamentals of K-12 Technology Programs series presents lessons learned and new perspectives for anytime, anywhere learning to help you plan, implement and sustain an effective one-to-one initiative.

For more information, go to <http://www.techlearning.com/K12/Fundamentals>

## Welcome to the Fundamentals of K-12 Technology Programs

Brought to you by *Technology & Learning* and sponsored by HP, this new series will cover the educational technology topics that matter most to the profession's leaders, practitioners, and innovators. In subsequent issues, we'll cover these key subjects:

- Infrastructure & Networking
- Technology Systems: Servers, Storage and More
- Security
- Money Matters
- Educational Technology Leadership
- 21st Century Learning & Assessment
- Professional Development
- Strategic Data Management & Decision Support
- Mobility Solutions

## Updating the Definition of 1:1

The 'traditional' view of 1:1 educational computing was one laptop/one student. Today, that perspective has expanded, encompassing not just computers but other e-learning resources as well. A report from the Education Development Center (EDC) entitled *Lessons Learned About Providing Laptops for All Students, 2004* states, "One-to-one computing environments are different from what one traditionally finds in most school settings because they offer all students and teachers continuous access to a wide range of software, electronic documents, the Internet, and other digital resources for teaching and learning."

**Case Study, Bishop Hartley High School, Ohio:** The one-to-one program's success at Bishop Hartley is evident every day, all day. Students carry Tablet PCs with them in the classrooms, halls, gym, and cafeteria, and they take them home at night and on the weekend. The mobility and flexibility of the Tablet PC mean anytime, anywhere learning that inspires the students and teachers. At Bishop Hartley, enthusiasm for learning is on the rise, and new teaching and study methods are increasing staff and student productivity and improving learning outcomes.

## PROVEN OUTCOMES. NEW PARADIGMS

In 1:1 digital learning environments, students use technology to meet instructional requirements in ways that address their skills and learning styles. Research has shown that when students work in an environment rich in technology that is integrated into the curriculum, engagement, time on task, and self-directed learning all improve.

Experience shows us that an effective, successful one-to-one learning environment demands a spectrum of change. Curriculum leaders and frontline classroom teachers need to change their approach to create student-centered, constructivist environments in which technology empowers students to be self-directed learners. It's a genuine shift from teacher-centered to student centered learning.

What makes it work is a well-planned systematic process of change. An effective process typically includes these components:

### Policy

### Leadership

### Funding

### Curriculum

### Infrastructure

### Results

### Professional Development

#### Intel's *K-12 Computing Blueprint*

([www.K12blueprint.com](http://www.K12blueprint.com)) offers detailed information, guidance, resources and case studies about effective processes for transitioning to anytime, anywhere learning environments.

“Leaders need knowledge of technology’s central role in student achievement, curriculum, and instruction, and they need the ability to articulate the district’s vision compellingly to all stakeholders. Leaders also need direct involvement in planning, piloting programs, and ensuring that curricular design, pedagogy, and school environments use the right technologies to maximize teaching and learning.”

- Leslie Wilson, Director, Freedom to Learn

## CREATING CHANGE

District and building leaders who have instituted 1:1 programs report that making the change from a teacher-centered to student-centered learning environment requires time, patience, and a disciplined approach to detail. Upfront planning is critical, as is including all stakeholders in the decision-making and communications loop. Continuous communication as the process begins, launches, and then evolves is critical.

## PLANNING AT A GLANCE

Serious, sustained planning is needed to initiate and support an effective 1:1 initiative. Three essential elements key to planning for 1:1 programs are:

**Set Goals:** Establishing district goals is the foundation for any new initiative, and it is particularly important to begin with the rationale for moving to a 1:1 program. From improving equity of access to technology to increasing performance on standardized tests, a district or school should find and define its priorities and reasons for moving to a 1:1 environment.

**Structure the Planning Process:** The good news is that you don't need to start from scratch. There are terrific resources and tools available (See page 4). Typically, educators begin with a needs assessment and a Strengths, Weaknesses, Opportunities, Threats (SWOT) analysis to help define where a 1:1 program can make the most significant difference for teaching and learning.

**Use Systemic Thinking:** Strategic planning for 1:1 computing requires plans that take all of a district's needs, resources, goals, and priorities into account before taking the leap into any new initiative. It's important to include these factors in your planning approach:

- Creating and sustaining technical capacity
- Building public, political, and professional support
- Developing and supporting policies that promote and sustain reform
- Insuring adequate financial resources to build, launch, and sustain the program
- Integrating program evaluation and assessment tools and techniques

## IMPLEMENTATION

The implementation process begins long before computers find their way into students' backpacks. While there are a host of factors that support successful implementation, among the most important are solid leadership, sound professional development for faculty and staff, and assessment.

**Leadership:** From developing the district's vision for the 1:1 initiative to overseeing the implementation action plan, strong leadership makes the difference. An effective leader is someone who commands respect, takes ownership and responsibility, has expertise and experience, provides guidance and direction and inspires others to change. Educational communities need effective leaders at all levels.

**Case Study, Denver School of Science and Technology (DSST):** Student achievement is impressive. In a 2006 statewide assessment, DSST students performed nearly 30 percentage points better in math and almost 20 points better in science when compared to students overall. Ninety-six percent of students in the school's first senior class have been accepted at a four-year college, and the goal of 100 percent is within reach.

In addition to the new skills people will need for the future, the old skills of effective leadership are essential to change.

**Professional Development:** Professional development is crucial to an effective technology program. It includes preparing teachers to use technology to support standards-based teaching, student-centered learning, and using more effective strategies in digital learning environments. The goal is to use technology seamlessly so that the technology itself becomes a transparent and integral tool to teach core curriculum. One effective method is to build an online community for educators to share and communicate. Recent innovations include establishing personal learning networks so educators rely on one another for advice and support. The publication, *New students, new tools, new possibilities: Creating digital learning environments* (See page 4), includes detailed information about establishing effective professional development plans.

**Assessment:** Knowing what works is essential to building a sustainable program. A model that looks at the return on investment and the program's value compared to the cost of projects offers an effective approach. This takes into account both return on investment (ROI) factors, which includes productivity and qualitative factors in comparing the relative value of technology projects. Some of these factors include educational fit, alignment of technology with the districts' objectives, user satisfaction, equity, scalability, teacher proficiency and student engagement and academic improvement.

### MAINTENANCE AND SUSTAINABILITY

With all the planning, implementation strategies, professional development programs, and stakeholder outreach, program sustainability remains an important part of planning for success. Hardware manufacturers are offering innovative lease, purchase, finance, and refresh solutions to make sure that 1:1 programs have embedded sustainability and the opportunity to expand programs as success grows. In addition, resources for long-range planning are available from several well-respected organizations, including CoSN (the Consortium for School Networking), ISTE (International Society for Technology in Education) the One-to-One Institute, and other foundations and associations.

“You’ll notice at the Academy that not all the students are in their seats looking at the teacher and whiteboard, because it’s project-based instruction,” Nguyen says. “You’ll find clusters of kids either in the hall or in a corner of the classroom. They’re all working together, but they’re not pinned to their desks.”

-Thuan Nguyen, Director of Information Technology,  
(Kent Technology Academy)

## Twelve Tactics for Successful Implementation

1. Enforce an Acceptable Use Policy for students and teachers that includes acceptable software, web sites, and applications.
2. Host a parent and student orientation with a required contract of expectations and liability signed by the parent.
3. Develop, communicate, and enforce disciplinary policies that apply to technology breaches.
4. Ensure your teachers have adequate time for lesson plan preparation and team collaboration, beyond standard professional development.
5. Define and implement a plan for device inventory and re-imaging plans.
6. Provide swap-out devices to be used as loans during repair downtime.
7. Design and implement a technical support and trouble-shooting plan for district, teacher and student devices.
8. Define and specify use of printers for both students and teachers.
9. Secure your student information and other data.
10. Plan your assessment strategy and tools to evaluate success against your technology plan goals.
11. Connect students and parents to the district's server from home to view class information and student progress.
12. Share your successes and results with the school board, parents, and the community.

## Sweat the Small Stuff

1. Consider filtering software.
2. Implement sufficient wireless access points to accommodate usage.
3. Don't forget extra notebook batteries and power cords.
4. Include notebook carrying bags in your budget.
5. Evaluate classroom software applications and free online tools by curriculum area.
6. Consider students as additional technical support and in-class troubleshooters.
7. Purchase projectors for your classrooms.
8. Set up collaborative classrooms and work spaces.
9. Make sure have adequate electrical power supplies in classrooms, libraries, and throughout your learning environment.
10. Provide an adequate number of surge-protected power strips.

## RESOURCES

Hewlett-Packard  
<http://www.hp.com/go/k12>

New students, new tools, new possibilities:  
Creating digital learning environments  
<http://newbay.ebookhost.net/tl/hp/1/>

1:1 Computing: A guidebook to help you make  
the right decisions  
<http://www.techlearning.com/1to1guide/index.php>

Fundamentals of K-12 Technology Programs  
<http://www.techlearning.com/K12/Fundamentals>

Digital Learning Environments  
<http://www.guide2digitallearning.com>

Intel's K-12 Computing Blueprint  
<http://www.k12blueprint.com>

America's Digital Schools 2006  
<http://www.ads2006.org>

Consortium for School Networking  
<http://www.cosn.org>

International Society for Technology in Education  
<http://www.iste.org>

One-to-One Institute  
<http://www.one-to-oneinstitute.org>

Technology & Learning and TechLearning.com  
<http://www.techlearning.com>

The Partnership for 21st Century Skills Publications  
<http://www.21stcenturyskills.org>

## 1:1 Improves Student Achievement

### KENT SCHOOL DISTRICT

Kent Technology Academy (KTA) near Seattle, Washington is a proven model of technology infused learning. Some of the factors that contribute to its success include administrative support, staff and student empowerment, innovation, student responsibility and self-direction, coordinated teacher planning, effective professional development, positive atmosphere, committed staff, and parental involvement. Kent measures its success in terms of outcomes, which include achievement of KTA students on the Washington Assessment of Student Learning (WASL) that exceeded the performance of the overall district and of the state as a whole. If KTA were a school rather than a program, the achievement of KTA students would have caused it to be ranked as the top or second school in the Kent School District—in every subject tested with the WASL, at both grades 7 and 8, and on the state's Technology Literacy Survey, a standardized self-report instrument.

### KERSHAW COUNTY

In the Kershaw County School District in South Carolina, the district's 1:1 initiative began with a mission to equip students with the skills necessary to compete nationally and globally. Dr. Agnes Slayman, KCSD's Assistant Superintendent for Curriculum and Instruction notes that students are more eager to learn, saying "Children who were previously uninterested in school are now active participants in the classroom. It has transformed the way our faculty teaches—it is more creative, and assignments are rigorous and more relevant to what a student will encounter in life."

### FREEDOM TO LEARN

Michigan's Freedom to Learn program ranks among the nation's most visionary 1:1 computing programs. It gave notebooks to 30,000 students and 15,000 teachers across the state. The program has been credited with driving improvements in several areas considered to be the precursors of improved student achievement, including reduced dropout rates and increased graduation rates. In a series of independently commissioned studies to evaluate the program, research has pointed out high levels of academic focus and student attention, with 90 percent of the participating students indicating that they believed they will be able to get better jobs.

