eSCHOOL NEWS

Best Practices
in School Technology Use

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How I turned my classroom into a 'living video game'—and watched achievement soar

By Joli Barker

The notion that struggling and failing is important, even crucial, to learning runs counter to traditional approaches to U.S. education. In fact, failure and its accompanying "F" grade stigmatizes a student as unprepared or "challenged" and is usually seen as a predictor of future failure. In the world of gaming, however, the very elements of struggle, challenge, and failure that discourage kids in the classroom become the primary motivators and drivers of engagement and achievement.

In 2011, after 14 years of teaching, I decided to transform my second grade classroom into a living video game. The inspiration for this was the book, Reality is Broken: Why Games Make Us Better and How They Can Change the World by Jane McGonigal. McGonigal's message is that the monotony of classroom routines can be deadening to kids, that individuals are wired to need brain stimulation, and that even the most straightforward games can provide that.

How to keep the attention of students is an ongoing topic of conversation among educators. But as McGonigal points out, when they're interested in something, kids demonstrate a powerful ability to maintain focus on even the most challenging tasks. Case in point: video games, which are so challenging that players fail 80 percent of the time—and yet are still motivated to persevere. If we can tap into even a fraction of this energy and enthusiasm, I thought, then we can effect the kind of educational transformation called for in the 21st century.

I began the transformation of my classroom by looking at the curriculum and writing storylines that would challenge students to solve science, technology, engineering, and math-related scenarios. For example, one such storyline under the reading content area is, "Explain how two given scientific conclusions are similar, and identify which of the scientists we've studied might have written these conclusions based on textual evidence." A math example storyline is, "How are fractions connected to the concept of multiplication?"

I use QR codes and augmented reality codes to help students move independently from one activity to the next. Kids use cell phones or tablets to scan the barcodes, which take them to websites or instruction pages with directions for the next activity, or to "cheat codes," with strategies to help them solve the "boss-level problem." I even decided to forgo the usual grading system in my classroom, so that as far as the students knew, they were either "Leveling Up!" (proficient) or they needed more practice with "Game Over: Try Again." They stopped defining themselves by grades and saw "try again" as an opportunity to do just that.

In this innovative environment, students are active players in their own educational game. Each player creates an avatar that can be upgraded as students unlock features by mastering skills and levels. For example, when students master their addition fact fluency level, they earn a digital "fact + master" badge. When they master both addition and subtraction fact fluency, they earn a digital "math fact whiz" badge and avatar upgrade—and their digital badges are displayed on their individual Wikispace pages.

Students use Web 2.0 tools such as GoAnimate, Voki, and Xtranormal to create animated videos, speaking avatars, and 3D animated movies to demonstrate learning. Another example of an assessment comes from our recent unit on states of matter. Students were asked to create cartoons using the app ToonTastic, where the main superhero's powers were the characteristics of their chosen state of matter and the arch nemesis was a character who would cause an irreversible change to their superhero (such as fire burning wood).

Technology is an essential and critical component of my classroom and is used in an organic and authentic way: as a tool to find information, synthesize content, and create learning evidence to ultimately "beat the level." Students also use technology to collaborate and discuss what they're learning. Through ePals, individual students are matched up with peers in Egypt, Canada, Germany, and other countries, and on one designated day a week, they have a Skype video conference with their ePal about what they're learning in math, science, or English.

From a teacher's point of view, this method of delivering content requires a letting go of the stage, but not control of the classroom as it might initially seem. The activities are rigorous enough for my second graders to be challenged and engaged, but not so difficult as to frustrate them to the point of quitting. Integrated into this type of learning strategy is an ongoing review of previously learned skills, as point values are given to every activity—and even if kids succeed in "leveling up," they are compelled to return to a previously "mastered" skill activity and try to beat their score.

I spend approximately 30-45 minutes a day in direct whole-class instruction. The rest of the time I am facilitating thinking through monitoring their work, asking pointed guiding questions, or pulling aside small groups and helping students develop skills they will need to advance in the game. It takes more meticulous planning on my part to create the codes and activities that elicit independent thinking and collaborative work, but the payoff in student behavior, self-esteem, motivation, and determination is well worth it.

The results of this innovative approach to learning have far surpassed my expectations. After only three months of the gaming concept, student scores on the Northwest Evaluation Association's Measures of Academic Progress test showed a 71 percent improvement in reading fluency, 58 percent improvement in reading comprehension, and 76 percent overall improvement in math, particularly in problem solving.

Fortune 500 companies are seeking graduates who have empathy and a strong ability to look at a problem from all angles. Our students are learning without us, so we need to be relevant, significant, and inspirational to our students. We need to give them the opportunity to discovery their own gifts and abilities to find solutions to problems, and to discover their independence as thinkers and doers.

Joli Barker is a second grade teacher at Earl H. Slaughter Elementary School in McKinney, Texas. She was recently named TCEA 2013 Classroom Teacher of the Year.

'Formative instruction' is paying off for this New Mexico school

E.G. Ross Elementary seamlessly links instruction, assessment to give teachers a powerful informational tool

A New Mexico elementary school is using clickers and iPads to seamlessly embed formative assessment into daily instruction, with the hope of improving student achievement—and the results have been promising so far.

Since spring 2012, a handful of teachers at E.G. Ross Elementary School in Albuquerque, N.M., have been using Insight 360 from eInstruction, a "formative instruction" system designed to simplify the practice of formative assessment in conjunction with interactive teaching.

Insight 360 gives educators instant feedback on student learning through a suite of mobile devices, software, and content that works with existing technology. The suite includes the Mobi 360 mobile interactive whiteboard, essentially a pen-and-tablet type mouse, that allows educators to control classroom technology while moving around the room and interacting with students during lessons. It also includes Pulse 360 and Spark 360 student response pads, also known as clickers, that let students answer questions and demonstrate their understanding of lessons in real time. A recently released app version allows students to respond using a variety of devices, including smart phones, tablets, or iPads, and is ideal for a "bring your own device" environment.

After seeing a presentation of the clicker technology last spring, teachers at E.G. Ross immediately saw implications for their own teaching practice: They could present content and get immediate feedback from each student seconds later.

"It was very powerful, very eye-opening for us," says Carmen Trujillo, E.G. Ross' instructional coach.

The K-5 elementary school administers three benchmark tests per year as required by the school district, as well as state-mandated tests. The school's average performance on these tests has been low, partly because the curriculum and the standards were so disconnected.

eInstruction's Insight 360 is one piece of the school's plan to raise test scores. As teachers move toward more standards-based instruction, the company's assessment tools are helping teachers know in real time whether students have mastered the content or not.

"eInstruction is making assessments more authentic and connected to our instruction. Our teachers can identify which students 'get it' and which don't—and they can tailor their instruction the next day, immediately," Trujillo says.

Three teachers, one each from kindergarten, second, and fifth grades, began beta-testing the clicker version of Insight 360 last spring. The technology is user-friendly. It works well across grade levels and subject areas. It has made teachers more efficient, and it gives students more authentic opportunities to practice taking assessments, so they are more successful on standardized tests.

By August, the school's "F" score had improved to a "D."

"Can we say it's all due to eInstruction? We don't know," Trujillo says. But "we are very confident that this tool will be very effective at pushing our kids forward."

Embedded assessment

In October, the staff began beta-testing Insight 360's Teacher and Student app version using iPads. That's when

the technology moved from being purely an assessment tool to something more interactive and collaborative.

"Once the app came out, it was, 'Oh my goodness, the possibilities are endless,' in terms of linking instruction and assessment together," Trujillo says. The app works with just about any classroom application, including PowerPoint, Keynote, WorkSpace, and ActivInspire. Teachers can push content to each student's iPad, such as a photo, a movie, a math problem, or a reading passage, and then have students work with the content and answer questions about it.

Teachers also can monitor each student's work on the iPads and know who is struggling. They can pull up an individual student's work and project it to the whole class for discussion and collaboration. The technology works well with all content areas, whether it's learning fractions, phonics, or drawing shapes.

What's more, E.G. Ross teachers now can administer district benchmark assessments using this iPad version, much faster and easier than before. What used to take weeks to accomplish, because each teacher had to assess one or two students at a time, now can be done in a single, simultaneous class session using eInstruction, Trujillo says.

The school has a 30-unit iPad lab, plus every teacher in the school has an iPad. The school is working toward getting an iPad cart for each grade level, so the teachers will have more frequent access to iPad labs—but they are not there yet.

"We are working in baby steps to spread it out to the entire staff, because it is so user-friendly," Trujillo says of the technology. School leaders have given presentations and professional development to teachers interested in using the technology in their classrooms.

"We've had after-school trainings, all-day trainings, a little bit at a time," Trujillo says. "We hope to get it schoolwide in the hands of every single teacher, in the hands of every student, so they can be empowered by their own understanding and move forward."

LINKS:

Insight 360: Free trial version
http://www.einstruction.com/insight360trial

E.G. Ross Elementary School
http://www.egrossrams.com

With flipped learning, how to make sure students are doing the work

In-video quizzes answer the question: 'Who is doing their homework?' and help direct the focus of class

By Stacey Roshan

In the three years that my advanced math classes have been flipped, I have been able to get to know my students, as individuals, better than I have ever been able to before. My goal is always to make the classroom feel a little more like play, while still maintaining rigor. I have found that inverting the traditional classroom dynamic has lowered anxiety levels while increasing student performance. The same is proving true for other teachers around the world. So, why isn't everyone flipping? Simply put, the flipped classroom challenges the dominant format of our education system—lecture delivery—which remains prevalent in the U.S.

Flipped class methods differ, so let me define mine: In my classes, most students watch videos on their laptops (and some on an iPad), at home. When students come to class, we tackle their needs for the day. Often, this means delving deeper into the topic introduced in the video on the board, together. So instead of a one-way lecture, we start with an interactive discussion. From there, students break into groups to work on problems or get their individual needs met. These problems are what they typically would have been left to figure out at home, without any support

But it's not simply: lecture at home on video and homework in class. The most important element, for me, is that the content delivery (a very one-way activity) is sent home to free up classroom time for interactive discussion and problem solving. The most important part of the learning process is what happens in the classroom. And the flipped class allows me to make this a reality. Ultimately, students are more engaged with me and their peers—and knowledge is being transferred among all of us. I'm learning from them as well, often through dialog—how they process information, comprehension, and what they need from me to progress.

If you're concerned that students won't really view video material before class, you can quiz them while they're watching and have the results automatically scored and sent to you in a tidy spreadsheet. Some popular tools, like TechSmith's Camtasia Studio, make it easy to embed quizzes in lesson videos. The educational videos at TED-Ed (http://ed.ted.com) also include this ability.When you set up in-video quizzing, multiple choice, fill-in-the-blank, and short answer questions are available. The benefit of the first two options is that it's an automated, instant measurement. The advantage of the short answer option is the ability to assess beyond initial completion and understanding, and also to ask more inquiry-based questions (which can provide a nice segue into class discussion the following day).In addition to letting students learn at their own pace, in-video quizzing provides a quick snapshot of areas that need more attention across the entire class. With the results from each quiz, you can adjust lesson plans and classroom discussion, group students based on need, and identify necessary one-on-one work with students. This information also can be relayed to parents to share specifics about what a student is struggling to process and their homework habits

While in-video quizzing is one of the most recent and fun things I've discovered lately, it is by no means the only element of flipped classrooms that offers advantages. If you would like to find more ideas for turning your classes into a flipped model, I've found The Flipped Learning Network to be a great source for resources and events, and Edudemic highlights their 10 recommended tools for flipped classrooms.

Stacey Roshan is a math teacher at Bullis School in Potomac, Maryland.

A different kind of 'flipped' learning: Students teaching students

With the help of technology, this fifth grade teacher puts students at the center of the learning process

By Darren 'Mike' McGuire

American philosopher, psychologist, and educational crusader John Dewey often wrote about education reform, and although he died in 1952, several recurrent themes in his writings have special significance for modern teachers.

Dewey continually argued that education and learning were social and interactive processes. He also believed that students thrive in an environment where they are allowed to experience and interact with the curriculum and that all students should have the opportunity to take part in their own learning.

My beliefs as an educator mirror those of Mr. Dewey's: Learning should be centered on the student, not the teacher. And isn't that really what flipped learning is all about? It's about compelling teachers like me to reflect on our practice and rethink how we reach our students. It's about encouraging students to set the pace so that truly individualized instruction takes place. It's about stirring teachers and students alike to change the way they've always done things.

As a teacher at Granby Elementary School in Columbus, Ohio, I orchestrated a more interactive style of instruction, including my own version of reversed teaching methodology—or "flipped instruction"—in which students taught students. This new and improved approach, in which I served as a facilitator rather than a sage on the stage, raised academic outcomes, produced a greater sense of collaboration between classmates, and heightened the level of student engagement.

In 2009, I was given a MimioTeach Interactive Classroom Solution package of interactive teaching technologies. I have to admit, I had no idea how my classroom (or me, for that matter) would be transformed. Previously, I had four older computer models in the classroom, and I was not very tech savvy. But that was then.

Today, my classroom is a technology port that includes my laptop computer and two MimioTeach bars with MimioStudio classroom software. One bar is installed on a large dry erase board at the front of the classroom, turning it into an interactive whiteboard. The second bar is connected to a whiteboard that rotates on a desktop base situated at the back of the room. I also have the MimioView document camera, MimioPad wireless tablet, MimioVote assessment "clickers," and MimioCapture ink recorder.

Technology fascinates my students, but I have to make sure that the lessons I create are also genuinely interesting, so they'll want to become engaged whether I'm teaching language arts, math, or science. Using the interactive whiteboard, for example, forces me to ask myself: What would be the best way to teach this lesson? How can I get the students involved? I'm constantly thinking through these teaching aspects ahead of time.

Between 25 and 30 different students come through my classroom every hour, and getting them involved at the very start of the lesson is vital. So to start, I typically display three questions on the interactive whiteboard at the front of the classroom as the students are walking in and getting settled. I also post their learning targets or questions that will be covered for the day. Both the learning targets and questions get students thinking about what they will learn that day.

During instruction time, my students sit together in groups of six at the whiteboards. Each group also shares a 32-inch computer monitor so they can work more effectively. I use the interactive whiteboard at the front of the class to

demonstrate concepts in ways that will show relevance or add visual interest.

For example, when teaching line plotting in math class, I had students come up and create a pictogram using football helmet images from the software's gallery as the dots. The graphics were far and away more interesting than actual dots on a line, and it made learning math more fun. The interactive whiteboard fits well with this curriculum, and it opens the students' minds to recognizing different ways to solve the same problems.

I also have found that it's essential to include as many activities as I can in which the students come up to the board or operate it with the tablet and conduct the lessons themselves. To tell the truth, my students were more than ready for that change; five minutes after I showed them the technology tools for the first time, they grabbed the pad and stylus and were off and running in the role of instructor. "Flipping" the role and the responsibility of learning over to them has proved to be very successful. This is where technology has become an integral part of teaching and learning for all of us.

My own role is now more of a facilitator while my students collaborate, coach, and instruct each other. I have students tackle problems individually or in small groups. Both methods lead to cooperative and collaborative learning, because after the students have worked through a problem or series of questions, the interactive whiteboards become the focal point for whole-class discussion, review, or re-teaching—providing the perfect venue for the individuals or small groups to present strategies and solutions to help their struggling classmates.

I've found that my students are learning how to be better problem solvers and risk takers. When I'm teaching language arts activities, I can show one student's work to the entire classroom via the document camera and have them suggest ways in which that student could improve. They aren't afraid to toss out ideas they might not previously have shared.

For one class, I even had a student create and teach a grammar lesson on "Me versus I." The others demonstrated their understanding of the concepts by using the clickers to respond to questions. At other times during the lesson, students came to the board to place the correct answer in sentences highlighted on the interactive whiteboard.

It takes courage to get up in front of your classmates and teach them, but it also demonstrates how easy the technologies are to use. It's that ease of use that hooked me, but it's students' deeper comprehension of subject matter that has me most excited.

My students used to memorize materials and promptly forget the information after a test. But with our new building-block approach of teaching, sharing, collaborating, and encouraging everyone to stretch themselves, they're now using previous learning to solve the next set of problems presented. This shows how important it is to put students at the center of their learning experience.

This new teaching style is making an impact on my students' achievement scores. Our Ohio Achievement Test scores rose steadily year over year, from 63 percent proficient to 79 percent in four years. In that last year, 2012, the state average was 66 percent. The difference in my mind was the effective and consistent use of the interactive teaching technologies.

I think John Dewey would approve of this new style of interactive and flipped teaching that I've incorporated and the difference it's made in teaching, learning, and achievement gains. Using technology that allows for cooperation, collaboration, and feedback has played an important role in driving my students' inquiry, discovery, and learning.

Darren 'Mike' McGuire is a fifth grade teacher at Granby Elementary School in Columbus, Ohio.

Don't plan for technology; plan for learning

By Alan November

'Learning design' is a much more comprehensive approach than 'technology.' It immediately implies that we need to make more changes than putting tools into the hands of our students and teachers. We need to reconsider the entire learning ecology. We need deep conversations about assignment design, assessment, locus of control, ethics, relationships, the definition of leadership, and even family involvement.

You never know how someone will react when you suggest that they junk their title and replace it with a new one that leads to a different focus of work—not to mention the confusion this could cause across the faculty, or the possible political tension it might generate.

I was about to suggest that the title "Director of Educational Technology" was too narrow for the scope of the work that needed to be accomplished to improve learning for students at this highly successful International School in Asia where I was consulting.   The traditional title, which focused on the tools themselves, did not convey the complexity of the problem to be solved.

Even if all teachers learned how to use all of the available tools—a nearly impossible and hugely time-consuming task—this might not lead to improved learning. I have watched students in laptop schools sitting in rows, taking notes on their machines from a teacher who is giving a decade-old lecture on an interactive whiteboard. While this kind of implementation might be deemed a success in terms of the technical adoption, it's nothing more than the same script with new tools—and we shouldn't expect any different results. There has to be more to this massive investment than introducing new tools, only to end up with same work.

Don't get me wrong—tools are certainly essential. Let's agree that every student needs a digital device, just as every student once needed a pencil and a notebook. But, just as a better pencil will not lead to improved learning, "better technology" might not, either. If we don't redesign the culture of teaching and learning and ask some fundamental questions about the design of learning environments, our investment in technology will be wasted. Shouldn't we define the problem as a learning design problem, rather than a technology problem?

My client in Asia remained calm and even smiled when I suggested a complete reorganization of his department. His response was, "That makes sense. We should do it." I suggested that he create a new direction for his work, to be reflected in a change to his title—from "Director of Technology" to "Learning Design Facilitator."

"Learning design" is a much more comprehensive approach than "technology." It immediately implies that we need to make more changes than putting tools into the hands of our students and teachers. We need to reconsider the entire learning ecology. We need deep conversations about assignment design, assessment, locus of control, ethics, relationships, the definition of leadership, and even family involvement. Even the design of the furniture, the schedule of the school day, and the role of the library have to be reconsidered. Most important of all, we need to reconsider pedagogy and weigh such options as flipped learning, self-directed learning, online learning, and peer instruction. For states adopting the Common Core standards, there should be an entire initiative of aligning technology resources to the new standards.

One of the most fundamental changes in a Learning Design approach is to shift the questions from "What technology do we need?" to "What information do we need?" and "What relationships do we need?" For example, one of the most important ideas in the research on learning is to make student thinking visible. (See the work of John Hattie, professor of education at the University of Melbourne in Australia.)

Do teachers have all of the information they need at their fingertips to understand how their students think? This is a really important question that can drive a critical strategy for implementing technology. From reading apps such as Subtext, where teachers have access to students' highlights in real time, to collaborative note taking with Google Docs, to students who design screencast tutorials for their classmates, there is a huge opportunity to provide teachers with new sources of information about students' ideas, misconceptions, questions, and links to learning resources. "Making thinking visible" can be a subcommittee of the Learning Design team.

New pedagogies such as flipped learning can free secondary education teachers to work with every student every day, creating new relationships based on support and advocacy while cutting down on punishment for not doing the homework. Peer instruction, pioneered by Harvard Professor Eric Mazur, has proven how much influence students have on each other's academic success. These processes are more important than the technology itself. So, another subcommittee of the Learning Design team could be the pedagogy committee.

While we must ensure that every learner's device is working in a seamless way across a robust network, the really important issues are about learning design, and not the tools. Just shifting our perspective to look at the quality of the information flowing through the wires and the boxes can lead to an improvement in how we invest in technologies. Ensuring that our teachers and students have the right information at the right time is more important than the device itself.

Finally, I have written extensively about the ownership of learning. I remain convinced that this is one of the most important learning design issues. Too much technology is invested in maintaining the locus of control in the organization we call "school." The research shows that unlearning is much more difficult than adding something new.

One of the most important learning design questions is, "What do teachers need to unlearn in order to shift ownership of the learning process to their students?" For example, I believe that in many cases, we should teach students to research their own answers to problems, rather than depend on a teacher to answer the question for them.   I also believe we can empower students to co-create assessments. Whoever "owns" the learning will take more responsibility for its quality.

Alan November is the founder of ed-tech consulting firm November Learning.

Ten keys to a successful school iPad program
By Sam Gliksman

"It is a miracle that curiosity survives formal education. If we are to develop our students' sense of curiosity, we must be mindful to carve out time to allow our students to inquire and explore."—Albert Einstein

It seems that every school is considering purchasing iPads these days, and Apple has reported that iPad sales to schools are currently outpacing MacBook sales by a very large margin. However, the rush to purchase iPads often precedes the careful planning and preparation that are so crucial to their success as educational tools.

It's important for educators to understand that technology alone—no matter how full of potential it may be—is not the answer. Instead, iPads need to be integrated into the 21st-century classroom using a holistic approach. Teachers and administrators should identify the skills and abilities young people will need to succeed in our rapidly changing world and use technology to help students acquire them.

You've seen what kids look like when they handle an iPad—that's what makes these devices ideal teaching aids. With little hesitation, young people jump right in, and within minutes they start drawing, reading, or finding some other activity that motivates, engages, and educates them.

Yes, it's wonderful that kids love iPads, and educators will, too—if they know how to incorporate them into teaching. Having iPads in the classroom won't make much of a long-term impact unless teachers know how to roll them out. Here, I list ten vital components of a successful iPad implementation:

First, determine whether or not you're ready. There's no point in purchasing iPads if you don't have the technical infrastructure to manage and deploy them. I urge educators to consider the following questions:

- Do you have adequate incoming internet bandwidth to connect all the devices and use them at the same time? Remember that you may also need significant upload bandwidth as students start to create and deliver large media files.
- Is your wireless network robust enough to manage and distribute a strong, reliable wireless signal all around campus?
- Do your classrooms have safe, secure locations to store iPads?

Understand and communicate why you want iPads. Yes, iPads are cool and cutting edge, and kids love them. But you'll need to evaluate these devices more closely from an educational perspective and make sure that your entire organization is on the same page before pulling the technology trigger.

You'll need a clearly communicated explanation of how iPad use complements your educational mission, which then needs to be clearly communicated to all the various constituent groups, including teachers, students, parents, directors, and administrators.

Target 21st-century learning objectives. Many teachers, especially older ones, prefer to stick to the methods they have historically found to be successful in the classroom. (Plus, there's a natural human inclination to stay in your comfort zone.) That's why it's so important to target 21st-century learning objectives when developing an iPad program. After all, what point is there in purchasing expensive technology and then using it to reinforce outdated pedagogical practices such as frontal lecturing, content delivery, and drill and practice?

That means integrating multimedia, communication, collaboration, project-based learning, and more.

Develop simple iPad management strategies. As many parents who have left their iPads unsupervised in little hands know, kids can wreak surprising amounts of digital havoc in a short amount of time.

Kids can do anything from making unsupervised purchases to accessing inappropriate online material to damaging the iPad itself. Organizations need to have an iPad management plan that addresses these dangers—and many more—before distributing devices to students. **(See "Three tips for iPad management.")**

Understand that iPads aren't laptops. Many laptop programs use network servers and domain logins that also set permissions. Laptops are controlled, and administrators can often view screen activity. It's important to remember that iPads are not laptops. There's no login, and the ability to secure and control them is minimal.

If you're using iPads, utilize their unique assets. Look for ways to take advantage of their mobility, built-in camera, microphone, video, and so on. If monitoring and controlling activities are important criteria to you, it may be advisable to consider staying with laptops.

Don't be overcome by "There's an App for That" Syndrome. You hear it all the time: "There's an app for that." (And often, it's true.) One of the biggest mistakes teachers make is to constantly search for apps that directly address specific curriculum content—everything from 20th-century American history to the geography of Utah. Many great apps exist, but the real benefit comes from viewing iPads as tools that can be used as part of the learning process, not as replacement teachers.

Encourage students to create mock interviews with famous historic figures, explain scientific phenomenon with stop-motion animation, create podcasts for the school community, practice and record speech in a foreign language, create a screencast to explain a principle in algebra, and more. Given the opportunity, students will naturally gravitate toward creative and innovative iPad use if allowed to use it as a learning tool.

Know that "share and share alike" doesn't work with iPads. You learned the value of sharing all the way back in preschool. Although it may be an important life guideline, you need to forget all about sharing when it comes to using iPads in school. iPads are designed to be personal devices; you need to protect your user login and all of your personal data and files. Sharing them will create huge privacy and security issues.

I generally push for one-to-one deployment of iPads from fourth grade upward. If that causes financial concerns, you need to discuss those concerns and either scale down your deployment or consider an alternative approach, such as allowing children to bring their own devices to school—which comes with its own set of problems, especially for families who can't afford them. But sharing at upper grade levels isn't the solution.

Build an ongoing training and support structure. Deploying iPads is a major step toward addressing the learning needs of 21st-century students. It also involves a major change in school culture, which will require adequate training and support.

It's important to understand that "training" doesn't mean setting aside one day at the start of the year and bringing someone into the school for a half-day workshop. Schedule time for ongoing training sessions throughout the year. Develop teacher support groups within your school and with other schools, where teachers can exchange experiences, share their successes, and learn from each other.

Connect online. Don't use your school's iPads in a vacuum! The web has many helpful resources, and I urge you to take advantage of them. You can easily connect and benefit from the knowledge and experience of other teachers. Join Twitter (www.twitter.com) or sites such as the iPads in Education network (http://iPadEducators.ning.com).

Enable the unpredictable. Technology is most effective when used as a tool for student empowerment. Don't expect to control every aspect of the students' learning, and don't feel the need to always be the expert.

For the current generation of kids, technology is a canvas with limitless possibilities. Give them the freedom to paint their own masterpieces!

Despite the potential of technology use, all education shouldn't revolve around it. After all, there's no doubting the importance of using crayons and paints. Getting your hands dirty planting in a garden is an extremely valuable edu-

cational experience, and how can you ever replace the experience of having a teacher or parent read to a child? Remember that wise technology use sometimes means knowing when to put it away.

Still, well-planned technology deployments can be tremendously successful and transformative for schools and students. Given the freedom to explore and express themselves, students can be wonderfully creative and imaginative with technology.

Sam Gliksman is the author of iPad in Education For Dummies®. He has been leading technology applications in business and education for over 25 years. As an independent educational technology consultant, he advises educators on how to integrate technology into learning initiatives. Sam leads the iPads in Education community, http://ipadeducators.ning.com/.

How we created an app for our district— and why you should, too

Parents, teachers, and students are going mobile. Don't let your district get left behind.

By Steve Young

We've all heard the news and seen the numbers. Mobile technology is everywhere, connecting billions of people through smart phones, apps, and tablets—and the industry is growing exponentially. The education sector is mirroring this trend, with tablets replacing textbooks and smart phones appearing in the backpacks of students as early as elementary school.

My school district, Judson ISD in San Antonio, is no exception. When we discovered that more than 10 percent of our website traffic came directly from mobile devices, we decided it was time to go mobile. I got together with a couple of staff members and, in no time, we created a custom Judson ISD Connect mobile app to give students, parents, and teachers a way to stay in touch and access our site's information from anywhere, at any time.

Why an app?

People are increasingly consuming the web through their smart phones, and mobile apps offer more convenience when navigating the web through a mobile device. The app we created makes it easy for members of our school community to access all the information they need about our district—school events, news, photos, etc.—wherever they may be at the moment. Creating the app was simple and cost-effective, which we all know is a major factor considering school budgets and limited resources.

How do you create one?

The decision to create an app is an easy one—and thanks to many of the tools readily available on the web, developing it doesn't have to be difficult, either. With app-creation tools like Conduit Mobile, School Connect, or Apps Builder, any district can replicate our process at Judson to reach an increasingly mobile constituency.

Of course, if your school has the staff and resources, it's possible to develop a mobile app from scratch. But there are several advantages to using a web-based tool. After looking into the options out there, we chose to go with Conduit Mobile, which didn't require us to hire a programmer to develop the app or IT personnel to maintain it. Conduit Mobile's platform and similar tools allow you to make changes to your app quickly, so you don't need any prior knowledge of coding every time you'd like to edit or add new features. They also sync to existing content, so you can easily transfer and link information from your district's Facebook Page, Twitter, RSS feeds, and other content. When you update any of these social media sites, your app will automatically reflect that information, keeping the content fresh at all times.

Once you've created the app, the final step before it can be downloaded is to publish to the app stores: the Apple App Store for iPhones and iPads, and Google Play for Android devices. This process can be slightly confusing (especially for Apple) and does have a fee to open an account ($99 for Apple and $25 for Google).To save ourselves the time and hassle of dealing with the stores ourselves, we chose to use Conduit Mobile's app submission service. We just had to open a developer's account for each store, and their team did the rest of the paperwork for us. As soon as you get the approval, which can take up to two weeks for Apple, your app is on the market and available for download—but your journey doesn't stop there.

Engaging your district—and beyond

An app on its own is just a tool. An app that your district will want to download, use, and continue to access daily depends on maintaining relevant information and regular updates that align with new developments happening at your schools. The Judson ISD Connect app includes features that share fresh content, including our events calendars and sports schedules, providing an extra incentive for downloading it and using it frequently. We can also send push notifications to remind parents and students about field trips, special projects, and upcoming events.

As the popularity of our app grew, we continued adding new features based on feedback from students, parents, and teachers. One of the favorites is the Parent Center, where parents and students can check grades, attendance, meal balances, library books, discipline data, and transportation information. Another valuable feature is the bully reporting system, which allows students and teachers to anonymously report instances of bullying from their phones. These features added a lot of value to our app and they have won us awards for their ingenuity.

The Judson ISD Connect app is comprehensive, but every district has different needs. When you create a custom app, you decide what features are right for your school community. Perhaps it makes more sense for you to create a distinct app for the various school programs or extracurricular activities, like athletics, music, or the school paper. The possibilities are only limited by your creativity and imagination. As long as you have new information to share with your community, keeping your app users engaged is quite easy.

Get started

Recent reports claim that by the end of 2013, smart phones, tablets, laptops and other internet-capable mobile devices will exceed the number of humans on earth. Educators continuously face the challenge of keeping parents and the greater school community involved and informed, so it's crucial for schools to have the ability to connect with parents and students where they are most accessible—which is on their phones. Creating an app is a simple, inexpensive, and most of all, an effective way to communicate all the hard work, activity, and achievements happening at schools today.

Steve Young is the Chief Technology Officer at Judson Independent School District in San Antonio, Texas. His app, Judson ISD Connect, was created using the Conduit Mobile platform and has won several accolades, including a Webby Award, Lovie Award, and Horizon Interactive Award.

RESOURCES:

Conduit Mobile
http://mobile.conduit.com/

School Connect
 http://www.schoolconnectapps.com/

AppsBuilder
http://www.apps-builder.com/en/home

New yearbook model is a win for students—and schools

TreeRing's on-demand digital printing eliminates minimum orders and allows customization for each student

By Ryan Novack

Yearbooks are a time capsule, a kind of gift to the future version of you. From time to time, I open my old yearbooks and, as I flip through pictures of skinnier versions of my friends and myself, I can practically hear the sounds and see the sights of a slightly idealistic version of my experience from high school days.

From my perspective as yearbook editor at San Francisco's George Washington High School, the yearbook should be a reflection of equity in every way. Every student should have access to the yearbook, and every student should be in the yearbook—beyond his or her school photo. However, with the cost of yearbooks so high, not every student is able to purchase a yearbook. Furthermore, no matter how hard the teacher and the yearbook class tries to police it, with big schools such as ours, some students just don't make it into the publication.

Something I did not realize until I became a high school teacher is that yearbooks also can be a gigantic burden on the economics of the school. Many of the large companies that print yearbooks put extreme demands on schools to purchase a minimum number of books, often many more than the school can sell. On top of this, there are fees that are tacked on for everything from shipping to missing deadlines throughout the year. This can put the school in extreme debt. The yearbook companies often "make a deal" with the schools by saying they will relieve some of the owed balance if the school commits to another year with their company. What this does is create a vicious cycle in which the school is beholden to a company whose business plan is to keep vulnerable public schools under their thumb—and in debt.

Watching the way we have to hustle for every bit of funding, while our budgets often force us to lay teachers off at the end of each year, this business plan on behalf of the big yearbook companies seems like a sin and is akin to economic bullying.

When I took over the yearbook class last year, I was given two things: the bill from the yearbook company for $50,000 and a closet of unsold yearbooks. Before I took over the class, I had made it clear that I would only do it if we dropped the old-fashioned yearbook company and looked for a new solution. My principal agreed and was not offered the "deal" that the yearbook company would have given us to renew our agreement. Instead, she has diligently been paying the company in increments—because when you are public school in California, it's not easy to come up with "extra money," and a bill for $50,000 might as well be a bill for $1,000,000.

I had heard through a friend about TreeRing, a yearbook company that charges no fees, requires no minimum orders and, because they print from a digital file, can print books to order—eliminating the need for any pre-orders and leftover yearbooks.

The other big companies typically print their books using an "offset" system, meaning that, once they print an order, the yearbook cannot be reproduced. That also means that, if a student wants a yearbook later in life, or if the yearbooks had sold out, the students were out of luck and couldn't get another copy.

This year, we had presales throughout the year, so the students could get their yearbooks at a lower price—and then at the end of the year, we ordered some extra yearbooks for the students who did not participate in the presale. I was conservative with the amount I bought, because I did not want to add to the stack of unsold books in my classroom's closet. I bought 60 books, and these books sold out very quickly. I had a few students who were not able to

get their yearbooks on the day that everybody else got theirs, but instead had to go online and order their yearbooks. Regardless, everybody got their yearbooks before graduation—and by the final week of school, each break in my English class became a flurry of passing yearbooks back and forth for students to emote their promises to one another in brightly colored pens.

Still, there were students who could not afford a yearbook—and this is a problem. An idea that we hope to implement in the future is to produce a primary yearbook, incorporating all sports, activities, and photos from all grade levels in our high school, and then three smaller, or "supplemental," yearbooks for the 9th through 11th graders. This means that each grade level would have a book dedicated solely to their class, with that grade level's activities, sports, and class photos.

Granted, this would be more work for the students, but it would allow for each student to be represented in the yearbook, while offering the students in the school more choice to match their needs. More importantly, because the supplemental yearbooks would contain fewer pages than the primary yearbook, they would be significantly less expensive—and the chance of getting every student a yearbook would increase greatly. While creating supplemental yearbooks would be a possibility on the other yearbook companies' software, the demands of preorders and extra fees would cause too much of a risk for the school and would not be a wise risk to take.

TreeRing also offers a social media platform where students and parents can join the site and then upload and share photos with other members and the yearbook team. Before they order their books, the students have the option to create customizable pages, which are placed in the back of the yearbook.

We rolled out the social media aspect slowly in our first year, allowing for the yearbook team to test it out before we implement it school-wide next year. It was interesting to see my students, who had been so hard at work and so stressed out about building the yearbook, take the time to upload their own pictures. They were able to take the photos they uploaded and build customizable pages to be placed in the back of their books. When the students finally received their yearbooks at the end of the year, they all skipped to the back to ogle at their own pages. It was obvious that this was their yearbook and not simply the yearbook.

My experience has been that everybody is happy: the students who customized their own yearbooks were thrilled and had fun in the process; the students who did not take advantage of the presales were happy with the option to buy their books online; and my school was happy that we left this year without contributing to the debt.

Ryan Novack is an English teacher and yearbook editor at George Washington High School in San Francisco.