Getting more value out of the technology you already have

Ten tips for wringing every bit of educational value out of the technology already in your schools.

Finding the money for new technology purchases isn't easy in the best budget years. In today's economy, we'll be lucky to keep the lights on and the Internet connected. So if we're as smart as our phones, we'll make sure we're wringing every bit of educational value out of the technology already in our schools. But how do we do that?

Knowing that the hive as a whole can be wiser than the brightest bee, I sought the counsel of professional friends and colleagues through an informal survey, to which 126 people responded. Their combined contributions resulted in 9,379 words of excellent advice! The 10 tips that follow are my best effort to synthesize the results into simple, actionable items.

1. **Start by stopping.** Take time to revisit your vision – or get one if you don't have one. Where are you trying to go at your school, and how might technology help you get there? Pull your staff together and remind yourselves of the big picture. In fact, one respondent urged, "This is the best time to do technology planning with vendors, consultants and visionaries. The ones who show up when you don't have money and who can help you are going to have the best solutions and provide the best long-term value."

Another respondent said we should remember that being intentional in the first place is the Holy Grail. Back up "to ask the strategic question, what do we want in the way of results? Rather than focus on a particular solution, best practice, tactic or device, look at all of your resources (technical and non-technical) and ask what is missing, the presence of which would get us to the content, skills and feedback necessary to ensure achievement."

2. **Take stock.** Do a thorough inventory of the hardware, software and other technology resources

By Michael Simkins

you have to work with. Rolling computer labs? Automatic response systems? Interactive white boards? And don't stop with the obvious. Look in the closets. Look in the storage room down the hall. Said one of my colleagues, "Discover what technologies you actually do have access to and what they can be used for with the students. Older technology has a habit of falling down between the seat cushions. So lift up those cushions and pull out those tools!"

Besides inventorying your stuff, inventory your people. Who knows what about what, technologically speaking? As you add hardware and software to your list, also add the names of people who know how to use it, like to use it, and/or find it indispensable. These will be key players in helping you determine just how to get more out of it in the long run.

3. **Resuscitate your hardware.** There are a number of things you can do to breathe new life into older machines. Install solid-state hard drives. They use less power, provide faster data access, and are more reliable than the machine's old hard drive. Multiply your old computer's brain cells by adding "random access memory" (RAM); it improves their ability to multitask. "Desktop virtualization" might be an option for you and can provide cost savings through shared resources, more efficient use of energy, and simplified administration.

Still have some machines that barely have a pulse? One option is to find a use for them. For example, one respondent said, "If you have old computers that can't handle a major upgrade, then keep them as an Internet research center." All they need is an Internet connection and a Web browser! Alternatively, look for a vendor who will let you trade in several older machines in exchange for one new one. You may have to add a little cash, but you'll realize some value from the trade-ins.

As you consider keeping and repurposing older equipment, one respondent had a caveat: "There are amazing free, inexpensive, and/or open-source solutions out there nowadays for K-12, a lot of which can run on under-powered existing hardware. However,

there is a danger of schools trying to keep obsolete equipment 'running for a few more years,' too. Support costs go up rapidly with age, and end-user equipment older than three years is often not worth repairing or even supporting."

4. **Tour your software.** I once heard someone ask an audience, "Do you know how to get 80 percent more

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value from a software program?" He waited as we sat nonplussed, then delivered the punch line. "Read the manual."

That remark would resonate with many of my respondents. "I'm constantly amazed how people only get 10 percent of the benefit from tech because they only know 10 percent of the functions," lamented one. "For instance, I believe the most underutilized software in education and business is Microsoft Outlook! Most people have no idea how they can convert e-mails into scheduled tasks, use Outlook exchange collaboratively, organize e-mail rules, manage groups and calendars, etc. I know this is nowhere near as sexy as

electronic whiteboards and touch tables and all the other things out there. But when you can save over an hour a day by having a tool like this automate things and help you sleep better, why not?"

Another said, "I find that many teachers do not understand the full potential of the technology available to them. For example, simple tools including auto summary on Word or summary and text to speech on the Mac offer a wide range of possibilities in the classroom and increase student access to education. Virtually any text document can be converted into an audio file and podcast that can be embedded into websites and used on MP3 players."

5. **Make it available.** Access is critical, and we tend to think of it in terms of measures – the ratio of computers to students, how many classrooms have Internet connections, and the amount of bandwidth are common examples. But access also involves where things are located and who gets to use them. Does it take 15 minutes out of an hour-long lesson to retrieve, unlock, relock and return the laptop cart? Find a better place for it and a better procedure. Is there an interactive white board used by one teacher as an expensive chalkboard while another teacher down the hall is truly ready to explore its capabilities? Move it!

As Sugata Mitra's "hole-in-the-wall" research has shown, sharing and pooling tech-

nology tools, rather than insisting on a "one-to-one" approach, can be productive. One of my respondents described a fascinating "buckets" approach. Let's say, for example, you have an iPad cart with 30 iPads (lucky you!), but none of your classes have more than 23 students. Put several of the "extra" iPads in one of the handheld shopping buckets found in every grocery store, and let teachers check out the bucket for use in group work or learning centers. One respondent recommended that teachers "plan units of study that, over time, require research, investigations, and integration of technology skills for sharing information," allowing "students to utilize the technology without requiring all to be using it at one time."

Another respondent suggested setting up a "fully equipped technology room." This is not a computer "lab" but a room designed for technology integration. It might be the sort of room you wish you could provide every teacher! Instead of spreading scarce technology thinly about the school, pool some of it in one place. Then set up a rotation or swapping scheme so two or more teachers can use the room for powerful learning experiences.

6. **Learn it.** Professional development and teacher training were mentioned by 55 of my respondents. No surprise there. Conventional wisdom holds that professional development is prerequisite to the effective adoption of any new teaching tool or practice, technological or otherwise. And they offered some simple approaches that won't break the bank.

"Commit to the tools you have by really understanding their potential, listening to those who are employing them, and having the successes shared," said one. "With the constant time crunch people feel they are under, it can be helpful to slow things down, stop purchasing new things for a set amount of time, and commit the organization to fully using the equipment and experts already in the room."

Another advocated for including technology in the activities of your ongoing professional learning community. "Have teachers in PLC groups spend time posting the resources, activities, lessons, units, curricu-

lum maps in a shared online forum, either using an existing district Web communications service like School Loop or in a Google shared documents area."

Many respondents encouraged making inroads through a series of small steps. Spend a few minutes at every staff meeting

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exploring just one new feature of a software program everyone has access to. Challenge each of your more tech-savvy teachers to prepare a Pecha Kucha talk (20 slides x 20 seconds per slide) on the technology they like and how they use it with their students. Develop a "buddy" system by pairing more experienced technology users with neophytes. To paraphrase the Nike ads, "Just learn it!"

7. **Shift your paradigm.** A number of respondents commented that truly to get the most educational value from technology – rather than adapting it to traditional methods – we need to change our whole approach to schooling. "The tools are only educationally transformative if we are willing to alter our methods," commented one respondent. "Using computers in English classes to replace paper and pencil for essay writing is a step forward, but an extremely limited application of a much more powerful and connected creative tool."

Better approaches include doing "authentic" projects that "use computers as an information resource, organizing tool, for media

creation and as a presentation platform," or taking advantage of technology to customize instruction to each individual student's current skill level and interests, as is being done in New York City's School of One program.

A plan for using their technology in a new distance learning program was shared by another administrator. "We will be getting more value out of the technology we already have in our school district by creating online units and courses in Moodle for math, English, science and social science. These distance learning courses will utilize a flex format available from home or school. … Existing computers in our computer labs and classrooms will be used to provide access at school; students who participate from home will provide their own home computer."

8. **Set the stage.** An "arranged environment" is not only of value in early childhood education. Principals and supervisors can create a climate that is conducive to technology utilization. First, set expectations. Some respondents even suggested incorporating specific technology objectives in the annual performance evaluation process. Second, follow up. As leaders, hold staff accountable for using technology effectively with students. Third, notice, recognize, and reinforce teachers' efforts, even – perhaps especially – the ones that don't go so well! A little positive reinforcement goes a long way.

One administrator described what's needed this way: "Ideally, an evaluation component would have been included at the time of your initial implementation, but often that is not part of the plan! Creating a culture where it is OK to say a technology implementation did not work as planned, and to have the support of administrators to develop new approaches is essential. … Once there is a shared education vision, then utilizing the tools should be in support of those goals, rather than simply a push to use the devices."

And don't forget your role as symbolic leader and the importance of "walking the talk." As school leaders, we need to be using technology, too. We need to be mining the full potential of the software we have on hand. We need to be educating ourselves

about what instructional approaches take best advantage of the technology we have. And good for you! By simply reading this article, you're on your way.

9. **B.Y.O.** When you did your technology inventory, there was probably a huge cache of equipment you overlooked. That's the technology that belongs to your students and staff. Many respondents urged schools to find ways to take advantage of this huge resource.

"I think we need to encourage schools to develop policies that allow students to bring their own devices to school," opined one respondent. "Schools could work with vendors to offer one or two standard models to be purchased at discount. Require standard software. Set up guest accounts so security issues don't get in the way." Benefits of such a program would include the fact students would have their technology 24/7 and the money saved "could then be used to level the playing field by providing devices for students who aren't able or don't wish to purchase their own."

Perhaps a less ambitious suggestion is simply to start looking at smartphones as an educational tool rather than an annoying distraction. Yes, said one respondent, "This is a real stretch for many schools" who fear students will spend their time texting and visiting their social networking sites. "But many teachers already admit to allowing a student to Google something in class during a lesson." Why not embrace the smartphone and make it our friend? "This includes allowing teachers to access their own devices rather than have a policy that prevents it. Part of the learning curve for all of us in the 21st century is how and when to use these devices appropriately."

10. **Enlist the kids.** One of the most underutilized technology resources, said one respondent, is students! "Talk to your students and ask what they would like to do. Many students already use technology far more than their teachers." Let students suggest methods and ways to put your technology to work. As another put it, "Kids are great at finding out what works and what

doesn't for themselves. By turning the technology over to the kids, you can harness their creativity!"

Programs are available to help students join your technology efforts in structured ways. One is MOUSE Squad, a student-driven technical support help desk program
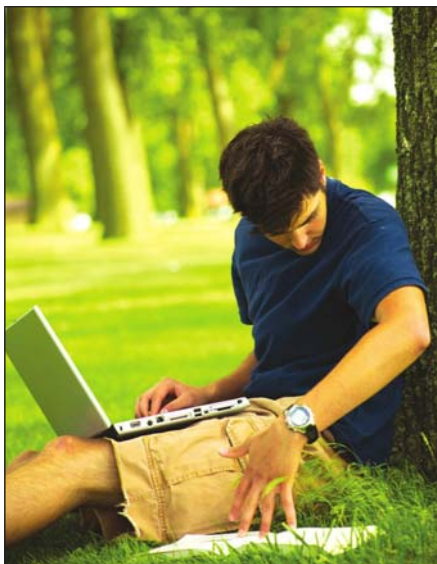
that addresses the technology needs of elementary, middle and high schools. Another is GenYES, a program in which students help teachers use technology in classrooms, supporting effective technology integration school-wide. Research studies have found that GenYES actually changes the way teachers integrate technology in their lessons.

There you have them: 10 ideas distilled from 126 enthusiastic responses to a simple question, "How can schools get more value out of the technology they already have?" To find links to the various programs and references above and to see the full text of all the replies, visit http://portical.org/getmore. ■

A former elementary school principal, Michael Simkins has directed large-scale educational technology projects, including the nationally acclaimed Challenge 2000 Multimedia Project and TICAL. Currently, he is a consultant for clients such as Silicon Valley Education Foundation and ACSA. He also directs the annual Leadership 3.0 Symposium.