How 5 Inspiring Tablet Classrooms Are Changing Education

Special 1-to-1 Issue

PD ON IPADS
Districts are using the tablets to deliver iOS-based professional development to instructors and administrators.

TABLET TEACHERS
We look at creative uses of technology from today’s most innovative educators.

I.T. BEST PRACTICES
CTOs and directors of technology share the lessons they’ve learned in rolling out devices to every student and teacher.

APPS FOR PRINCIPALS
These mission-critical applications keep today’s leaders connected with their colleagues, students and parents.

MDM IN CLASS
New software is helping migrate mobile device management from the IT department to the classroom.

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Rich Boettner, Hilliard City Schools

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1-to-1 for Everyone

Putting devices in the hands of every student and teacher is not about the device or the software — it’s about clearing a path to teaching and learning.

1-TO-1 implementations are cheaper than ever. District tech leaders can choose from a growing field of affordable tablets, laptops and 2-in-1 devices, and the universe of open educational resources continues to expand. This cornucopia of options was evident at the recent ISTE conference in Atlanta. There wasn’t one single “must-have” device or disruptive app; in fact, the most exciting products I saw were device- and platform-agnostic tech tools with a simple goal: making all the pieces of educators’ digital life work together smoothly so that they can focus on teaching.

Since we here at THE Journal share this goal of transforming education through technology, we are dedicating this entire issue to 1-to-1 best practices for teachers, principals and administrators of all stripes. No matter what your job title, 1-to-1 should be your business. A theme that recurs throughout the issue is that 1-to-1 initiatives should not start with a device, but rather with a well-considered plan than engages administrators, teachers, parents and students and can be rolled out in such a way that it doesn’t interrupt, but rather accelerates, learning.

And what happens if there are some, ahem, gaps in the planning? If you’re smart, you go back to the drawing board, as one high-profile district has done. Los Angeles Unified School District, which had been widely criticized for the launch of its ambitious and costly 1-to-1 iPad initiative, announced recently that it is now considering six different devices. And how are they choosing the right one? According to the Los Angeles Times, “Principals selected which device to test for an extended period after getting input from students, parents and teachers — some of whom were part of a review panel that met with vendors and briefly tried out the different computers.” Now that sounds like the way to get a 1-to-1 launch headed in the right direction.

I hope this issue can help make your professional life at least a little bit easier, and if you have the time and inclination, I’d love to hear about your experiences with 1-to-1 computing.
Survey: Parents Look to Teachers for Internet Safety Training
By Dian Schaffhauser

Who’s responsible for making sure students get an education in online safety? According to four out of five teachers, parents are relying on the schools too much in this regard. A recent survey by security company AVG of 1,800 teachers around the world also found that 38 percent of teachers said they believe parents don’t know enough about online safety to be able to teach their own kids.

Two-thirds of respondents said that schools should provide better training on using the Internet as an educational tool; only 28 percent reported that they’ve had formal training. Seventy-seven percent added that Internet safety should show up in the syllabus.

Those numbers are fairly consistent with findings among American teachers specifically. Seventy-five percent said they feel that parents are too dependent on teachers to teach Internet safety; 39 percent said they believe that parents lack an understanding about the subject; 68 percent said they think schools should do a better job of training on Internet use; and 70 percent suggested that Internet safety be part of the school syllabus.

Nearly three-quarters of teachers in the United States reported that they have never had formal Internet safety training themselves, even though 86 percent use Web content in the classroom and 40 percent assign online homework assignments.

Tony Anscombe, AVG’s senior security evangelist, said, “Given the degree to which the Internet is now used as an education tool, many teachers said their schools have put guidelines in place to deal with the most prevalent issues. The gap is that the majority of teachers had not received any formal training in online safety so these guidelines alone are not sufficient. When one in four teachers have had a child come to them with a cyberbullying issue, it is clear to see why more support is needed.” Read the full story.
SETDA Names Board for 2014-2015

The State Educational Technology Directors Association (SETDA) has selected its board of directors and officers for the 2014-2015 year. The Vermont Agency of Education’s Peter Drescher will move from secretary of the board to chair. Carla Wade, of the Oregon Department of Education and previous SETDA board member, will be the new chair-elect. Julia Fallon, from the Washington Office of the Superintendent of Public Instruction, will take on the role of secretary after previously serving as an at-large board member. Emeritus Board Member David Walldon, also of the Washington Office of the Superintendent of Public Instruction, will now serve as treasurer.

At-large board members for the new year include the following:
- New Jersey Department of Education’s Laurence Cocco, who was re-elected for his second term;
- Rick Gaisford, from the Utah State Office of Education, who will continue his term;
- Indiana Department of Education’s Candice Dodson, former co-chair of a standing committee; and
- Lan Neugent, of the Virginia Department of Education, who has previously served as chair of the board and was appointed for the new year “to fulfill an unexpired term,” according to information released by the organization.

“A hallmark of SETDA’s strength is its commitment to state leadership in education,” stated Douglas Levin, SETDA executive director. “The SETDA Board of Directors is excited to work with state and national leaders to advance school improvement and reform efforts in the states through the implementation of smart technology policy and practice.”

America’s Top Young Scientist

Discovery Education and 3M have announced the 10 finalists in the annual Discovery Education 3M Young Scientist Challenge, a competition for students in grades 5 through 8. You can see the list of finalists and their bios here.

After submitting a short video communicating the science behind a possible solution to an everyday problem, the finalists will now have the opportunity to work directly with a 3M scientist during a summer mentorship program where they will be challenged to create an invention that solves a problem in society. Students will meet virtually with their mentors, who will provide guidance as the finalist develops his or her idea from a concept into an actual prototype.

Finalists will then present their inventions at the 3M Innovation Center in St. Paul, MN, on Oct. 13 and 14. The winner will receive $25,000, a student adventure trip to a destination such as Costa Rica and the title of “America’s Top Young Scientist.”
Using the free app Breathe, Think, Do with Sesame, kids can learn to manage everyday frustrations by helping Sesame Street characters learn to tie their shoes, cope with separation anxiety or take turns. Read the full Graphite review.

The free app Super Stretch Yoga HD offers an introduction to fun and easy yoga poses. Kids learn new ways to move their bodies and the importance of combining movement with breathing and relaxation. Read the full Graphite review.

Fizzy’s Lunch Lab Fresh Pick teaches essentials for healthy eating, cooking, grocery shopping and keeping fit. A complement to Fizzy’s Lunch Lab, the free app offers eight elimination challenges. Read the full Graphite review.

The Human Body ($2.99) encourages kids to see skeletal structure, how the brain responds to stimuli or what happens when you eat meat or vegetables. It includes content in 50 languages. Read the full Graphite review.

Filament Learning’s PLE Ex Life Science is a game-based curriculum that is aligned to the Common Core State Standards, Benchmarks for Science Literacy and Next Generation Science Standards. Read the full article.

The Panasonic 3E tablet has an optional detachable keyboard, a 10-inch touch screen and education software. It includes a stylus, an attachable magnifying lens and a temperature probe for lab experiments. Read the full article.

AV & Presentation
- Lightspeed Updates Mobile Manager for Windows 8.1
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- PESA Intros Compact Streaming System
- MimioStudio 11.2 Adds Free Mobile Access

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- CTL Rolling Out Ruggedized Education Chromebook
- Panasonic Debuts 2-in-1 Mobile Device for K-12, Connected Classroom PD Resources
- Android Education Tablets Get Multiple Account Support

Teaching & Learning
- Filament Launches Game-Based Science Curriculum
- zSpace STEM Lab Adds Real-Time Sharing, Physics Simulations, Virtual Circuitry Lab
- KDS Unveils Cloud Teacher Professional Development Platform
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NOW AVAILABLE ON iPad
CLEAR VISION
This past school year, we created a technology task force to figure out where we should be going. The result was to move forward with a 1-to-1 initiative. But what we heard the loudest was that unless you have a strong vision of what you’re trying to accomplish, just buying devices is not going to be a fruitful endeavor. So working with a committee of staff, teachers and principals, we outlined a vision for blended learning as a component of this project.

BLENDED LEARNING FRAMEWORK
We determined that there are seven characteristics of the ideal blended learning classroom. The first two are community mindset and the learning environment: creating a culture in your classroom and then organizing the physical environment to support and encourage that culture. It’s about student choice and voice, empowering students and giving them the opportunities to help drive some of the decisions and the learning. The next two involve instruction and student work, with the focus being on how we can use traditional and digital methods to provide content and resources, and how the students show what they know and understand from the learning. The next is assessment: how we understand where students are and where we need to go with them, and how we personalize learning so that it plays to students’ strengths and meets their needs. And finally, communication and collaboration: how we can use these technology tools to work together toward better outcomes.

PERFORMANCE MATTERS
Performance Matters is our data warehouse assessment system, our tool for enabling teachers to use data to inform instruction. We’ve been working with staff to help them understand how to pull out reports, both for state-mandated assessments and for creating local assessments that allow them to dig deeper into what each student knows and doesn’t know, so that they can make decisions around student learning. In the past, teachers have had to spend so much time creating assessment tools and then going through all of the data trying to pull out meaningful information. With Performance Matters, they can see information on a child with a few clicks. It’s about helping teachers save time on the labor part of assessment so that they can spend more time designing lessons.

TRENDING TEACHERS
One of the things that has become interesting in the last year is the power of Twitter as an application for professional learning. We have for a long time used face-to-face classes, as well as online classes, that are very structured. This past year, we’ve seen an explosion of teachers who are learning from and participating in Twitter chats. Many of them take part in the weekly #hcsdchat, and we also have teachers participating in other chats online. I had a math teacher tell me just recently that they had learned more in the past year from Twitter than in the past number of years in traditional methods of professional development. What that says to me is that each person engages in learning in different ways, and we have to be responsive to that as a district and provide as many different strategies and opportunities for our adults as we do when we try to provide high-quality education to our kids.
iPads Aren’t Just for Students

Districts are using the tablets to deliver iOS-based professional development to instructors and administrators.

A few years ago, districts across the country shared a simple goal: Get iPads into the hands of as many students as possible. With the rollouts complete, early adopters are finding new uses for the tablets, chief among them professional development. Here, we look at how three districts are using the Apple ecosystem to help keep their educators up to speed on technology and teaching.

Flipping and Blending

Charleston County School District (SC) uses iPads to administer flipped PD to its teachers. Kristen Brittingham, the district’s director of personal mastery learning, said, “We give them the content knowledge in advance and then take the PD to a higher level at the face-to-face sessions.”

Brittingham said that her district also uses iPads to deliver blended learning for teachers who are taking recertification and graduate courses. Using Edmodo as a content platform, the district holds face-to-face sessions and supports them with iPad-based learning materials. “We’ll work with teachers for two to three days over the summer,” said Brittingham, “knowing that that they won’t be able to retain everything they’ve learned and/or fully understand it.”

To fill in that gap, Charleston County gathers all of the modules covered during the intensive, multiday sessions and breaks the content down into “mini courses.” For a course on How to Create a Shared Vision, for example, the district has developed an iTunes U course on a dedicated channel it has been using for two years. The course includes pictures of 10 different shared visions, an explanation of the differences among them and the steps required to develop such visions.

Brittingham said that being able to deliver the supporting materials via iOS lets her department take the education deeper, while also providing a refresher
lesson for participants who need it. “It helps us deliver larger chunks of PD that our teachers can go back and review as needed,” she said. Over time, she added, the iTunes U channel has morphed from being a district-led initiative to one that’s largely individualized by the teachers who use it. “Once they download the courses to their iPads,” said Brittingham, “they can pick and choose the handouts, videos, audio, presentations and templates that they need and focus on what’s important to them as individuals.”

Although there was a period of adjustment to iOS-based PD, Brittingham said that now, “Being able to provide electronic resources in a systemic manner has become part of our ongoing support for our school system.” She has seen good results and heard positive feedback from teachers who now have a support mechanism for their PD. “They’re not just sitting in sessions and then walking away and never hearing about the content again,” she said. “Instead, teachers now have the takeaways and materials right at their fingertips when they need them.”

**24/7 Support for Teachers**

Professional development delivered via iOS isn’t limited to the flipped or blended learning environment. In Castle Rock, CO, Douglas County School District deploys on-site PD professionals to come up with innovative ways to deliver instruction to the district’s instructors.

According to Elizabeth Walhof, the district’s professional development coordinator, one such effort found teachers using iPads to create differentiated tasks for the classroom. They shot videos, created iMovie trailers and used other mechanisms to create tasks that allow different students to follow different learning paths. “Teachers loved being able to use technology [tools] within the PD just like they use those lesson for participants who need it. “It helps us deliver larger chunks of PD that our teachers can go back and review as needed,” she said. Over time, she added, the iTunes U channel has morphed from being a district-led initiative to one that’s largely individualized by the teachers who use it. “Once they download the courses to their iPads,” said Brittingham, “they can pick and choose the handouts, videos, audio, presentations and templates that they need and focus on what’s important to them as individuals.”

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tools with their own students,” said Walhof. “They can put themselves in the student’s role and use technology in a similar fashion.”

At Encinitas School District (CA), iPads are playing an increasingly large role in both student and teacher instruction, according to Timothy Baird, superintendent of schools for the K-6 district. Baird said that the district is still in the early stages of adopting the tablets, but asserted that they are already proving useful on both fronts. Right now, for example, the district offers a number of online, cloud-based PD resources that instructors can access, download to their iPads and share with other teachers.

Encinitas School District also offers asynchronous PD and has plans to use webinar-based training in the future. “It’s an area we’re moving into,” said Baird, but for now, the focus is on helping teachers use iPads effectively in the classroom as teaching tools.

Baird said that tech support for teachers has been uploaded to the “district cloud,” and includes live training, documentation and all follow-up materials. If a teacher wants to know more about a specific software program or application, for example, he or she can access screenshots, FAQs and other informational sources in the district cloud. “We see this as a good first step,” said Baird, who added that he has received positive feedback from educators about the cloud resources.

“Some of our principals, teachers and grade-level teams have accessed the information in an on-demand learning format,” said Baird, “and others are downloading the materials to their iPads to access at a later date, share with one another and share with students. There are a lot of options available that we’re only just beginning to explore in the professional development realm.”

**Personalizing PD**

As Encinitas School District progresses out of the “hand-holding” stage and into using more teacher-defined learning, Baird said it will likely combine face-to-face professional development with iOS-based resources that teachers can use to reinforce the PD sessions. “Technology is a great tool for individualizing learning in a way that face-to-face staff development can’t,” said Baird, noting that iOS-based PD is not a one-size-fits-all mechanism for delivering instruction to adults.

Brittingham concurs, counseling districts to include some type of “splash” that hooks the learner and keeps him or her engaged. And, she noted, don’t forget that veteran teachers probably aren’t digital natives and therefore won’t necessarily be compelled to whip out their iPads to study up on professional development topics. “Make sure you’re building the foundational, tech-oriented skills face-to-face,” said Brittingham, “and not just assuming that all of your teachers have them.”

Bridget McCrea is a business and technology writer based in Clearwater, FL.
There’s no one way to use tablets in the classroom. We look at some of the most creative uses from today’s top tablet educators.

BY STEPHEN NOONOO

How 5 Inspiring Tablet Classrooms Are Changing Education

Tablets are everywhere in education these days — or at least it seems that way. Since the release of the original iPad just four years ago, tablets have reached about 3.5 million students, a number that grows every year. But numbers alone don’t tell the story. To find truly innovative uses of tablets, we looked far and wide for groundbreaking educators who have deployed their devices in a variety of environments, from special education to the flipped classroom. Read on to discover how these tech pioneers are using tablets to shape and improve the modern educational experience.
It’s Not About the Device

Who: Shawn McCusker, high school world history and American studies
What: 1-to-1 iPads
When: Since September 2012
Where: William Fremd High School, Palatine, IL
Why the program is effective: McCusker lives by the motto, “It’s not about the device.” To that end, he doesn’t use his iPads to do things in new ways, but rather to do new things in ways not possible before going 1-to-1.

Using cloud collaboration tools like Google Drive and Schoology, McCusker assigns students individual projects that can be evaluated by their peers. “Think back to how much feedback you got on an assignment from a teacher,” he said. “One piece of feedback? Meaning in the whole class, there’s 30. Using technology, I can take the amount of feedback in the class from 30 pieces of individual feedback to 750 individual events of feedback.”

The process, however, is still collaborative, although not in the ways some educators might think. “I think far too many people think that collaboration is work that is done together,” he said. Instead, students spend more time improving their own work and helping others refine theirs. “It’s constructivism that’s not individual,” he said, “It’s community construction.”

When every student is an active researcher, the entire class benefits from this constructivism. Before the iPads, McCusker said, he would typically introduce a total of 75 outside sources to students before the Christmas break. Today, “That’s like five days,” he said. “A year ago before Christmas we had used 5,000. We can collect and process in a two-day period as a class around 100 Web-based academic sources.”

McCusker impresses on students what makes a good source, and using that knowledge, students frequently surprise him with what they bring to the table. Often, his students’ writing is similar to or better than when they were using laptops. “I give zero credence to the concept that the writing that happens on an iPad is less,” he said. “I’ve seen it again and again in schools. You know what’s bad on an iPad? Formatting. But the writing and the words that come out of your mouth are in no way hindered by the device.”

In the end, McCusker believes that the personalized, constructed experiences that students are creating may be leading to deeper learning. “I don’t have concrete assessment data other than final exams,” he said. “But what I can tell you is that my students are way more likely to invoke previous knowledge when it’s knowledge they constructed the meaning for, than they were to evoke knowledge when it was, ‘If you remember back to Mr. McCusker’s eighth slide on his PowerPoint.’ ”

Next year, McCusker will get a chance to put his pedagogical model to the test when he transfers schools and takes up a 1-to-1 program using Chromebooks rather than iPads. “I’m 100 percent certain that I could reproduce the results that I’m having with Chromebooks,” he said. “The things I’m doing are not iPad specific. I work really hard to define what is good learning, not just: ‘Can I use the iPad?’ The things I’m doing are the products of a connected classroom.”

A Special Tablet for Special Ed

Who: Cynthia Valencia-Kimball, second-level speech pathologist
What: A mix of iPads and SmartEdPads, an Android-based tablet for special education
When: iPads since 2010; SmartEdPad starting this year
Where: Valencia-Kimball works with groups of two to three students at Burkholder Middle School, Eldorado High School and Las Vegas High in Clark
**County (NV) School District**

**Why the program is effective:** Valencia-Kimball was one of the first special education educators to jump onboard with tablets back in 2010, when she held her first iPad. The gains in engagement she saw made her an instant convert. “I’ve done this for 40 years and this is the most improvement I’ve seen,” she said.

In the past few years, she has purchased her own iPad for professional use. She works at the secondary level for Clark County and also has private practice where she helps students as young as preschoolers. While not operating in a traditional classroom setting, Valencia-Kimball typically teaches small groups, facing the challenge of providing highly personalized instruction (often based on a student’s IEP) when her time and attention is both split and limited. In addition to working frequently with students on the autism spectrum, Valencia-Kimball sees a lot of articulation, stuttering and language cases. “I need a lot of hands-on materials,” she said, “and tablets certainly meet that bill.”

Beyond her usual work with iPad apps like Proloquo2Go and Kidioms, an idiom-based game, Valencia-Kimball was selected as one of just three teachers in her district (and one of only 500 nationwide) to pilot the SmartEdPad, a tablet customized with special education populations in mind. The tablet comes preloaded with about 150 special ed-specific apps, including its own version of Proloquo2Go.

The tablets allow customization within apps, so that Valencia-Kimball can gear each device for an individual student. Typically, she said, it’s as simple as changing the preferences within each app before she sees a student. This personalized approach has led to solid improvements. “I attribute it to their memory just improving in general, and also they’re more organized because they know which apps they can use,” she said. “You can get to a point where you can actually let them select which ones they want to do, because there’s just a variety of things that are done with each app.”

Those reluctant to speak, for example, can be surprisingly receptive to giving it a try if they’re using technology. “They love it being recorded, hearing themselves on a karaoke machine, and listening to themselves improve,” Valencia-Kimball said. “I’ve had kids speak who have not spoken before. Sign language is not universal, so it’s always better to have a child speak. In fact, I have two selective mutes and one of my selective mute students speaks so much more now that they’ve used these tablets.”

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**Teaching ELL Students Language and Confidence**

**Who:** Erin Whisler, second- and third-grade teacher

**What:** Three iPads per classroom

**When:** Since 2011

**Where:** Wilshire Park Elementary, St. Anthony, MN

**Why the program is effective:** Not every classroom is fortunate enough to be at 1-to-1 quite yet, and for teachers with fewer devices, it’s all about strategic use. Whisler is a looping teacher who sees her students two years in a row. Within her class of 24, she also teaches an ELL cluster of seven students of different ranges and abilities. Two of her students had no previous exposure to English before her class.

During the one-on-one time that she spends with her ELL students, Whisler works with sight-word apps and, frequently, with Explain Everything, which she uses to allow students to visually show their comprehension of a story they’ve just read. “The students would draw a picture of what the students thought happened in the story,” she said, “and they could record their voice, which was really beneficial to my kids who still had limited English skills, and then they were able to present to each other.”
When it comes time for whole-group instruction, Whisler has all of her students follow along with the main lesson as often as possible, but afterward transitions the ELL cluster to the iPad to work on a preassigned task, such as an e-book or an activity on basic literacy apps like VocabularySpellingCity, Word BINGO or Sight Words. “During whole group lessons, I would have [ELLs] read the same story” as other students in the class, Whisler said. “But when it came to comprehension check time, I would have them do something different on their iPads because the comprehension obviously wasn’t there for the grade-level texts.”

Whisler’s ELL students’ results from the end-of-year NWEA assessments showed marked improvement, jumping 47 points — almost 2 1/2 years of growth — in a year. “When they came into second grade, my two ELL kids who didn’t have exposure [to English] scored the lowest possible score on their NWEA assessments in the fall of 2012 — they were below a first-grade level,” Whisler said. “This spring, they are both a few points away from the third-grade benchmark in both math and reading.”

One of the greatest benefits of having the iPads in class has been the level of comfort it has provided these students. “It felt like they had a purpose, especially my ELL kids,” Whisler said. “They knew coming into it that they had a task and they knew that their learning didn’t look the same as everyone else’s, but they were learning.”

In fact, she said, the extra experience with the iPads began to pay off as the year progressed. “They were very proud because they had more experience in the iPads than the other kids did. So when it came time to do something, or to look for an app on the iPad, or to use the camera to hunt for words around the classroom, those kids had the leadership skills to be able to build relationships with the kids in the classroom, even with just the limited English that they had.”

**Transparency and Collaboration**

| Who: Jamie Back, high school math teacher, and Nathan Johnston, eighth-grade science teacher |
| What: 1-to-1 Fujitsu Q702 Windows 8.1 tablet PCs |
| When: Fully 1-to-1 since 1996; 1-to-1 with tablets since 2003 |
| Where: Cincinnati Country Day School (OH) |
| Why the program is effective: The nation’s first fully 1-to-1 school still boasts an impressive tablet program that has created a relaxed culture of familiarity with the technology. “Kids that come into this school learn pretty quickly how to use the computers,” said Johnston. “It just becomes part of the school day and that’s just how you assimilate into the school, by using the computers. It’s just how we teach.” |

Some teachers have used the tablets, which feature a detachable keyboard and full desktop access, to go paperless. Homework and assignments can be completed, submitted and graded right on the devices, often via Microsoft OneNote.

“Grading is so much easier,” said Johnston, who just wrapped up his ninth year of 1-to-1 at the school. “I don’t have to bring home a huge stack of papers. I can just click from one kid to the next, grade, and a lot of times I can get through a whole homework assignment in less than an hour and have those grades automatically sent back to those kids.”

The shared nature of the program allows teachers to track how their students are grasping material without high-stakes assessments. Back said, “If I had a student that was struggling I could go look in their OneNote notebook (because they’re all shared) and be more proactive. It’s a great way to collaborate with students, but also a great way to give them some feedback on what
they’re doing. It’s very transparent, and they know it’s transparent.”

Back, a first-year 1-to-1 teacher, also uses the technology to perform a number of inquiry and investigation activities with her students. During a recent 3D printing exercise, Back had her geometry students design and print a 3D shape. “But I also had them snip a picture of the 3D shape from the software, label dimensions and compute the volume,” she said. Afterward, she had students paste the picture and their annotations directly into their notebooks to study from later. “It’s not just something they’ve done off in a software package in a file they saved that they never look at again,” she said. “It really changes the learning experience.”

Flipping the Classroom to Unleash Creativity

Who: Daniel Welty, 11th-grade physics and astronomy teacher

What: 1-to-1 iPad cart

When: Since spring 2013

Where: Algonquin Regional High School, Northborough, MA

Why the program is effective: Last spring, when he received a technology grant he had applied for, Welty took a big gamble. Starting from almost no classroom technology, in a school without a formalized BYOD or 1-to-1 program, he brought in a full set of classroom iPads, went completely paperless and immediately began flipping the classroom.

“It was a pretty daring venture,” he admitted. “I kind of discovered all this very quickly.” Through his relationships on Twitter, and plenty of encouragement from flipped pioneers, Welty jumped right into creating video lessons and upending the very foundations of his classroom. He stopped lecturing in class. He moved his desk to the back of the room and grouped students in fours at lab tables. Now, he said, “The students are really in control of their learning, and are really very self-directed about it. I do more listening to make sure they’re doing things correctly than interjecting.”

Since Welty prioritizes learning standards, he’s not married to any particular format for lab activities and projects, an approach that has greatly expanded how students are showing mastery. “I wanted to require kids to do one presentation on Book Creator, one on Explain Everything, one on Keynote and to do a podcast,” he said. “Once we got through three-quarters of the year and they learned all the different ways of presenting, then I said, ‘Here’s the set of learning standards, you need to demonstrate to me about mirrors and lenses. Now you can choose how you want to create your product.’ ” The end result is typically narrative and creative, he said, and students are often eager to critique each other’s work.

This year, students also spent a term diving into their passions one day a week in a so-called Genius Hour, based on Google’s famous “20 percent time,” which gives employees time to pursue projects they’re passionate about. Many students began blogs, some of which racked up hundreds of pageviews from around the world — but there were also some surprises. “One student ended up writing a Java program to analyze sound waves,” Welty said. For his final project, the student recorded himself running the program while he played instruments such as a guitar, and held up a drinking glass to show resonance. “That’s something that just completely blew me away. Here’s somebody who is into computers and programming and was able to merge that with physics.”

For next year, Welty is already working on tweaking his teaching approach, and will include a whole semester of Genius Hour time — a student request. “They say you get to know your students better when you flip your classroom,” he said. “It’s definitely true. I feel I have deeper relationships with students.”

Stephen Noonoo is a contributing editor for THE Journal.
7 IT Best Practices for 1-to-1 Districts

CTOs and directors of technology share the lessons they’ve learned in rolling out devices to every student and teacher.

Lenny Schad, chief information technology officer for Houston Independent School District (TX), believes that 1-to-1 initiatives should focus on education, not technology. Plunking devices in front of students won’t do anything to improve learning outcomes unless educators participate in the decision-making and planning process and have sufficient professional development and support to help them make effective use of the devices in the classroom. “This cannot be driven by IT,” Schad said. “When school systems are thinking about going down this path, they really need to think of it as a district initiative that is driven from an instructional perspective. Technology is a key player in that, but it isn’t the primary driver.”

In April, THE Journal featured an article called “9 Lessons From 1-to-1 Pioneers” that provides guidance on implementing a successful 1-to-1 initiative from a curriculum and instruction perspective. However, 1-to-1 most definitely requires IT involvement, whether in implementing adequate network infrastructure and security or providing maintenance and support. This article outlines IT best practices for 1-to-1 as identified by CTOs and directors of technology from five school districts.

1) Size your network for maximum use.

A successful 1-to-1 implementation requires network infrastructure that includes sufficient bandwidth to connect to the Internet and communicate within a single school and among a group of schools — not to mention enough WiFi density to support students’ and teachers’ multiple devices. In an environment where every student could potentially be online simultaneously, that’s a lot of bandwidth and density, and it has to be in place before you roll out the devices.

Scott Smith, chief technology officer of the Sylvia Charp Award-winning Mooresville Graded School District (NC), said, “Kids don’t care whether they’re clicking a full-motion video or they’re opening this tiny little email. When they click on it, they expect it to work, so we need to have the infrastructure in the background that makes sure it works.”
Several organizations — including the Department of Education, SETDA and EducationSuperHighway — offer recommendations on how much bandwidth and density you need. Even if you can’t initially meet these goals, you need to make sure you can ramp up capacity quickly. “Let’s say your ISP drops 100 meg at your door,” said Smith. “What kind of connection did they drop you? Did they drop you copper or fiber? And if you went to them tomorrow and said, ‘Hey, I need to turn this circuit up,’ can they do it or do they have to run new wiring that’s going to take three months?”

If you can’t provide the recommended levels of bandwidth and density, you can use strategies to make the most of what you can afford. Before implementing 1-to-1 at HISD, Schad had a network assessment done. “When we got the results back from the assessment, the recommendation was to scale back, not do all of the high schools at one time,” he said. Based on the district’s existing network capabilities and the work they could do to upgrade before the rollout, they decided to limit the initial implementation to 11 high schools and plan to expand as network upgrades permitted.

2) Use mobile device management.
When you have thousands of mobile devices to maintain, you need an easy way to install new apps, deploy software updates and manage configuration settings on a large scale. Many 1-to-1 districts meet this need by using a mobile device management (MDM) system such as Casper, AirWatch or FileWave. Others use similar tools built into an operating system or student learning platform.

Schad commented, “Automation of this management was something that we really wanted to ensure because we don’t have the manpower to go out to every campus and install or troubleshoot things, so we really needed tools that would allow for automation and streamlining of the maintenance and support.”

Kameron Ball, director of technology at Clinton Public School District (MS), said that strategic use of MDM saved her from having to hire two more staff members. “As we move to online state testing across this nation, I cannot imagine anybody trying to do it without,” she said. “If Java decides they’re going to do an update three days before state tests, how am I going to go update 5,000 devices with a staff of five technicians in three days?”

3) Lock down device images.
Student devices should be locked down to protect them from hacking and reformatting them. According to Schad, no solution is completely bulletproof, but HISD has done as much as possible to lock down the devic-

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4) Use inventory management to track devices.
Inventory management systems enable you to keep
connected to a Starbucks wireless access point or his home one, and then when he tries to go to a website, a little box pops up that says to enter your username and password. And that’s because that signal went back to our district, and then when you successfully enter it, it says, ‘Okay, now you’re under our content filtering, and you can do anything that you’re allowed to do in school.’"

In Houston, Schad said the content filtering depends on the age of the student. “We needed to be able to split our filtering so that there was an elementary filter, a middle school filter and a high school filter,” he said. “When you start doing a lot of Web 2.0 and digital content-based instruction, you need filtering systems that are very dynamic and very flexible because this environment is very fast-paced and it changes a lot. And so we needed to ensure that we had those tools in place that would allow us to keep up with this dynamic environment.”

5) Configure devices to go through content filters on and off campus.

Schools and libraries using E-rate funding are required to comply with the Children’s Internet Protection Act, which stipulates that they use a content filter to deter kids from accessing inappropriate material online. Adam Seldow, executive director of technology at Chesterfield County Public Schools (VA), said that his district uses a network proxy so that, “Every time a student tries to get on the Internet from his machine, whether he’s connected to a Starbucks wireless access point or his home one, and then when he tries to go to a website, a little box pops up that says to enter your username and password. And that’s because that signal went back to our district, and then when you successfully enter it, it says, ‘Okay, now you’re under our content filtering, and you can do anything that you’re allowed to do in school.’”
6) Prepare for device loss and damage.
When thousands of mobile devices are in use throughout a district every day, it’s almost inevitable that a few will get lost, stolen or damaged. Coffman said, “Before you roll out, you have to ask a simple question: What’s an acceptable loss? Most districts or people say that answer is zero, and that’s very unrealistic. So you’ve got to develop that culture that you understand loss is going to occur. Then what you do is manage and mitigate and keep that down as low as possible.”

Some districts prepare for loss or damage by purchasing insurance, some require students to buy into a district-managed device protection plan and some charge students a fee for lost or damaged devices. Ball said, “It definitely depends on your community and the individual district.”

Regardless of which approach you take, it’s important to make those policy decisions before issuing devices to students. “All of these things are up front,” said Seldow. “We can tell the students, ‘If you break it, that’s okay if it was an accident, because we have 100 percent accidental damage warranty on these things. Also, if you lose it, we have a procedure in place where you pay us money and we can get you a new one right away.’ ”

A common practice to reduce the risk of damage is to issue devices with a protective backpack. Ball said, “We bought every kid a backpack with four inches of padding and foam on the inside. And they’re designed for this initiative.” He added that the district taught students “a certain way you put your computer in that pocket, so it protects the display of the device, and teachers correct them if they see them not doing it. And we make sure the kids wear their shoulder straps on both shoulders.” Of the 5,000 mobile devices in Chesterfield County, the district had only six claims against its insurance this year.

7) Provide tech support at the school level.
When students and teachers rely on technology for class activities and assignments, they need to have a working device at all times. If something isn’t working, they need help fixing it as soon as possible. Ball asserts that, “Having on-site, school-based tech support is ideal.”

If a tablet or laptop needs to be repaired or replaced, users need an interim device as soon as possible, too. Some districts keep an excess device inventory of 3 percent to 10 percent; some keep a pool of older devices on hand to provide as loaners while students’ or teachers’ devices are out for repair. Smith commented, “If a kid comes in and there’s a warranty issue on their machine, we copy their files to a loaner and send them back to class. They may be in there 20–30 minutes, and then they’re back in class, so it minimizes that downtime.”

All five CTOs and directors agreed that advance planning is key to a successful 1-to-1 initiative. Schad said, “The thing that people need to understand is, whether you’re a district of one school or a district of 282 schools, these are things that must be considered. Don’t skip steps, because that’s how you get in the paper as being part of a failure.”

Leila Meyer is technology writer based in British Columbia.
15 Apps Every Principal Should Have

Whether fostering collaboration, easing communication or tracking Common Core, these mission-critical applications keep today’s principals connected with their colleagues, students and parents.

There may be hundreds of thousands of apps in the various app stores, but only a minuscule percentage of those are actually useful, and an even smaller percentage are relevant to the job duties of the mobile-minded principal. To help separate the wheat from the chaff, *THE Journal* asked five tech-savvy principals in five different states to reveal their favorite work-related apps. And just to be clear: Candy Crush doesn’t count, even if it does relieve stress after a tough day.

**Augmenting (and Staying Connected With) Reality**

Scott D. Godshalk, principal at 400-student Tohickon Valley Elementary School in Quakertown, PA, indulges his taste for the cutting edge with a free augmented reality app called Aurasma from HP Autonomy. Aurasma’s commercial applications include holding a smartphone over a movie trailer, for example, then watching that picture come to life through the phone with full video.

“This is all about taking a picture, and then creating an aura for that picture, and it’s pretty wild actually,” said Godshalk. “I was trying to come up with a way to create a virtual tour of the building. We have new students coming in frequently, and I thought it would be interesting, because we have a lot of iPads here at school.”

With the help of the Aurasma app, students and parents can take a guided tour of the school. At different points in the school, Godshalk said, “They hold their device, point it at the certain picture, and that picture kind of comes to life on their screen, and there is a teacher describing, in a video — what happens in the physical education classes, for example. They call it a trigger image. As your device recognizes that trigger image, it triggers the video that’s associated with it. As people walk through the school, they can learn more about individuals in our programs through this app.”
While it’s not nearly as exotic, Godshalk said the app he uses the most is Google Drive. Located at the top of his tablet and smartphone displays, the familiar app “drives what I do all day long,” he said. “When I say it’s a basic app, I mean it is a shared document. We deal a lot with online forms and documents. Having everybody with access to these documents has increased our efficiency.”

In the realm of classroom management, Godshalk seeks to help his teachers with the high-tech equivalent of a gold star for students. The free app ClassDojo is essentially a behavior management tool. “Teachers set up this app, and it’s a mechanism to give feedback to students,” he explained. “They bring this up on their computers through the website, but it’s also accessible through iPads and iPhones. When a teacher sees a student doing something that is appropriate, they touch that student’s icon on the iPad, which communicates with the website with an audible sound that is positive. Kids get that feedback up on the screen.

“I started using this in the cafeteria, the bane of every principal’s existence,” continued Godshalk, who is now in his 10th year as Tohickon Valley’s principal. “We had each class in the cafeteria set up with their own little icon, and as they were demonstrating the appropriate behaviors, lunch aides were using iPads and giving points to classes, and they would see and hear the positive signal.”

Preparing for CCSS With Interactive Conversations
Kara M. Butler, principal at 1,400-student Cupertino Middle School in Sunnyvale, CA, keeps her staff on the Common Core track with Common Core Look-fors (CCL4), which is $2.99 on iTunes. The app allows Butler to go into classrooms and make notes about activities connected to the standards.

Butler, now in her ninth year as Cupertino’s principal, said, “I can even
videotape and record things that are happening in the class for posterity, then provide feedback for teachers. All of that goes into a file for me to accumulate information as to what I’m seeing in my classrooms. We can look at specific activities that are happening in the classroom, and how students are responding. It is a great tool to bring together all aspects of observation in the classroom as we are making this transition to Common Core.”

For collaboration during meetings, Butler likes AirBoard by acrossair, a free app that essentially turns a tablet into a whiteboard that can then be projected, creating “interactive conversations.” Butler commented, “I have used AirBoard to work with other middle school principals when we’re having conversations about issues. We will be able to take notes and bring in video so that we’re collaborating even when we can’t necessarily sit in a room together. It’s great for working with the staff as well, because I can capture those notes or the multimedia presentation and push that out to my staff so that everybody has that information.”

Instant Chats, Attendance and Discipline

Nate Pierantoni, assistant principal at the 1,400-student Farmington High School (NM), calls FirstClass (by OpenText) his most indispensable app. The e-mail app enables Pierantoni to hold instant chats with people throughout his entire school network, while allowing direct access to any employee in the 10,000-student district.

“It’s my home base for most of the work I do,” he said. “It’s not exactly the most exciting app, but it’s the first thing I look at when I wake up in the morning and the last thing I look at when I go to bed. I can update my calendar from a classroom while I’m talking to a teacher, and then it shows up in my inbox. I can check other people’s calendars. I couldn’t live without it.”

Like so many administrators, Pierantoni tracks adherence to Common Core standards, in his case with CommonCore (powered by MasteryConnect). “It’s a cool little tool that enables me to look directly into any of the standards that are part of Common Core,” he said. “As someone who must communicate with a lot of different stakeholders, I don’t have it memorized, but I have the Common Core at my fingertips at any time. It’s a great way to help all the stakeholders understand what we are trying to do in education.”

The PowerSchool app by Pearson is another handy tool that helps Pierantoni in the crucial realms of attendance and discipline. The app helps him organize facts such as parents’ phone numbers and students GPAs, addresses and even the buses they take. “It is basically the district’s bank of information,” explained Pierantoni. “If we need to speak with a student because a teacher heard him saying something, no matter where I’m at, I get into PowerSchool, I find this kid, and I have a picture to confirm. I can walk to that class, get the kid, and have that conversation. It’s how I look at what is going on at the campus at all times. It’s super powerful, and I probably log into it at least 50 times a day just on my phone. I probably log in it at least 100 times a day on my laptop.”

For teacher observations, Pierantoni relies on Observation 360 by School Improvement Network. The free app is primed for formal observations, usually on a tablet, with a template for written comments and check-off boxes. “There is also a time stamp where I can enter a note and it automatically tells me that at 9:53 a.m. you walked to the back of the room and started teaching from the back blackboard,” said Pierantoni. “At 10:01 a.m. you moved the kids into a group exercise. It enables me to capture my observations in an easy way.

“Lets say I walk into your classroom and you’re using a reading technique that we know just doesn’t help kids learn,” he continued. “I can direct you through the program to some professional development that might help you understand why a new strategy could be more effective.”
Telling the School’s Story in Pictures
Brad Currie, vice principal at the 1,200-student Black River Middle School in Chester, NJ, loves Animoto, a free app that he said allows administrators to “tell the school’s story visually.” Throughout the week, Currie takes photos of educational experiences at the school. Those pictures get uploaded to social media feeds through Facebook, Twitter and Instagram.

“I will take those pictures and upload them to Animoto,” said Currie. “The app takes your pictures and transforms them into a multimedia presentation with music and effects — like a week in review. We have a smart TV hanging from the hallway that’s connected to my laptop, and I’ll put it up on Friday on the screen where people can play it. I can also put it on our website, or through e-mail or social media. It’s a great way to really capture all the great things that we do in school visually for all stakeholders to see.”

In the never-ending battle to efficiently communicate with different groups of people effectively, Currie uses Remind. When Currie added coaching softball to his duties as vice principal and supervisor of instruction for the district, he used the app to notify parents and players about schedule changes and practices.

“Remind is on your phone, and you’re able to text groups of people, whether they are your players or parents — and they can’t text me back,” he explained. “I can push out the information from an anonymous number. That was useful when I just needed to get out important information to a specific group of people. I piloted it this season with softball, and it’s something I’m looking to use on a much larger scale in school next year.”

Calendars and E-Mail on the Move
Allen Anderson, principal of Palencia Elementary, a 610-student school in St. Augustine, FL, considers the “old reliable” iCal an invaluable tool, no matter which mobile device he is using. Before he used the Web-based calendar to manage his schedule, Anderson would sometimes miss appointments.

“Especially doing classroom observations, I’d get caught up in a lesson, and I would stay too long,” he admitted. “That would make me late for the next observation, which is not respectful of that teacher’s time. I use the alarm feature on the iCal to remind me that I have five minutes left before the next observation.”

Anderson remotely accesses his desktop via smartphone or iPad with SplashTop, an app that works as long as Anderson’s desktop computer is up and running. “Outlook Web Access is another specific app I use because we use Outlook for our e-mail,” he added. “With Pages, I can pull up and type right on my iPad. It has a text-to-talk feature, so I can speak what I want to type, which corrects a lot of misspelled words.”

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MOBILE LEARNING

Leila Meyer

Giving Teachers Control of MDM

New software is helping migrate mobile device management from the IT department to the classroom.

Mobile devices give students instant access to interactive online learning resources, but they also create classroom management challenges for teachers, who can struggle to keep students engaged in the task at hand. Many districts with BYOD or 1-to-1 initiatives have implemented enterprise mobile device management (MDM) tools, such as those from AirWatch, CoSoSys, MaaS360, Lightspeed Systems and MobiControl. IT departments typically employ these products across a district or school and use them to enforce security policies, track and locate devices, and monitor and manage mobile apps. While the IT department is usually in control of enterprise MDM, some tools also give teachers the ability to monitor students’ online activities, restrict access to specific online resources and even reset device pass codes. We interviewed tech leaders at three districts to find out how they are moving MDM into the classroom.

Helping Teachers Focus on Teaching

Calvary Christian High School in Clearwater, FL, became a BYOD school in the 2011-2012 school year. Students were required to bring their own laptops. The school didn’t have the resources to provide any technical support for the devices, and teachers had to do their best to manage devices in the classroom. Jeffery Hutto, technical implementation coordinator for the school, said, “This is our third year, and we’ve realized that the amount of time and energy required for our teachers to manage that process is excessive.” According to Hutto, students were spending class time checking their scores on ESPN, playing games and shopping online. “It was getting to a completely ridiculous level,” he said, “so we needed to stifle that as much as we could.”

The school considered restricting Internet access at the network level, but Hutto said, “Anytime you create more security on the network side, you start blocking access to good things that we actually need our students to access.” The school decided to implement a classroom

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management tool that would give teachers control over the laptops. After an extensive evaluation process, Hutto selected NetSupport School because it supported test proctoring, so teachers could lock down student devices when administering online tests. NetSupport School also supports iPads, which the school plans to implement in the coming years — not to mention that its per-device pricing model was more economical for the school than the per-classroom or per-teacher licenses offered by competitors. NetSupport School will also enable Hutto to provide remote technical support and deploy applications to student devices.

The school is just starting the process of implementing NetSupport School and plans to have it in place for the beginning of the upcoming school year, but the response to the plan has been overwhelmingly positive. “I literally had one teacher jumping up and down with his hands over his head like we had won the Super Bowl,” said Hutto. “The teachers are very encouraged about what this is going to do for them. They’re looking forward to not having to worry about some of these classroom details, so they can just focus on teaching.”

Monitoring a Variety of Devices

Brockport Central School District (NY) supports almost 2,800 student devices, including more than

1,350 classroom PCs, 500 Dell tablets, 390 iPads, 375 netbooks and laptops on carts, another 200 laptops and 80 iPod Touches. Like their counterparts at Calvary Christian High School, teachers at Brockport Central were having trouble managing students’ online activities in the classroom. About eight years ago, the district started using a classroom management tool called Netop School, which was succeeded by Netop Vision Pro a couple of years ago. The new version manages tablets as well as computers. Wayne Rickman, technical administrator for the district, said, “When they came out with Vision Pro, they simplified it and made it easier for teachers to use. It was more icon-based, and now they can access almost everything from one main window.”

The teachers at Brockport Central School District use Netop to monitor and manage mobile devices in their classrooms. For example, in a fifth-grade classroom where the students are working in multiple stations, the teacher can carry her tablet with her as she moves from group to group and keep tabs on the activities of all of the kids at the various stations. Rickman described Vision Pro as providing “an extra pair of eyes for the teacher.”

“When teachers use MDM for monitoring kids that are going out onto websites, a lot of them don’t like it because that’s what they use to bust them, and there’s nothing they can do about it because they can’t block it.” — Wayne Rickman

But according to Rickman, the teachers use Netop even more for whole-class demonstrations, either from the teacher’s computer or a student’s computer. For example, in a technology class when a student has a question about dropping a component into another component, the teacher can display that student’s screen on the Smart Board and demonstrate the explanation to the whole class.

Rickman concluded that teachers love it, but students aren’t as enthusiastic: “When they use it for monitoring kids that are going out onto websites, a lot of them don’t like it because that’s what they use to bust them, and there’s nothing they can do about it because they can’t block it.” On the other hand, he said, students enjoy the demonstration functionality, particularly if the
teacher uses it to show their work to the class.

Keeping Students on Task
Hopkins Public Schools (MN) uses iPads in kindergarten through 12th grade. According to John Wetter, technical services manager for the district, the tablets are intended to encourage student creativity and exploration, but teachers need an MDM tool to help guide the learning. Before implementing iPads, the district had been using Casper Suite, a device-management solution for Mac OS and iOS, to track its inventory and the students assigned to each device, so when the district decided to implement a class-

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VIDEO: Educators and tech specialists from Hopkins Public Schools discuss how giving teachers control over tablets improves instruction. See all this month’s videos.

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According to Wetter, teachers use Casper Focus differently depending on the age group. At the elementary level, he said, “Casper Focus allows them to have that ability to focus the students into a specific task that they’re working on. They do a lot of small group work, so if there are 24 kids in a class the teacher’s going to break them up into three groups of eight students working on different projects and the teacher can focus each group on an iPad app that’s specific to what that group is doing.”

At the junior-high and high-school level, teachers use Casper Focus at the beginning of class to point students to a particular book or app that they’ll be using. “They can walk the kids through it without worrying about students being distracted or doing things that are off-task,” said Wetter. “And then they can just release the focus transparently to allow the kids to use their iPads for the task at hand, but again giving them that creativity and exploration that the iPad enables in the classroom.”

NetSupport School, Netop Vision Pro and Casper Focus are only three classroom MDM tools available on the market. Others include AirWatch Teacher Tools, a companion to AirWatch MDM; LanSchool from Stone-ware; and Smart Sync from Smart Tech, the makers of Smart Boards. Some support a wide variety of devices and platforms, while others are more specialized.

No matter what software a district chooses, Wetter said, “The No. 1 benefit is really classroom management — making sure that the teacher knows that students are on task when they need to be on task. It’s about the teacher being able to manage the iPads without IT intervention.”

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Columbia.