Emerging Tech: The Only Constant is Change

In this Issue

Augmented Reality - It’s Really Here!

Predictive Analytics and Graphine

Ensuring Test Readiness in 2014-15

Coding in the Classroom

...and MORE!
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Igniting Learning Through Meaningful Collaboration And Innovation

Founded 1975

An organizational member of
The International Society for Technology in Education

MACUL is a 501 (c) (3) non-profit organization that exists to:

■ provide a state association for educators involved with, or seeking knowledge of, computer-related technology in learning
■ provide for the sharing and exchanging of ideas, techniques, materials, and procedures for the use of computer-related technology through conferences, publications and support services
■ promote and encourage effective, ethical and equitable use of computer-related technology in learning
■ encourage and support research relating to the use of computer-related technology in learning.

E-mail address: macul@macul.org

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Use the online digital MACUL Journal
www.macul.org/maculjournal/

Download the complete PDF, or access the online Journal from the MACUL website. These formats give the reader direct access to live resource links in the articles.

Share the MACUL Journal with your colleagues!

MACUL Calendar of Important Dates 2014 - 2015

August 2014: BEST OF MACUL
Information: www.macul.org/otherevents/best-of-macul/
August 8 REMC 17 - Oakland Schools, Waterford
August 13 REMC 20 - Wayne RESA, Detroit
August 21 MACUL Journal 2015 Winter issue articles due: Personal Learning Networks

September 2014
September 16 MACUL Board & SIG meeting, Location TBD

October 2014
October 21 MACUL Board & SIG meeting, Location TBD

November 2014
November 3-4 Michigan Summit featuring Google for Education, Brighton High School
November 17 MACUL Journal 2015 Spring issue articles due: a Culture of Collaboration
November 18 MACUL Board meeting, MACUL Building, Lansing

December 2014
December 3 AT&T/MACUL Student Technology Showcase, Capitol Bldg, Lansing
December 16 MACUL Board meeting, Conference Call

January 2015
January 20 MACUL Board & SIG meeting, Location TBD

February 2015
February 9 MACUL Journal 2015 Summer issue articles due
February 17 MACUL Board meeting, MACUL Building, Lansing

March 2015
March 18-20 MACUL Conference, Detroit, MI: a Culture of Collaboration

April 2015
April 17 Mobile Learning Conference, Kalamazoo RESA
April 21 MACUL Board meeting, MACUL Building, Lansing

May 2015
May 1 Upper Peninsula MACUL Conference, Kingsford High School, Breitung Township School District
May 17-19 MACUL Leadership Retreat, Grand Rapids
May 22 MACUL Journal 2015 Fall issue articles due

June 2015
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What an Honor!
My first exposure to MACUL was like many, through the main Conference in March. I won’t date myself by saying which year, but it certainly changed the course of my career. Little did I know that I would one day have the incredible honor to be President of this 14,000+ member association. I can’t wait to see what this year will hold!

At that first MACUL Conference, my principal and I sat in the lounge area of the Amway Grand Hotel and dreamed of what our district instructional technology could become. We did not have any paper so we scribbled on bar napkins. No kidding, I still have those napkins and every once in a while I look at them and smile. Education and the integration of technology have come a long way since then, but the basic premise is the same:

Technology should improve the way we teach and learn.

As an Instructional Technology Coordinator for a district, I often have to wade through tools and resources to find the ones that will be the most beneficial in our classrooms. Many times, my journey starts with one of the rich resources MACUL has to offer.

My challenge to you this school year is to take some time to learn about all of the great things going on in our organization. If you don’t know where to start, try one of these MACUL resources:

Start a Twitter account and follow the #macul or #macul14 hashtags. These conversations have been great since our last conference, and they will lead you to a lot of other great Ed Tech Leaders.

What an Honor continued on page 30

Going Back to Go Forward
How do you write a story about leaving “home” nearly 30 years ago, taking an eclectic path, only to find out that the journey brings you back home? My hope is that the story that follows will connect each of you to the dynamic path that gave emergence to my selection as next the Executive Director of MACUL.

At the age of 9, in the heart 3rd Grade at Chestnut Hill Elementary School in Midland, my dad told the family he was seeking a new path. Okay. No worries. Then he told he us it was in Virginia. I learned the tag line “things change” and “a new direction has emerged” quickly. So off to Virginia we went, me still longing for Michigan summers, my Michigan sports teams and that amazing fort we had just built in the backyard.

As life moved on, in very short order new friends were made, new teachers entered the picture and new technologies were born – think high school kid with his first Nintendo!!! Then as most high school seniors ask themselves, what is next?

I decided on a brand new program at James Madison University (JMU) that was focused on integrating science and technology. I continued the trend: another new path, new program and new approach.

As a college freshmen at JMU, I was selected to participate in a program called “Emerging Leaders” and I remember thinking it was a huge honor and yet another new opportunity. As graduation approached, I realized two things: I was the first in my family to graduate from a 4-year college and there was that question again, what was next?

I chose law school at the University of Dayton to focus on Intellectual Property

Going Back continued on page 30
This year, the MACUL organization was kind enough to grant me, as a board member, the Educational Policy Fellowship Program (EPFP) through Michigan State University. The EPFP program is a long standing one, and a place where people related to education go and learn more about educational policy. My biggest take-away from this amazing experience was that every educator in Michigan should become an EPFP fellow.

The basis of the organization, run through the K-12 outreach program at MSU, is to get people in education as many experiences as possible to learn about policy. Policy is a tricky animal, and if you follow any educational issues in the present, you know that many ideas are in the minds of legislators, educators, and the general public. These ideas need to get to the point of becoming either general policy, or even legislation, and that is where the true learning begins.

Throughout the year we had state senators and state representatives come and speak to us, as well as other governmental officials, consultants for both major political parties, and presentations from our own group of fellows on a variety of issues. The topics ranged from zero tolerance, federal equity, and assessment to parental involvement in policy advocacy. Meeting at least once a month from September to May, gave us a great deal of exposure of what was happening in government.

One of the last few times we met, we were able to travel to Washington D. C. and meet with other EPFP groups from around the country, working together to learn more about national issues. The theme for the 4-day workshop was Equity in Education, and for the entire time speakers focused on this important issue. We also were able to travel to the Capitol and meet with representatives and our retiring senator to discuss this focus on education and equity. Later in this month (May) we will travel to Michigan’s capitol and have similar experiences with a State focus.

In closing if you, as an educator, are ever afforded the opportunity to become an EPFP fellow, I highly encourage you to do so. Another added benefit of becoming a fellow is that you are together with (in our case 35) other people in Educational related fields, and you make new friends with a common interest. Why things happen in education is important for an educator to understand, and having an insider’s knowledge of this process, will help you as an educator in the future.

Thank you MACUL organization for affording me this wonderful opportunity, and I look forward to meeting other people who become EPFP fellows, knowing we have a common bond in education.

Tim Davis is the Charlevoix-Emmet ISD Technology Coordinator and Director for REMC 2N. He currently serves on the TRIG Steering Committee and MACUL Board of Directors. Tim is the REMC Association Past President and can be reached at: davist@charemisd.org.
Real-time mobile connectivity has created monumental changes in how we use technology to communicate. "Smart devices" are changing all aspects of our daily lives in part because of the intelligence built into the systems. You can ask a question of your phone and get an answer. You don't even have to ask to see where you are with GPS. Devices and applications work on your behalf, tracking your time, logging your activity, graphing your progress—whether it's your workout routine, your diet or your coursework. What's the next big thing in educational technology? I am betting on predictive analytics and graphene.

**Predictive Analytics** Going forward we will see tremendous improvements in how individual student data is collected and used in K-12 education. Unfortunately, current barriers related to accessibility, timeliness and granularity of student information limit educators' ability to use the "numbers" to pinpoint academic challenges and identify targeted solutions in real time. One of the most exciting developments in education is the ongoing refinement of predictive analytical tools that can be used to make sophisticated decisions about learning gaps, instructional strategies and prescriptive learning assets.

I believe predictive analytics will be a core element of public education in the near future. According to Wikipedia, predictive analytics is based on statistical techniques that analyze current and historical facts to predict the future. In business, predictive models exploit patterns found in historical and transactional data to identify risks and opportunities. Models capture relationships among many factors to allow assessment of risk or potential associated with a particular set of conditions, guiding decision making. One of the most well-known applications is credit scoring—which is used throughout financial services. Scoring models process a customer's credit history, loan application, customer data, etc., in order to rank-order individuals by their likelihood of making future credit payments on time.

The biggest game changer in educational technology may come from one of the nation's largest online retailers, Amazon. One can argue that Amazon has become the best at using data to make decisions to better serve their customers. I recently spoke with executives from Amazon, and they confirmed their interest in using intelligent data tools to transform K-12 education the same way they have changed the traditional retail market. Amazon is currently working on a plan that will ship products to customers before they purchase them because of their anticipatory analytics based on customers' previous shopping habits. Can you imagine getting a pair of shoes, new golf clubs or a book delivered to your home that you like and want to purchase but did not order? This concept takes predictive analytics to another level. Public education will be transformed if we can harness the power of these kinds of tools to make intelligent decisions about teaching and learning at the individual student level. We don't need more data in public education, we need more efficient access to meaningful information that can guide decision making in...
real time to help each student reach their potential. Sophisticated analytics can help schools:

- Pinpoint individual learning gaps
- Measure academic progress of groups and subgroups
- Assess the impact of instructional strategies
- Predict student performance
- Personalize learning for each student
- Identify students at-risk and recommend remediation strategies

The advantages of predictive analytics in education are yet to be fully realized, but hold significant promise in changing the landscape for students, parents and educators.

**Graphene:** Do you remember the popular 1967 film *The Graduate*? Actor Dustin Hoffman played a recent college student who was uncertain about his future. In this 20th century classic film, one of the characters gives Hoffman advice on the future with one word: “Plastics.” Today, the buzz is on a new material that will transform our world in ways we can't fully predict. With a weight, strength and density possibly imagined by science fiction writers decades ago, graphene may influence the makeup of a generation of devices and how those devices communicate with the user and each other.

In 2010, physicists Andre Geim and Konstantin Novoselov received the Nobel Prize for their experiments with graphene. Researchers, physicists and engineers continue to investigate the capacity of this material that is an atom thick but stronger than steel and can conduct electricity and heat. Sensors are being developed out of graphene, as are nano-antennas, nano-transmitters, and nano-receivers; and experiments integrating graphene electronics with biological systems are taking place.

Graphene is likely to be part of increasing the speed of electronic communications, decreasing the energy required to power devices, and developing new means of sharing information. Can you imagine wearable computers or molecular-sized devices in your body that monitor your health and communicate updates to your family doctor on an ongoing basis? Sounds scary and exciting at the same time.

Each innovation raises our expectations about what technology can do for us. From floppy disks to the cloud, desktop computers to tablets, silicon to graphene, trends continue to point to more affordable and powerful tools that are sure to change how we live work and learn. Today's technologies have expanded our capacity to engage students in learning in a way John Dewey could never have imagined.

What are your bets for the future and how do you think these developments will shape the future of education? I would love to hear your thoughts. Please email me at jfitz@mivu.org.

**By John Sowash**

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**2014 GOOGLE SUMMIT QUICK FACTS**

**What: Michigan Google conference for educators featuring applications, tips, and management strategies for web-based tools created by Google.**

**When: November 3-4, 2014 • Time: 8:30 - 4:00pm**

**Where:** Brighton High School, 7878 Brighton Road, Brighton, MI 48116.

**Cost:** Pre-Conference Workshops (Nov. 3): $50 (half-day sessions), $85 (full-day sessions) - Conference (Nov. 4): $65/person - Register: www.miedtech.com

SCECH credit available.

**Macul Michigan Summit Featuring Google for Education**

Mark your calendar for November 3-4, 2014 for the third annual Michigan Summit featuring Google for Education (#miGoogle)! Each year the Michigan Google conference has doubled in size; the 2014 conference will be the biggest and best yet! Take part in the top Google-focused event in Michigan!

The November 3 preconference will feature an exciting selection of extended deep-dive sessions on Google Drive, Chromebooks, Google Play for Education and more. You can also participate in the Certification Academy on your way to becoming a Google Education Certified Trainer! A list of topics and presenters can be found at www.miedtech.com.

After the preconference sessions, join us for a meet-up of the brightest technology using educators in Michigan: Tuesday evening from 7-9pm.

Tuesday, November 4 will feature an opening keynote followed by 50+ concurrent breakout sessions on every imaginable topic—from Google Maps, Sites, Chromebooks, to Google Classroom and more. Sessions will be available at a variety of experience levels.

The November 4 conference day will be concluded with a high-energy competitive demo slam pitting 10 presenters against one another to showcase their best Google tips, tricks, and hacks. Don't miss it!

The Michigan Google Summit is co-sponsored by Google, MACUL, and Brighton Area Schools. Visit www.miedtech.com for conference details and to register. Large groups registration (10 or more) can be accommodated by contacting Ieva Kule at ieva.kule@macul.org

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**Stay Up to date - follow #migoogle on Twitter, Google+, Instagram, and Facebook!**
Students in Michigan will begin taking their standardized assessments online in 2014-15. Gone will be the days of penciling in the circles in a bubble sheet and handwritten essays.

It is critical for students to be proficient in a number of technology skills before taking the online assessments. The purpose of the assessments is determining the student's mastery of their subjects not their technology abilities. Lack of technology skills could negatively impact a student's performance on a next generation assessment, and not give a true measure of their subject knowledge.

The Technology Readiness Infrastructure Grant (TRIG) Classroom Readiness Activity was awarded to ensure that students are ready for the online assessments by providing their teachers the resources to assist the students to prepare for the next generation assessment. It is essential that all districts create a plan for test readiness and be prepared for the next generation online assessments.

The goal for Classroom Readiness is to build the capacity of Michigan educators to effectively plan and implement online assessments and “Any Time, Any Place, Any Way, Any Pace” learning through increasing technology proficiency.

Classroom Readiness completed their first year of the pilot in June 2014. Using a train-the-trainer model, this project provided collaboration opportunities for a statewide professional development network of K-12 educators with a training ground and resource base to improve technology proficiency and local district readiness for online assessments.

Eighteen Regional Coordinators were hired to support educators in the 5 TRIG consortia. The Regional Coordinators worked with 2+ coaches in each of the 125 districts that were part of the pilot. As it is a train-the-trainer model, the Regional Coordinators brought the local district coaches to three face-to-face trainings and held monthly virtual meetings to support the work of the coaches with their colleagues.

The local district coaches worked with 4000 teachers in the 2013-14 pilot. A course called Teacher Technology Training (T3) was created to provide coaches the resources necessary to assist with tech readiness.

Learning Objectives of the T3 Course:
- Know how to access the resources available to educators in Michigan to assist with tech readiness
- Understand how to use the materials and resources available in this course
- Make connections with a variety of educational portals and experts to enhance classroom instruction and online test readiness
- Transfer the learning to professional practice by ensuring educators in Michigan are improving technology proficiency and local district readiness for online assessments

The resources in the T3 Course are varied to support test readiness and 21st century technology skills.
Educators throughout Michigan have access to the training resources regardless if their building is part of the project. They can access an overview of the T3 Course at http://22itrig.org/activities/activity-three/short-course/. The syllabus is available there as well. There are instructions for view only rights to the course and how to download the course onto a Moodle server at an ISD or local district. We encourage all districts to use the course materials with staff.

School districts who participated in Classroom Readiness provided time in many different ways for educators to complete the T3 Course. Some districts chose Classroom Readiness as their sole professional development and devoted their PD time to training and completion of the course. Others did a mixture of PD time, staff meetings, lunch and learns and time outside of school to complete the course. Educators who completed the course received 30 SCECHs.

Classroom Readiness does plan to continue to sustain the learning of Michigan educators who participated in year one by providing updated materials to buildings who already participated. Districts will be contacted for continued participation.

Year two has now begun and over 300 buildings are participating with over 8000 teachers registered to take the T3 course. Those selected are evenly distributed across the state. There are elementary, middle and high schools, rural, suburban and city educators and low and high achieving schools participating.

The coaches in year two were able to take the T3 Course over the summer so that when school begins, they are well prepared to work with their colleagues. Their Regional Coordinators worked with them in a Professional Learning Network to help them complete their work. The coaches are now working with their colleagues in 2014-15 to assist them as they go through the T3 Course materials. The Regional Coordinator’s role is to assist the coaches with coaching tips throughout the year so that teachers do complete the T3 Course in a timely manner. The coursework begins in September and will end May 31, 2015.

Year three planning has begun using the feedback from year one participants and the year two coaches. Our goal is that Classroom Readiness will continue providing resources to assist tech readiness.

Check the TRIG website http://22itrig.org/activities/activity-three/ for detailed information about Classroom Readiness. Contact Melissa White, the Classroom Readiness Project Manager at mwhite@geneseeisd.org for more information.

Melissa White is retired from Ingham Intermediate School District where she was the REMC 13 and Instructional Technology Director. She is currently the TRIG Classroom Readiness Project Manager, 21 Things Student and Teacher co-creator, 21 Things Statewide Course instructor, MSU Adjunct instructor for CEP 810, 811, 812 and the 2013 MACUL Outstanding Technology-Using Educator.
Using Technology in the Elementary Classroom

Augmented Reality – It’s Really Here!

I’m sure you’re familiar with UPC bar codes – I look for them when using the self-checkout at the grocery store. And QR codes have been quite the rage for several years to point students to online videos, web sites, etc. Whether or not you’ve used either of these tech ‘shortcuts’, hold on to your hats, because the next best thing is already out and it’s awesome! It’s called Augmented Reality (AR for short) and the possibilities for educational use are powerful.

Augmented reality is a blending of what we see in the real world with related information, video, and even live action. And the best part of AR is that resources are readily available (and a lot of them are free) and are so easy to use that students can quickly create, share, and interact with information.

AR has been around for a while, but with so many classrooms now equipped with iPads, tablets, and laptops with cameras, new apps and software are being developed specifically aimed at students and teachers. Here are some examples of things you can freely download and use in your classroom tomorrow:

**ZooBurst** – web version at [http://www.zooburst.com](http://www.zooburst.com) and iOS app; Free and paid versions
Create your own 3D storybook with pop up characters. When finished, point your camera at a printed ZooBurst logo (available on site) and YOU become the background! If you hold your hands out, it appears you are holding the 3D book. Turn the page by waving your hand in front of the book. Students could use ZooBurst to create short book reports or write All About Me books that really jump off the screen.

**CyberChase Shape Quest!** – iOS and Android app; Free
Print the game boards, open the app on your tablet/iPad, and point your camera at the game board. Students age 6-9 will have a fun-filled adventure with three math-based games focused on geometry, spatial reasoning, and problem solving. Students will enjoy manipulating shapes via their tablet/iPad to make them fit into a specific space or gather and move objects.

**Fetch! Lunch Rush** – iOS app; Free
One to five 1st – 2nd graders can play 5 rounds of 3 addition or subtraction questions. Print and cut the game pieces, then place them around the room. Students see how fast they can locate and view the game piece with the correct answer through the iPad camera.
AR Flash Cards – iOS and Android app; Free
Aimed at preschoolers, there are 26 Animal cards to print and 6 dinosaur cards. Point your camera at a card for a 3D animal to pop up. Tap on each animal on your screen to hear the letter and the name of the animal. Fun alphabet review.

NASA Spacecraft 3D – iOS and Android app; Free
Bring NASA spacecraft to life during your next Space unit! Print out the spacecraft markers, and then students can scan to see a 3D model of a variety of spacecraft, including the Spirit and Opportunity, the Mars Exploration Rovers, Cassini. Students can see how they move, and learn about the engineering necessary to explore our universe.

And just for fun during your study of the human body:
HeartCam – iOS app; Free
Have students hold the printed trigger in front of their body, where their heart is, and watch their virtual heart working! This does NOT show your actual heart, but it sure looks like a beating heart viewed through your chest! View the heart from different angles, and listen to the heartbeat sounds.

Once you’ve tried some of these, I’m sure you’ll be eager to try augmenting your own reality. And the easiest way to do that is with the free Aurasma app for iOS and Android.

Aurasma is a scanning app that activates when it is held over a trigger image. You can make anything a trigger. When you open Aurasma on your tablet/iPad, hold it over the trigger item to access the AR layer – called an ‘Aura’ – which can be a video, image, or sound file. You can follow specific channels where those triggers exist. To create an Aura, a student opens the app and either selects previously created content or uses the camera to record a video for the Aura. Then, take a picture of the trigger item. Get the video into position and scale it, tap OK, name and save, and share! It’s just that easy. Show the process to a small group of your students, let them try it a couple of times, and you’ll now have classroom experts who can show others how to use Aurasma.

So, how can you use Aurasma for educational purposes in your classroom?
- For Open House, students can create short welcome videos, then create a Who Am I? poster to use as the trigger for their own video. When parents think they have located their child’s description, they can use Aurasma and the camera aimed at the poster to view the video and check their choice.
- For that same Open House, put your own photo on the wall next to your door for parents to scan to see you come to life and tell them about you!
- And to get parents involved, take a short video of parents telling their students how proud they are of them. Tape the trigger to a corner of the student’s desk, so they can hear their parents whenever they need a little extra pat on the back.
- In Art class, students can create short video clips describing what they have created and use the artwork itself as the trigger.
- Create character studies by having students make a short video clip of themselves playing the part of a story character, describing their thinking or reasons for their actions in the story, and setting a photo of that character as the trigger. Or use the cover of a book as a trigger for a student-created book trailer.
- Make a poster or photo into the trigger for a video about an author, an explorer, a President, etc.
- Before going on a field trip, visit the zoo or museum etc. and take pictures of important exhibits. Use these as triggers for videos that give more information.
- Create a video of you explaining the steps in solving a math problem and use a photo of a page of their homework as the trigger.
- Got a Word Wall? Take videos of each student giving the definition and using the word in a sentence, using the Word Wall word as the trigger. Kids can view classmates giving word info any time they need/want!
- Leave a trigger next to classroom computers to view Internet safety rules or your school AUP or directions for how to log in and use a web site.
- Set up a Scavenger Hunt in your classroom by taping triggers around the room. Show students where to start, and when they figure out the answer to the math problem, or state capital, or whatever the theme is for your Hunt, the Aura would give the next clue for them to figure out.
- Make a photo of a school event in your printed school newsletter into a trigger for a short video of the event.
- Use a photo of a picture book page as the trigger for a video of you giving reading tips or asking questions to think about.

So many possibilities. And if you can’t think of a good way to use Aurasma in your classroom, just ask the Experts – your students!

Marilyn Western is the 2008 MACUL Teacher of the Year, a former member of the MACUL Board of Directors, and a retired Mt. Pleasant Public Schools 5th/6th grade computer lab teacher. Her current career is to spread the joys of classroom tech use as a national presenter for the Bureau of Education & Research. She can be reached via mwestern@edzone.net.
“I model real world experiences in my classroom.”

How many educators have said something similar in describing their approach to teaching and learning? It’s more than just an educational fad; it’s a generally accepted shifting school of thought that providing real world tasks and problems makes your learning environment more engaging and attractive to both learners and parents (Herrington, Oliver 23). As “hands-on learning” continues to play a dominant role in the media-rich landscape of our current classrooms, the model is ripe for a continued shift. Instead of just modeling real world experiences, why not use the devices that many students and teachers carry to capture the real world itself to bring into our classrooms.

As a super-fan of video and visual media from the 80s (Reading Rainbow segments replay themselves in my head whenever I encounter a book from the show), I understand the impact that personalizing learning can have on the instructional environment. Watching students share their newfound love of a book, or demonstrate mastery of a new math strategy through video has become common practice for sharing classroom work with the rest of the world. What if we took the time to rethink how we use video in our instructional settings, and put more of that video experience to work? Capturing my curiosity out in the real world with video and showing students that the learning process exists outside of the classroom walls has been a playful and effective means of engaging students, and modeling learning behaviors that I want them to emulate.

“Video Story Problems”
(http://www.techsavvyed.net/archives/2352)
For the last 3 years, a dedicated group of teachers and students have been working on building a growing resource of examples of math and science in the real world. They’ve crafted clever questions, and posed problems that move past “modeling” real world problems in classrooms, to incorporating actual real world problems within their classrooms. You can view close to 200 videos on the “Video Story Problem Channel” here (https://vimeo.com/channels/videostoryproblems).

The concept of creating the video story problems comes from ideas found in James Paul Gee’s What Video Games Have to Teach us About Learning & Literacy and Douglas Thomas and John Seely Brown’s A New Culture of Learning. It’s much more than just creating interesting math and science videos to assess student understanding; in the constructivist learning environment, the creation of video story problems allows teachers and students to become partners in the learning process, challenging one another to create ever more interesting and/or applicable videos based on what’s currently being studied in the classroom. The variety and complexity found in even simple real world problems or curiosities creates a dynamic learning environment in which students actually practice life-long learning skills, and not just have them modeled for them.

By challenging learners to capture real world math and science, you open up the door for them to bring in recordings of adding of restaurant checks, identifying elements of the periodic table in products at your local Meijer, or using GPS devices to calculate the slope of their favorite skiing hills. Students have created videos about all of this and more! Empowering them to create the videos at the start is rather straightforward, and doesn't require you to over think the process.

The Concept
In an effort to make capturing real world problems simple, my coworkers and I developed some basic steps:

1. carry a camera (Mobile devices and phones are perfect!)
2. be observant (Even mundane and routine tasks have lots to hide.)
3. capture curiosity (When you encounter a situation that forces you to think outside your normal routine, that’s the moment to record.)

Of course, not everyone is ready to start with capturing curiosity or has devices that students can use outside of school, so here’s an alternate version.

1. start with a simple problem (maybe even one from a textbook)
2. write a script to "perform" the problem
3. shoot the story problem in your classroom
Assessing
I highly recommend using the videos as a formative assessment tool in the middle of your units. You can quickly gauge whether students understand how to apply correct algorithms, or have discovered real world applications of math and science by assigning them a video story problem over the weekend, or the course of a few weekdays. Rubrics help, not only for the content specific aspects of the video, but for the writing and story telling as well. I’ve assembled a few rubrics, and created some story boarding templates that have proven rather effective here (http://bit.ly/VSPresources).

Not Ready to Make Your Own Yet?
That’s all right! In addition to the "Video Story Problem Channel", the Michigan MI Learning portion of iTunes U has an entire series of some of the most popular videos curated in a Real World Story Problems playlist [open iTunes, enter “Real World Story Problems” in upper right corner search field; select the video collection]. There are 21 math and science videos there to give you a few ideas and examples to use in your classroom before creating your own.

There are also a growing number of video story problems that teachers and students have uploaded to YouTube. They are all individual teachers’ and students’ take on the concept; remixes and spin offs that I whole-heartedly encourage and enjoy seeing! Just head over to YouTube (http://www.youtube.com) and search for “video story problem”. They may not be highly polished production pieces, but that’s the idea; they’re raw, real, and help capture those small moments of real world application to bring into our classrooms.

References


Ben Rimes is the K-12 Instructional Technology Coordinator for Mattawan Consolidated Schools, the Director of MACUL3 SIGWEB, and sits on the Playful Learning Advisory Board for the Learning Games Network. His tweets and thoughts can be found at www.techsavvyed.net.
Google Play for Education – a Real iPad Competitor

For many good reasons, the iPad has been the default tablet of choice for schools since its debut. I love using the iPad and was part of the team that developed the http://21things4ipads.net curriculum. However, Apple created the iPad to be assigned and managed by a single user. Managing multiple iPads has often been a challenge – with mobile device management (MDM) solutions cropping up to help with the process.

The adoption of Chromebook in schools is skyrocketing. One reason – Chromebooks are easy to manage from a Management Console, with an option to provide management rights down to a teacher level. With Google Play for Education, and a new collection of Android tablets designed for Google Play for Education, Google has made management of tablets and deployment of apps, as easy as managing Chromebooks.

Google Play for Education “Store”
The Google Play for Education store was created by educators/for educators and is the foundation of Google Play for Education. Access to the store is provided as part of the one-time $30 per device management console license. This store provides teachers with a preselected set of educational apps, ebooks, and educational YouTube videos. Apps can be searched by grade level, content area or Common Core State Standard. Textbook companies such as Houghton Mifflin Harcourt are providing their books, such as the popular GO Math! and Journeys Common Core, using a 180 or 360 day subscription model. A teacher can be designated to make app and book purchases, with a school PO assigned to the account. If a student leaves or no longer needs an app, it can be uninstalled or reassigned to another user.

Google Play for Education Tablets
Google Play for Education requires one of a new group of Android tablets that range in size from a 7” Google Nexus up to a 10.1” Asus or Samsung tablet. These new tablets not only have cameras and Wi-Fi, but Near Field Communications (NFC) and support Android 4.4 OS, KitKat. An off-the-shelf, budget Android tablet won’t work. Deployment is easy because of the NFC. A “master” tablet is created with the desired apps and settings. With the help of a special admin app on the master tablet and a spreadsheet of users and devices, a student tablet is “tapped” to the master tablet and the apps and settings are deployed. There are a few minor issues, such as deployment requires use of a non-authenticated network connect, but the process is easy and works great.

Google Play for Education Tablet Management
Tech directors will love managing the Google Play for Education tablets because they can be managed using the same Management Console used to manage Chromebooks. And similar to managing Chromebooks, sub-administrators can be created with rights to manage specific sets of tablets.

With the ease of management and the Google Play for Education store, many educators are thinking that these new Android tablets are worth a look. If you want to try out the management on one of the new tablets, consider what I’m doing and start with one or more of the $229 Nexus 7 tablets and management licenses ($30 per device). Note: there is a five-license minimum to get started with Google Play for Education management. Learn more at: https://www.google.com/edu/tablets/.

Andy Mann is the REMC 4 Director and Instructional Technology Consultant for Muskegon Area ISD.
“Everybody in this country should learn how to program a computer...because it teaches you how to think.”
- Steve Jobs

I began to explore coding with my students when I learned about Hour Of Code (http://csedweek.org) last fall. I loved the idea of teaching coding, but I had no idea how to do it. I knew how to copy and paste code, but I didn't know how to write code. Hour of Code provided everything I needed to teach my students. I began with the Hour of Code Angry Birds/Maze Tutorial. The tutorial had students of all ages excited and coding! 1st graders as well as 8th graders were engaged and learning. I watched students' confidence build as they successfully passed each level. They were quick to share their knowledge and help each other. Coding teaches problem solving, sequencing, creativity and communication and it was easy to see as the students moved through the levels of the Maze.

I was excited to find a tutorial for Scratch (http://scratched.media.mit.edu) on Hour of Code. With Scratch students create animations, games, art, stories and more. Scratch is free and now web-based, making it even more accessible. As part of Hour of Code the students were given directions to create an interactive Holiday Card. This activity was met with great success, excitement and creativity. It taught me more about Scratch and gave me the push I needed to explore it further and include Scratch in my lesson plans. The Scratch website is a great resource as students can see what other students have created and look at the code they have written, learning from it and rewriting it to work in their project.

Tynker (http://www.tynker.com/school) is a programming website that is very kid friendly. Tynker includes tutorials that teach students coding with step-by-step lessons including instructional videos. There are free and premium subscriptions for schools. There are quite a few lessons included in the free subscription and it is easy to setup and manage a class. Tynker is geared toward the younger students and is a nice introduction to the same blockly programming used in Scratch. I have used Tynker with my 1st, 2nd and 3rd graders.

iPads offer some excellent Free coding opportunities. Daisy the Dinosaur, Hopscotch, Kodable and Cargo-bot are Free Apps that teach coding.

Daisy the Dinosaur is for younger students. In Challenge Mode students figure out how to make Daisy move, jump and shrink and in Free Play Mode students are the programmers telling Daisy how to move.

Hopscotch is the made by the same people as Daisy the Dinosaur. It is the next step in coding and uses the same drag and drop method as Scratch. Hopscotch is colorful and has fun characters for the students to program. Wesley Fryer (http://www.wesfryer.com) has written a guide for Hopscotch titled Hopscotch Challenges and it is available as a free download on Amazon.

Kodable is great fun for all ages. It starts out easy and gets more complicated. The students must figure out how to get the fuzz bug through the maze and collect coins by dragging direction arrows and color blocks.

Cargo-bot is the first game programmed entirely on an iPad using Codea. With Cargo-bot students tell a robot how to move colored crates. It sounds easy but can get very complicated!

Whether you visit the Hour of Code website, try Scratch or Tynker, or download one of the free Apps, I encourage you to bring coding into your classroom. It is fun, easy to get started and a great way to get students to problem solve, collaborate and think!

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Building Online Assessment Literacy
By Mitch Fowler

Moving the Straw
Recently an educator was debriefing with third grade students about their experiences participating in the Smarter Balanced Practice Assessment, when a student raised his hand and mentioned that “moving the straw” was difficult. Confused, the educator pressed for clarification about the straw. As it turns out, the student was referring to the scroll bar on the side of the screen.

This specific example when facing high-stakes online assessments, raises an interesting question, “What are we doing to build online assessment literacy with students and educators?”

Online Assessment Literacy
Many educators confirmed this Spring after participating in the Smarter Balanced and ACT Aspire practice assessments that a majority of students lack the experience with basic online assessment tasks. Students lacked the following skill sets necessary for online assessment: logging in, navigating through tutorials to begin assessments, assessment preferences (text color, size, etc.) and using built-in tools (calculator, notes, marking questions).

What is scary is that these basic online assessment literacy skills are just the beginning of a shift in assessment. Once students log in and begin the next generation of online assessments, they are faced with items that are far more cognitively demanding than multiple choice questions. In order to tackle these demands, students will need to understand how to:
- drag and drop
- integrate multimedia
- highlight passages to determine importance
- work with virtual tools (graphing, calculating, and measuring)

Professional Development (PD) for Educators
Several resources exist to assist in the implementation of online assessments. The State Educational Technology Directors Association (SETDA) has developed a library of resources from across the nation that aims to help districts at every stage of the process.

Educators can access resources that detail states’ journeys through the implementation of online assessment. It allows educators to filter results by implementation phase (Before Launch, During Launch, After Launch, Piloting), as well as by topic (Preparing, Piloting, Needs, Infrastructure, and Communicating). In fact, Michigan is one of several states featured on the SETDA site.

Homegrown Resources
Speaking of the Mitten, nothing’s quite as good as a home-cooked meal, right? While the SETDA site has a variety of resources from across the nation, it also has some topics that may not be relevant to the Michigan educator. Enter the Teachers Technology Training project.

Experts across the state have spent a considerable amount of time creating a professional development course known as Teachers Technology Training (T3). This project is part of the Technology Readiness Infrastructure Grant (TRIG) that aims to prepare schools for online testing (both in infrastructure and instruction). T3 is wrapping up its first year of professional development with pilot districts across the state.
One piece of the T3 project is an online classroom readiness course (http://moodle.resa.net/resa/login/) that seeks to "build the capacity of Michigan educators to effectively plan and implement online assessments." This course is open to educators across the state via a brief registration process. Those who would like to instantly access the course without registering can enter as a guest.

Of particular interest to me as I think about preparing educators for next generation assessments are the modules from T3 entitled: "All About Next Generation Assessments" and "Preparing for Next Generation Online Assessments." Within the "All About Next Generation Assessments" module, participants discover how it looks for students sitting down to take the assessment. I’ve found that having educators go through these practice exercises increases urgency towards online assessment literacy.

In "Preparing for Next Generation Online Assessments," participants take a look at how to develop their own assessment items. Particularly intriguing within this module are the activities around Evidenced-Centered Design and Universal Design, Accessibility, Bias, and Sensitivity. These concepts, while heavy in theory, provide a solid foundation for educators looking to develop their own assessment items that are in-line with next generation assessments.

Where To Begin?
This is a lot, right? Perhaps you’re thinking, "It seems like we’ve just gotten educators comfortable with blogs, Google Drive, and mobile devices, now we need to add this too?" If you feel this way, you’re not alone. For this reason, I’ve found it’s beneficial to provide educators with a range of experiences to choose from when preparing for next generation assessments. Here’s one possible approach:

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>SBAC Practice Assessment</td>
<td>sbac.portal.airast.org/practice-test/</td>
</tr>
<tr>
<td></td>
<td>Free Online Assessment Tools</td>
<td>socrative.com/</td>
</tr>
<tr>
<td></td>
<td>SBAC Field Test</td>
<td>sbac.portal.airast.org/field-test/</td>
</tr>
<tr>
<td></td>
<td>Creating Local Items</td>
<td>Local LMS, Local Data Warehouse</td>
</tr>
</tbody>
</table>

Clearly this is a task educators will need to digest in small pieces. Guiding staff through readily available practice assessments online is a great place to start. This gives educators the feel for what types of experiences students will encounter. I’d highly suggest a processing form and guiding questions that collect educators’ thoughts as they move through the test. Completing the practice assessment raises awareness about the basics students will need just to work through the assessment (login, navigation, and entering responses). From here, some districts choose to have their students take the practice assessments and provide feedback about the challenges encountered. This can provide insight into what practice opportunities students need before the high-stakes nature of the assessment is introduced. Naturally, educators will want to practice with their own curriculum as opposed to the pre-slugged content within the practice assessment. Beginning with free online assessment tools such as Socrative and Poll Everywhere can be a great start. These free tools can provide students with the experience of interacting with assessments online, but in a more relaxed environment. For those who would like to take these experiences to the next level, local LMS (such as Moodle or Blackboard) or data warehouses (such as DataDirector, SchoolNet, or Illuminate DnA) will allow educators to build their own items and administer assessments using the practices covered in the T3 course.

Whichever path you choose to prepare educators and students for next generation assessments, keep in mind that early, low-stakes exposure is key. Back to school professional development may be a great time to introduce educators to these concepts, so that educators can hit the ground running when school begins. Try to agree as an administrative team, grade level, or department, which experiences will boost online assessment literacy. With a bit of planning, educators and students will be able to look past the “straw” and see next generation assessments for what they really are: a chance to demonstrate proficiency beyond simply shading a bubble.

Mitch Fowler is a School Data Consultant with the Calhoun Intermediate School District. He currently works with 20 school districts in Southwest Michigan on developing system-wide approaches to collecting, analyzing, and acting on data. In addition to regional work, Mitch collaborates with ISDs around the state to develop innovative solutions to assist educators in working with data. His work on utilizing school data has been featured by Houghton Mifflin Harcourt, TechSmith, and MACUL. In the Twittershpere he’s known as @fowlerm.

(Designing High Quality Assessment Items - Module 5)
Multimedia projects take time. Better yet, getting students to create a video that really emphasizes their voice and writing style is tough business. Well, in the land of iPad video apps, there’s a new kid on the block that makes video and presentation creation easy. Beyond the simplistic user interface, it relies heavily on the speaker’s words to bring the video to life. This makes Adobe Voice a top contender for bringing writing to life as part of a student’s workflow.

When a student begins to use Adobe Voice, the tutorial walks him/her through how to make a video, add details, customize, and finally share the project with others.

Upon opening the app, sitting dominantly at the top is “+Create a New Story.” As soon as one clicks the large prompt bar, it immediately dives into production mode, asking for a title or topic. The next menu a student encounters can be super helpful for teachers who are trying to teach story or presentation structure. It asks the student what kind of structure the presentation/video should have. The structures include:

- Promote an Idea
- Tell What Happened
- Explain Something
- Follow a Hero’s Journey
- Show and Tell
- Share a Growth Moment
- Teach a Lesson
- Share an Invitation
- Make Up My Own (free form)

By using one of the pre-structured project frameworks, the student is given prompts for elements. As a demo for Adobe Voice, I picked “Follow a Hero’s Journey.” I wanted to create a model for my students, and chose Homer’s Odyssey as the context for my short video.

Within the app, there are three basic steps: record a line of audio, pick a graphic, and add pages to tell more. However, when using a chosen storytelling structure, it reminds the user what is needed in order to truly tell the story. When making my “Hero’s Journey” video, I was prompted for the following elements: Setup, Call to adventure, Challenge, Climax, Resolution.

Recording audio is slick. Click the button and hold to record. It records for that particular page only. If a student wants to rerecord that snippet, then just press and hold and it records right over the previous recording. It is easy and fast. This allows for the typical energy and emphasis to move away from technical troubleshooting toward spending more time actually crafting the writing. So when a student is prompted to record, what is being said has been crafted well.

Adobe Voice uses the Noun Project (http://thenounproject.com) library as its graphics engine from which students can pick their media to support their verbal message. Right after recording, a student is prompted to search for a supporting graphic to visually relate to the audio portion.

Upon recording the intro for my Odyssey demo, I typed in the word “king” in order to choose a graphic that might represent Odysseus within the opening of my video.

Once my story, presentation, video project is complete, I can still customize more options. I can choose a different theme. Each theme is crafted with textures, specific fonts, and custom transitions that help personalize the tone of that particular theme. Then I can choose background music from either a library from within Adobe Voice, or from music stored directly on the iPad itself. The music is grouped by mood, from Happy, Playful and Relaxed to Rousing, Thoughtful, and Uplifting.
If you haven't taken the time to visit the www.21things4students.net site, don't wait another moment. See what over 4.5 million others have viewed this past year. The project covers important areas such as Cyber Safety, Cyber Bullying, Shopping online, Digital Footprint, Mobile computing, Gaming, and many others. The project activities are standards-aligned and provide educators a ready-to-use resource or technology curriculum for 5-9th grade classrooms.

Meeting Educator Needs
Many of you may be familiar with the 21things4teachers.net professional development resource, which began in 2009. Over 5,000 teachers have participated in the professional development program and received credit. In 2010 many teachers asked for a more student centered, but similar resource to use in their classrooms. Thanks to the REMC Association, Ingham ISD, Shiawassee RESD, and Macomb ISD, the 21things4Students project was developed. A team of four led this effort: Frank Miracola and Jennifer Parker-Moore (Macomb ISD), Melissa White (Ingham ISD) and Carolyn McCarthy (Shiawassee RESD). This team brought classroom teachers and regional ISD instructional technologists together to develop a project-based technology resource targeting middle school students. The links are updated daily and the content is revised annually to keep it current. This past year iPad and app resources have been added to the Quests. Please note that the site was revised with new additions in June!

Standards Aligned Activities
The resources/curriculum are aligned with national and state technology standards, as well as meeting some common core standards. Students create products that combine into a digital portfolio. The student portfolios provide educators with an 'authentic assessment' of student technology literacy skills.

Flexible and Teacher Facilitated
Teachers are expected to both facilitate and monitor student learning; this is not designed like an independent study course, but promotes collaboration, group-work, and discussion. The 'things' can be taught separately and are not designed sequentially, although it flows well from thing 1-21.

What the Students Say
- I really liked troubleshooting because a laptop at home wasn't working and my brother that works at Best Buy couldn't fix it, but I could.
- I like how the site goes the extra mile to help us.
- I like the real world examples in Cybersafety. When my mom and dad tell it to me I think they're just making it up, but I really liked the videos that are real world examples.
- I am surprised by how much I know now because I was never a 'computer nerd'.
- I like the 21things4students website because my teacher used to give us worksheets and now we go through the website, the videos and the activities. It's more fun.

Teacher Comments – What they like best
- I love having a 21st Century curriculum with lesson plans, video links and website resources. I love the flexibility of the lessons and that there are several different options/2.0 websites given to choose from in case one does not work or fit with what I want to do.
- Clarity of ideas, incremental exposure to information, presentation, leveling up, format
- Everything is packaged neatly in an organized fashion, and is CURRENT!
- It gives me ideas to use in the classroom- I then rewrite instructions to fit my students’ background.
- I like the ease of the activities. I can get students started but then the information and instructions are clear enough that they can work independently.
- As a teacher with 9 preps, I am overjoyed with the “ready to go” lessons and the way that the activities progress. I believe that students learn when they are doing and the projects that they complete on 21things4students keep them engaged.

Multimedia and/or Interactive Elements
Almost all of the Quests include an animated video introduction. There have been over 1,200,000 views of these videos this past year! Other interactive elements include short testmoz quizzes, surveys (Survey Monkey), embedded videos from other sources, interactive games, and video tutorials.
Digital natives—it’s a term that might, at once, conjure images of a technological future and a primitive past. Perhaps you see an image of a “bot,” or robot, from the new TV show Almost Human, or maybe you have an image in mind of indigenous peoples chasing after Indiana Jones in the opening scenes of the movie Raiders of the Lost Ark. Nevertheless, the digital natives about whom we write are our high school students and, perhaps, yours, who happen to be born into an era of human history when computers, tablets, smartphones, and various forms of social media are already available and readily accessible. Our concern as their teachers is, how can we incorporate both low-tech and high-tech writing tools both in and out of the classroom that offer our digital natives the opportunity to collaborate and interact in a meaningful way? Part of the solution, we believe, is blogging. And, the tech tool that we think can help our students and yours is WordPress (wordpress.com).

Digital Natives, Digital Immigrants, and Writing
It was Marc Prensky (2001) who coined the term digital natives. He also coined the term digital immigrants, which would apply to those of us who were born before this new era of increasing digital complexity, and who are emigrating from an analog, and comparatively low-tech, age and who are immigrating to the digital world in which we now live in the twenty-first century. For those of us digital immigrants who do not fashion ourselves Luddites, blogging can serve as a valuable tool to engage students, to enhance their learning experience, and to allow their learning to be extended beyond the physical space of the classroom. Indeed, there are educators and historians—certain proponents of “Big History,” such as David Christian (2008)—who believe that symbolic language, including writing, is what separates humans from other species in the biosphere and what has allowed us to collaborate. Proponents of socio-cultural learning, such as Dewey and Vygotsky, would likely have agreed.

Standards and Assessments
Presently, these concerns are also being addressed in state and national standards and new methods of assessment. The Common Core State Standards (CCSS) appear to address both group work and learning with different media and formats. (For information about CCSS, see http://www.corestandards.org/ELA-Literacy.) And, as more and more states, including Michigan, are deciding to align their state curriculum with the CCSS, they are also seeking to adopt a new way of assessing students, which includes tasks focused on analyzing text passages and videos as well as generating writing that demonstrates student understanding of such media. In fact, Michigan seems to be leaning in the direction of using assessments created by the Smarter Balanced Assessment Consortium, which appear to be aligned with CCSS and which seem to be getting away from the traditional multiple-choice paper-and-pencil tests (Ujifusa, 2013). (For more information about Smarter Balanced, see http://sampleitems.smarterbalanced.org/itempreview/sbac/ELA.htm.)
What We Recommend
In the future, there might not be any printed bubble sheets or Scantrons to fill in. Nevertheless, that time is not immediate and some occupations still use such tests. It seems appropriate, then, that digital natives have the opportunity to experience some computerized assessments that reflect new ways of communication in the twenty-first century as well as new formats that might appear on standardized assessments. In addition to other tools, such as Google Docs and VoiceThread, that have options for commenting, collaborative work and moving beyond a singular “teacher-as-examiner” audience, blogging can provide students with a venue for teacher and peer review that is formative instead of evaluative, as well as for generating “authentic” products with, possibly, the invitation of “real world” figures or actors that might otherwise not be able to visit the classroom. In addition to being educators, the co-authors of this article are graduate students who have experienced the use of blogs in more than one class, and draw upon that experience to recommend blogging as a useful tool. The specific blogging forum that we recommend is WordPress.

What is WordPress.com?
Wordpress.com is a quick and easy way to get a blog online. You can sign up and create a WordPress blog immediately, for free. You have a variety of themes and widgets from which to choose. Most of the basic settings are easily adjustable. Your address will be yourblog.wordpress.com. You will have to pay for the ability to adjust the CSS of your blog and you cannot install plug-ins.

Create a Blog
WordPress.com allows users to give their blog a name and a title, which do not have to be the same. Once a user creates a blog, he or she has the option to make his or her blog private (only available to invited “readers”), public (anyone can find it and read it), or semi-private, hidden from search engines but available via the URL. In addition to creating a blog that you can use on your desktop or laptop, you can also use mobile apps to access your blog at WordPress.com on mobile devices.

So, How Can Digital Natives Use Blogs To Collaborate?
Blogging is an effective means by which to incorporate more writing into your curriculum. For example, one could have their students post their entrance/exit tickets on the class blog. In addition, each student would be responsible to comment on 2-3 other postings, either from within or outside their “peer groups.” Peer groups can be arranged to include students from across the spectrum of likely skill: two typically low-performing students, two middle students, and one high performer. Working together, either digitally or face-to-face in their peer groups, students can learn a number of important skills, including, but not limited to: conversation skills, writing skills, and note-taking skills.

References

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Teachers are using emerging technologies to innovate our education system and transform our classrooms. Cloud computing, mobile technologies, gaming, open content, learning analytics, and personal learning environments make the educational experience for students more engaging. What innovative learning spaces and tools are available to instructors? How can instructors best utilize free and open resources to more deeply engage students in their learning? What impact can the use of emerging technologies have on student retention and performance?

Cloud Computing
Virtual learning environments are one example of cloud computing. Many schools are using Google Apps for email and student collaboration. Web-based tools further enable student-educator collaboration. Cloud-based computing frees up capital that allows educators to invest in more technology. Here are some tested cloud computing programs to try.
1) Google+ Hangouts
2) Evernote
3) Dropbox

Mobile Technology
An increasing number of K-12 schools are taking advantage of the potential in mobile devices. The devices are less expensive than many laptops, and need fewer infrastructures for support. One group of secondary students use an iPad to gather and track GPS-tagged bird sightings. Here are some iPad apps to try.
1) The Art of Life
2) National Parks
3) Field Tripper

Gaming
Using game-based learning scenarios allows for experimentation, the exploration of identities, and even failure in a safe environment. Students engage in game experiences and activities, and the tools often provide data in the form of spreadsheets for teachers to analyze trends and gaps regarding student achievement or growth.
1) Kahoot
2) Zondle
3) iCivic

Open Content
Open content producers have evolved as well. Wikipedia was the first major producer to hit the scene, but this concept has been expanded upon in different areas in education. Today, many textbooks are being created for schools and universities using the open content concept.
1) Learnist
2) Khan Academy
3) OpenCurriculum

Learning Analytics
The use of learning-based analytics takes advantage of data mining, interpretation, and modeling to improve our understanding of teaching and learning. Analyzing feedback from students about their own level of understanding can inform our own reflections on differentiating activities. This technology is not just for identifying at-risk students ahead of time. Education is following the consumer sector’s drive for data. Schools can track student learning behavior and patterns so they can more effectively meet each student’s needs. Here are some tools to help teachers track information.
1) Google Forms
2) Poll Everywhere
3) Mentimeter

Personal Learning Environments
A personal learning environment (PLE) is not just a technology, but also an approach or a process that is designed with teachers. Collaboration is one key to increasing understanding and skills among all learners, teachers included. These tools open the door to professional development that goes beyond the after-school sessions.
1) LinkedIn
2) SymbalooEDU
3) Twitter #EDmich

Emerging technologies are quickly gaining momentum in the field of virtual K-12 instruction, and whether educators are familiar with the key emerging technologies or not, they are on the move and have the potential to enhance the learning of students.

References

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Have you ever had a superintendent or principal come to you and say, "I need a walkthrough form that will email the feedback directly to the teacher following the conclusion of the walkthrough"? This question began a collective development of the following Google Form walkthrough template.

Initial needs for this walkthrough form included: a selectable list of teachers from a dropdown menu, a selectable list of emails from a dropdown list, timestamp, comment area, and upon submission an auto-email feature. (An additional feature we added later was a pivot table in the spreadsheet wherein the administrator could easily see a summative collection of the walkthrough comments per teacher.)

For this tutorial, begin by going to your Google Drive and set up a folder for this process. You will need this folder for the form, form responses, and the “Sample Walkthrough Email” template letter. This folder also includes a sub-folder called “Observation email docs.” This is where the observation docs will be stored later. For a model of this folder as well as examples of the entire process, go to: http://bit.ly/adminwalkthrough.

Remember: When creating a form, two files are created. The form itself and the responses sheet wherein the data is sent from the form submissions.

Start by creating the form in the walkthrough folder. On the form, there should be three elements: dropdown choices for teacher name, dropdown choices for teacher email, as well as a paragraph text box for comments.

When making the dropdown list of teachers and emails, you can simply copy and paste the entire list into the first field of the dropdown list and the entire list will paste appropriately. Create one list option for names and another list option for emails.

At this time, the form can be used to record walkthrough observations. This particular superintendent wanted to be able to do this from an iPad. In order to accommodate this, we just opened the Google live form in the browser on an iPad and bookmarked it onto his home screen for easy access.

The form is ready and useable as is, however, additional functionality was needed for the email to be sent to teachers post-walkthrough. After the form is created, a script needs to be added to the form response sheet for the auto-email feature to work. By adding autoCrat script functionality, the teacher hits submit.

Go to Tools, then Scripts Gallery. Search for and install autoCrat.

The goal was to keep the walkthrough form simple so the superintendent could conduct observations in a timely manner. The following is the finished form:
Run the initial configuration, and allow it access.

**Step 1:** You will need to locate the Template letter. For this article, we called the letter “Sample Walkthrough Letter.”

**Step 2:** You will need to tell autoCrat which sheet tab will be the one from which you are pulling the data. This should be all set at the default setting “Form Responses.”

**Step 3:** You have the ability to set merge conditions if you would like. For this form, we are leaving at the default setting, so click Submit and move onto the next step.

**Step 4:** ***Very important*** The “Sample Walkthrough Email” doc was set up ahead of time. When we set up the Sample Walkthrough Email doc, we used a field mapping convention. See the Sample Walkthrough Email graphic as a model of how to include fields using << >> so the autoCrat script knows where to interject information once the script is run. The fields on the Sample Walkthrough Email doc match the information gather from the form itself.

**Step 5:** When you set the merge type, set it up to attach a pdf document. By copying and pasting the field variables provided, you are telling autoCrat how to run, and how to name the email, the document, and what name field to include when sending the email.

**Step 6:** Preview/Run merge: At this time, you are ready to run the merge and make sure everything is working properly. To ensure this is operating the way you would like, you can run “merge on first row only.”
Once you run the merge, this is what you should see:

**STEP 6**

The merge is time-stamped and there is a URL to the completed merged PDF letter. Using the field mapping and the data from the sheet, the completed merged letter looks now like this:

At this time, the entire process should be working properly.

1. The superintendent conducts the walkthrough using the Google Form.
2. On Submit, the autoCrat script runs. This takes the information from the form and completes the form letter, inserting a timestamp, teacher name, and the comments from the observation.
3. The teacher is emailed the PDF attachment letter as immediate feedback from the observation.

If you have any further questions on this process, how to implement it, or for further instructions on how to build out the pivot tables after several observations have been conducted, please don't hesitate to contact me at kkermode@gmail.com or find me on twitter at @coachk. Again, for a model of this folder as well as examples of the entire process, go to: http://bit.ly/adminwalkthrough.

Kelly Kermode teaches at Forest Hills Eastern High School. She is Google Education Trainer as well as a Google Certified Teacher. For more information on how to contact her: http://about.me/kelly.kermode

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**21 Things & Badges**

There are 21 areas (‘things’), which are chunked into smaller ‘Quests.’ Each Quest is a learning opportunity, which introduces one or more FREE tools from the web, provides step-by-step directions, includes some interactive elements, and a suggested assignment. Short Testmoz quizzes are provided along with the opportunity to earn digital badges. The badges and many other instructional resources are provided to the teacher through a Moodle site, which is provided when they register.

**Student Nominated Top 5 Things**

Cyber Safety, Game Design, Buyer Beware, Troubleshooting, Be Legal and Fair

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**Grade Levels**

Although this resource was designed with 5-9th grade students, one quarter of the teachers use it in high school classrooms, and there are many elementary teachers adapting their instruction using the resources.

**Contact information:** 21things4students@remc.org

Carolyn McCarthy is a Project Coordinator for REMC for the 21things4students and 21things4teachers that she helped found. She retired from the Shiawassee RESD where she was an educational technology coordinator and a special education teacher for over 20 years. Carolyn is an Adobe Education Leader, a past MACUL board member, and was the editor and co-publisher of the EpsonConnection magazine. Her first computer cost $10,000 in 1975.
I love to read. Whether it is immersing myself in a novel or looking up some obscure bit of information on Wikipedia or exploring the latest exploits of my friends and family through Facebook, the process of translating text into meaning is magical. One of the most important tasks of schools has always been to encourage and enable our students to become fluent learners and readers. With the emergence of new technologies in our digital age, reading and the related information fluency skills are more important than ever, and schools are exploring how to take advantage of new technologies to help with this. There has been some interesting research published recently comparing reading from printed material such as books with reading from screens. While I am not an expert in the area, I have done a fair amount of reading about it recently. I've shared a few of my favorite resources on the topic at the end of this article, and I would simply like to share a few of my reflections on it as a technologist, teacher, and librarian.

1. Recognize that the reading experience is different when using different media. (Herold, 2014, Keim, 2014) Just as listening to an audio book is different from reading the same book, I have long felt that when I am reading information from a digital device, the experience is somehow not the same as when I am reading from a novel or a magazine. Now the research seems to be indicating that there are actually differences in how the brain processes these different types of reading. For those of us in education, this means that we need to recognize this difference. We further need to be intentional to provide opportunities for our students to experience both digital reading and print reading.

2. Teach different skills of reading. Help students and teachers understand that just as there are different reading skills needed for reading fiction and non-fiction works, there are different skills for reading texts in digital or electronic formats. As we encourage our students to read, we need to not only encourage them to read both print and digital forms of writing, but also help them learn the skills needed for the different types of reading. Reading in print format is usually done best in a linear, focused manner, while most digital reading requires more skimming and making non-linear choices as to what to read next. Help students discover the structures that are part of each piece of reading material.

3. Provide choice. The research here is very clear. Students need to have choices in what they read (Allington & Gabriel, 2012). When students read what they have chosen they read more and learn more from what they have read. They still need our guidance to help them make appropriate choices of reading material that is both understandable and challenging. Students learn best when they are reading material that is both at the right level for them and that they have chosen. They need to have these choices in both print and digital formats.

4. Encourage exploration and variety. Just as we need to encourage students to read materials from a variety of literary genres, we need to encourage them to explore different types of print and digital materials. Paired readings can be especially effective. An example might be reading a historical diary along with a modern blog or listening to an eyewitness account while reading about an event.

5. Time & Resources. Students need time to read in a sustained manner. Language arts classes in our school spend the first 15-20 minutes of every class period reading. The research indicates that time spent reading deeply, fluently, and accurately, and then having opportunities to reflect on that reading is vital to learning. Schools need to look at ways to find the time to allow for this. Schools also need to provide students with a variety of quality resources in both print and electronic formats to enable students to have good choices. Libraries of print and electronic materials need to be maintained, organized, and curated for our students to access both the informational materials they need and the reading materials they choose. With careful and creative thinking, schools can afford to do this. Making these resources a priority will pay off in the long run. There are a number of ways, starting with the Michigan Electronic Library (www.mel.org) that schools can take advantage of free or low-cost resources.
cost electronic materials. See the article in Educational Leadership by Allington and Gabriel for a few good ideas of ways that schools can do this (Allington & Gabriel, 2012).

Even in our fast paced world, the skill of reading will continue to be a fundamental skill for learners for the foreseeable future. The ability to read different materials in different ways is vital. Keim puts it well in his article for Wired magazine: “Maybe it’s time to start thinking of paper and screens another way: not as an old technology and its inevitable replacement, but as different and complementary interfaces, each stimulating particular modes of thinking. Maybe paper is a technology uniquely suited for imbibing novels and essays and complex narratives, just as screens are for browsing and scanning.” (Keim, 2014)

References


Tim Staal is a past-president of MACUL and formerly the Executive Director of MAME. He is currently living in Mumbai, India, where he is serving as Head Librarian at the American School of Bombay: www.asbindia.org. Tim’s Email: tstaal@gmail.com.

By Sue Schwartz

As the new school year is about to begin I would like to take this opportunity to remind you of the quality resources the REMC Association provides to Michigan educators. These statewide projects address improved educational opportunities for students, support the needs of member REMCs and have both statewide application and impact.

- Blended Learning in the Classroom – A blended learning experience that provides teachers with the professional development and support they need to become successful in their transition to a blended model of teaching. [www.remc.org/blendedlearning]

- Connected Educator Series – Brings the ideas and practices of exceptional technology using educators directly to teachers and administrators in an easy to access, easy to use video format. Available at MI Streamnet (www.mistreamnet.org) and MACUL’s MI Learning. [www.macul.org/milearning, www.remc.org/connectededucator]

- Michigan Common Core Resources and Guides – Helping educators to better understand and implement the Michigan Common Core State Standards. [www.miccss.org]

- Michigan Learns Online – Information and resources about participating in, developing or delivering online learning. Includes a growing repository of lessons, units and courses for use in teaching online. Check out the Florida Virtual Course you can download from the REMC Moodle Hub to your Moodle server. [www.milearnsonline.org]

- Mi Moodle Moot - Bringing educators from K-12 and higher ed together to better use Moodle to blend instruction and support teaching and learning. Mid-Michigan Community College Doan Center, Mt. Pleasant MI, January 8 & 9, 2015. [www.mimoodlemoot.org]

- MI Streamnet - Live and on-demand video resources for educators including Michigan Merit Exam administration, State Board of Education meetings, MACUL conference sessions, the REMC Connected Educator Series plus a wide variety of classroom curriculum material. [www.mistreamnet.org]


- Streaming Video Project (RSVP) - Online access to relevant instructional video and the Michigan Comprehensive Health Model video at no cost to schools. [www.remc.org/rsvp]

- 21Things4iPads – Use these resources to learn how to more effectively use iPads to improve instruction and productivity. [www.21things4ipads.net]

- 21Things4Students – Virtual/hybrid classroom course for students in grades 6-12 to learn and demonstrate basic technology proficiency. [www.21things4students.net]

- 21Things4Teachers – Online training where K-12 educators can develop their own technology skills and discover what students need in order to meet the NETS for Students. [www.21things4teachers.net]

If you have any questions about the REMC Association or its Projects, please contact me at sueschwartz@remc.org.

Sue Schwartz is the Executive Director for REMC Association of Michigan.
MACUL’s Speaker Selection Committee invites you to take an active part in the 2015 conference by applying to present at the 2015 MACUL Conference.

To become a speaker apply at http://maculconference.org
Submission Deadline: October 1, 2014

Please review the following resources found on the speaker webpage before beginning the online application.

- Session Submission
  Information: session types and strands
- Speaker Proposal Planning Worksheet
- Conference Session Review Rubric: used for session selection

COMPENSATION:
- Primary presenters for 60-minute concurrent, BYOD, and Panel sessions pay a reduced conference registration fee of $50.
- Hands-on lab presenters (presenter and one co-presenter), receive a complimentary conference registration.
- Visit http://maculconference.org > SPEAKERS for more information!

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law, as it allowed me to stay in touch with developing technologies, inventions and the connected businesses. I spent time with a small firm in Dayton, but then that path took an abrupt change towards education.

I moved back to Virginia, where I worked with a local YMCA as a fitness director and searched for the next path, but perhaps more importantly this time around, the right path. Teaching, coaching and educational leadership emerged in rapid fashion!

So in 2005, I began the journey as a teacher, coach and building technology support person. Apparently, I felt the need to make things as hectic as possible, so Leah & I were married that July and I became a first year teacher a month later.

Teaching was amazing, but I will admit somewhere in there, I focused on coaching basketball and was dead set on becoming a college basketball coach, but then that crazy path took another turn. We welcomed our first son, Ray, in September 2007. (Liam joined us in July 2012).

A year later we headed to Tennessee to live near Leah’s family and to teach and coach. As the school years went by, I kept seeing progressive advancements in leadership to my teaching career.

In 2011, the L&N STEM Academy opened and I was tabbed as the pre-engineering teacher and technology support specialist. A role that was very familiar, but then it exploded into a new role as an educational leader that gave me many new opportunities. One of those opportunities was the chance to present at MACUL 2014. My acceptance to present came well in advance of the Executive Director posting, but little did I know the whirlwind that would lead to my greatest career development.

The chance to apply for the Executive Director opening was too good to pass up. The first things that came to my mind: a chance to return to Michigan, the continued progression of my educational leadership career and the honor of working with amazing, passionate educators.

As I reflect back on the process, I’m reminded of Pam Shoemaker being in my session at MACUL, then a prescreen contact by the hiring firm and then an interview for the executive director job. All along the way things just seemed to flow seamlessly towards me being named Executive Director.

It was around 4 pm on Monday, April 14th that I got the call, the call to be the next Executive Director of MACUL. In a head spinning 10-minute span another new path emerged and with it the greatest opportunity of my career became a reality.

I look forward to following the great path laid out by Ric Wiltse and being back home! I am honored to serve as Executive Director of MACUL as our great organization takes on emerging paths with the long-standing passion and energy that is MACUL!

WHAT AN HONOR continued from page 6

course #macul15 is just around the corner. Look through the MI Learning Resources on iTunes U - Information on how to find them is at www.macul.org/milearning. Read some of the past MACUL Journal articles to see what topics and treasures you can find. Read them at www.macul.org/maculjournal.

Get involved! Become a member of one or more of our Special Interest Groups (SIGS) and dive in. It’s free to join, and there are some great opportunities. Information can be found at our website by clicking the Special Interest Groups Tab.

Attend one of our many conferences through the year and of course the “BIGGIE” at Cobo Conference Center in Detroit, March 18-20. Information on these events can be found at our website www.macul.org as well. Make sure to check our new MACUL Conference site at http://maculconference.org.

I hope that this school year will be your best year yet, and I hope MACUL will be part of the reason. It really is a special organization, and I am very proud to represent you in 2014-2015.

Tammy Maginity is the Director of Technology at Pennfield Schools and the MACUL Board President for 2014-15. She can be reached at wtammy.maginity@macul.org.
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www.macul.org/maculjournal.

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### Publisher’s Notes

- The MACUL Journal is sent to every school district in Michigan as well as to educators in nearly 40 states, and Canada.
- The Journal is an important source of information for teachers and administrators in elementary through college levels.
- The Journal is published four times a year, with a readership circulation of over 6,000. A digital version is also available online.
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For ad space reservation or more information, please contact:

**Judy Paxton**  
Editor, *MACUL Journal*  
Telephone: 231.342.4801  
E-mail: jpaxton@macul.org

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