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Utilizing Technology in Our Programs

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Reflecting on 20 Years of Technological Change

by Wendy Warner

As I was scrolling through all the high school and college graduation pictures on my various social media feeds, I started to reflect on my graduation from both high school and college. Almost 20 years ago (I know, I know, that doesn't seem possible), I started my undergraduate career at Ohio State. The use of the Internet was just beginning to become commonplace on campus. I was given my first email address and I would make a weekly trip to the computer lab to check my email. As a junior, I took Ed P&L 600, which was a Basic Media Skills

Fast-forward to 2016 and I could not have imagined how dependent I would be on technology in my daily life and especially in my teaching! I can't stress enough the importance of finding a cloud storage service that you can use to save and backup your files. I don't have enough space to recount all the stories of student teachers and teachers losing years worth of work because a flash drive went through the washing machine or a laptop was stolen. I've tried several options - Box, Google Drive, Dropbox - and my personal favorite is Dropbox. For me, it is the easiest to access and keep organized.

Fast-forward to 2016 and I could not have imagined how dependent I would be on technology in my daily life and especially in my teaching!

course. The course was designed to prepare me for designing materials and teaching resources to be used with the technology of the time. I had the chance to create slides for the slide tray and create overhead slides. Yet, as we know, technology changes quickly. From the media course in spring 1997 to my first teaching job in August 1998, the use of Microsoft software was becoming more and more common in the classroom and technology integration has not slowed down.

Several of my tried-and-true technology go-tos have been developed by Google. At one time, I could not have imagined life without a paper planner. I always had my trusty planning companion filled with a variety of dates and scribbles. Yet, as I learned more about the features of Google Calendar I began to rely less and less on my paper planner. Google Calendar allows me to have instant access to my calendar on all of my devices. I also can keep up with my husband's calendar and make

sure that family events will not conflict with work responsibilities.

The collaborative features of Google Drive continually allow me to work with faculty members across the country and access and archive lessons and ideas from students and teachers. The saying goes "two heads are better than one" and that definitely holds true when developing materials and resources in my classes. For example, my students had to contribute descriptions of icebreakers and team building activities that could be integrated into FFA meetings. At the conclusion of the assignment, my students had ideas for over 100 activities that could be used. High school teachers could easily use a similar approach and have chapter officers or FFA members contribute ideas for activities to encourage teamwork. As well, the use of a Google Doc allowed 17 members of my class and two teachers to collaboratively plan and prepare for our end of the semester banquet. Even better, I now have those files to share with my next group of students for review and revision.

Additional offerings in the Google Suite, such as Google Photo and Google Sites, also have helped to revolutionize my professional life. Google Photo is an excellent way to organize, share, and archive photos. Considering I am still lugging around two

giant plastic bins full of printed photos, I only wish I would have had access to a program such as Google Photo while I was teaching. Google Sites has encouraged my collaboration with a colleague in the development of a resource on FFA history. You can check out FFA History Central (<https://sites.google.com/a/ncsu.edu/ffa-history-central/>) to assist in your efforts to develop and deliver exciting lessons on the history of the National FFA Organization.

Now, while I have just extolled all the virtues and possibilities for the integration of technology, I have to recognize some of the challenges as well. Research conducted on the barriers to technology integration included some challenges such as cost, availability of technology, and a lack of time to explore various technologies and develop technology-infused lessons. And yes, I have experienced all of these challenges, plus a few more, as a middle school teacher, high school teacher, and university professor. I would encourage you to start small. Consider the one technology you would like to start trying to implement in your course. Perhaps it is converting some of your PowerPoint presentations to Prezi? Or having students complete their student information form using Google Forms? Perhaps students can create an infographic in lieu of a traditional presentation? You might be frustrated at the process or amazed at the results, but you will not know until you try!

As you begin to consider the most appropriate use of technology in your program, spend some time searching for helpful examples. Reviewing the articles in this issue is a great place to start! The authors have done an excellent job in clearly explaining how they use technology in their programs and also several of the benefits. I would also encourage you to check out the San Luis Obispo FFA website (<http://www.sanluisobispoffa.org/>). There are so many things that I like about their website that I could probably ramble on for an entire article, but I do want to highlight the Social Media Guide that is available for use. This is a product of the efforts of the advisors, Anna Bates and Jodi Evans, and Texas Tech faculty member, Courtney Meyers, but they are all quick to point out that this is really the work of their high school students. You may find your students to be the best technology experts!

Technology will continue to change and it can be difficult to keep up. I still mourn the loss of some of my favorite tech tools - Google Reader, iGoogle, Picnik, Flip Video Cameras - but, I've had to move on. There may be some new technology that you never get the hang of....for me, that happens to be SnapChat and Google+. However, there are enough options to keep you interested and to keep your students engaged. Be prepared to encounter questions or issues that you just can't quite figure out. Fortunately, YouTube is an amazing resource and can generally provide help with just a few key words.

So, what are the Basic Media Skills needed for students and teachers today? How are you learning about new technologies and encouraging your students to use them in the classroom? What can your students teach you about technology? As you skim through this issue, I hope you will find at least one new technology tool or embedded technology assignment that you can implement in your classroom in the upcoming school year.



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Eight Simple Rules to Rockin' the Tech-Ed

by Amanda Ferguson

Technology in Education, you either love it or hate it. Today, the majority of educators fit into one of two categories: those who are grabbing at available technology, and those who are intimidated by it. The fact of the matter is that real world 21st century thinking requires real world 21st century learning. Embracing a variety of teaching techniques in your classroom, including the use of technology, can enhance the learning experience for each and every student. Teachers should be willing to challenge themselves, try something new, and never be afraid to ask for help.

In 2013, I was asked to present on using technology in the classroom at the California Student Teacher Conclave. This is a conference for new and current student teachers who are in the process of finalizing their Ag teaching credential in California. I had roughly 50 minutes to educate these new teachers on easy ways to integrate technology into their individual lesson and unit plans. Needless to say, I didn't fully realize the extent of this undertaking when I agreed to do the presentation.

I knew I wouldn't be able to tell them "everything." To solve this, I compiled a document titled Eight Simple Rules to Rock the Tech-Ed. In the presentation I covered each rule and gave a few of my favorites as examples. Teachers were given a URL link to the document, allowing those who wanted to dive deeper to have that opportunity. Technology doesn't have to be feared, but it also isn't something that has to be incorporated overnight. It's like that famous Creighton Abrams quote "When eating an elephant, take one bite at a time." Jump in feet first, and just incorporate one item at a time... but where to start?

#1 Discover the LMS

Every teacher has a "system" that works for them. Make it digital. LMS stands for Learning

Management System. An LMS is meant to act as a "jumping off" point for classroom organization. Systems can be software or application based and the majority of them are completely free. Here you can administer and track student progress, assign and collect coursework, and communicate with parents and students seamlessly. There are a variety of LMS platforms available for teachers, so be sure to do your research. Know what you want to get out of it, or utilize it for, and then you can easily find the right fit for you.

Over the past four years I have experienced or been introduced to a variety of LMS platforms. My favorite, hands down, is Schoology. Before you check it out, keep in mind, Schoology appears to have skipped the creative "look" for increased functionality. Mean-

Utilizing Schoology as a classroom LMS

ing it isn't exactly the best looking LMS you could have, but the variety of tasks you can complete with it totally makes up for it. Schoology allows you to complete simple tasks such as posting assignments or quizzes and links to additional resources. You can also use it for more sophisticated tasks such as conducting online courses, providing one on one remediation, or hosting discussions.

The best part of Schoology is the resource folder. Students and teachers each have their own resource folder. Teachers can utilize this as a storage hub, a place to store your assignments from year to year. Next year, if teaching the same course, you have an online location packed full of assignments, quizzes and project ideas organized however you choose. No more creating from scratch. Teachers can share resource folders with other teachers, or even entire departments. On the student side, have students use their resource folder as a portfolio creator. This could be a place for students to learn to organize and store assignments rather than simply submitting and forgetting.

One other beauty of Schoology is its accessibility. No matter the LMS you choose, it needs to be accessible to all students. Schoology is a web based platform, but it also has a free mobile app. Whatever LMS you choose, just make sure it works for you. There is nothing wrong with trying one for a while and switching. For example, I started one school year

using a wiki and at the beginning of October switched to Schoology. Best decision ever. Students are resilient, they will get used to and excited about whatever you are excited about.

#2 Hook them from the start

When I was student teaching, Nick Traini (fellow student teacher) made a reference that I will never forget. He repeated a quote from Dr. Joe Sabol that went something like this. "Spend one day teaching on a table without your shoes on." The funny part is he actually did it, but that's a different story. The point is you have to get students' attention! Every good lesson has a quality anticipatory set. Get their attention from the start and it will be yours the entire period.

My favorite technology hooks fall into two categories: games and video clips. I love to incorporate short video clips from Hollywood films that relate to the subject matter. For example, density. My most utilized video clip would be the one with the gold statue and In-

lesson about the density of different materials. MovieClips.com is an amazing site full of different short clips to pull in for situations like this.

Another great hook is games. Short review games can be a great way to gauge how much information your class retained over a weekend or break. An easy way to incorporate a review game is using Kahoot. Kahoot has a way of bringing out even the shyest students' competitive nature. I guarantee it will have your students up and out of their seats. The teacher creates the game, and has a variety of question options. Most are simple questions like multiple choice or true/false, but you can also incorporate YouTube clips and pictures as part of the question. When the students go to answer they earn points for getting the answer right, however their points received are also based on the speed with which they answer.

#3 Give them room

Whether you are on board with Common Core or not, the fact of

The point is you have to get students' attention! Every good lesson has a quality anticipatory set. Get their attention from the start and it will be yours the entire period.

diana Jones. He replaces the gold statue with a bag of sand, but the cave's trap is still triggered. This clip is roughly one minute long, and it leads us into an important

the matter is that students need to know how to compile research and report on their findings. A student being able to search, write and talk about a specific topic will

benefit them long after they leave your class. Technology doesn't have to be all about teacher to student interactions, but can also be completely student centered. This is where "give them room" comes into play.

I'm a big proponent of providing students with the basics, the requirements, some helpful information and allowing them to see what they can come up with. I always take the opportunity to showcase the excellent work to the class.

CK-12 is a terrific site for students, as well as teachers. CK-12 is completely free, and they provide customizable resources aligned to content standards. Teachers can provide specific documents to students, whole chapters or entire units, your choice. In addition to resource information, CK-12 also has drill practice and video links that are embedded in the digital chapters.

Collaboration is a big factor in my classroom. Today's Meet is a newer website that I have only used a handful of times, but it is great for hosting online discussions. Schoology (If that is the LMS you choose) can also do this same function. You can name your chat room and you can keep it open for a specified amount of time. If it is only for one class, choose the 2 hour option. If it is for the week during a longer project then go that route. The point is for students to be able to ask questions and provide information. You can post questions or prompts

and have the students respond.

Lastly, Vocaroo. One of my biggest pet peeves is when you finish giving instructions, you check for understanding and you think everyone is ready so you set them free. Then you hear "wait, what are we supposed to be doing?" Vocaroo comes into play for a lot of this. Record a podcast giving the instructions of the assignment. On an LMS like Schoology you can add the sound clip to the written instructions. This also helps in situations with students who have an IEP/ 504 plan, as well as English as a Second Language students. Hearing the verbal instructions in addition to the written ones means (hopefully) that every student should understand what is being asked of them. On the flip side, students can also create their own podcasts and submit them as part of an assignment.

#4 Let them Shine

Somewhere in education, students lose the creativity experience. It is present in grade school in the form of art projects and musical applications but somewhere along the line it is pretty much gone. Technology integration can allow you to bring some of that back. Videos, animations, projects, and presentations can give students a creative outlet for showing what they know.

One of my favorite educational toolbox elements is Educreations. Educreations is an online video creator. Teachers can create short tutorial videos and

upload them to a class "channel" while students can also create videos covering different topics of their choice. The cool part is your mouse acts as a pen, and most of the video can actually be written. This is great for showing different processes or calculations that a student should be able to "walk-through." For example, I use these when covering chemical equations. It allows students to write out the starting equation and show how to balance it, then they move onto a new "page" and do it again. They can pull up pictures during the video, so if they need to show an element's square or an entire periodic table they have that option. I have also used this as a tutoring tool. A teacher could easily create a series of short videos reviewing concepts from class to help students that may have been absent or are struggling.

Students love creating animations, but the majority of teachers don't have the time or desire to teach every student how to code HTML. GoAnimate or Wideo are two websites that allow students to create animations on a web based platform. GoAnimate actually uses characters, and the students input what they "say" while Wideo uses a variety of shapes and figures and the students set up their movement and timing. In the end they would have a student created video that allowed them to channel some of their digital creativity.

#5 Keep them Active

Students are always playing games, whether we like it or not.

We might as well embrace some educational types of games that allow students to review or utilize extra time. I pull games in when the students have extra moments before reviewing for a test, or if they have completed a test early.

I used to have a power point template that acted like a Jeopardy game. The slides were hyperlinked so if you clicked on a specific square it would take you to a specific slide, then you had to mark off that the square had been used. Students love to play Jeopardy but I hated setting the game up! It took forever to make sure the questions were in the right spot and no matter how much I put into it there would always be something wrong once the game started. I had a student my first year of teaching who told me about Jeopardy Labs and I was hooked. I haven't created my own Jeopardy game since. Jeopardy Labs works by you inputting the questions and answers and the website generates the game template. It has a "play mode" where you click on point values, the question pops up, then you click whether the student got it right or wrong. The website even keeps track of your teams' scores. I have students create their own Jeopardy games for review, then I create one and we play as a class. This is a great way to review before a test.

When incorporating additional games, classroom management can become an issue. I have a few different resources that I have used in the past to help with this. The Bouncy Balls noise tracker is one of my favorites. Similar to the

old school "teacher stoplight" the bouncy balls move when they encounter noise through your computer's microphone. It's easy and it's free. You can change the sensitivity if your computer is closer or further away from the majority of your students. Another resource

away from the old school leather bound paper portfolio. Adopt an online portfolio and then you can share it with anyone. Your portfolio can be a compilation of lessons, pictures, videos and student projects.



Utilizing Weebly as a Website. Site pictured here is www.kingsburgvikings-ffa.weebly.com

is classtools.net. This website has a few different opportunities for teachers but my favorite is the random name generators. You plug in your student names, they can be copy and pasted, and you spin the wheel. The generator picks a random student. I have used this to check for understanding at the completion of direct instruction.

#6 Have an online presence

A digital age means every teacher should have a digital presence. Many interviews are moving

Teaching students how to create an online portfolio isn't a bad idea. There are a variety of websites like Pen.io, Weebly, Google Sites, Wix, and many more that can allow students to create a personalized site showcasing their work. They should think of this as a kind of online resume. I'm convinced that agricultural education does more for students in terms of career preparation than any other high school discipline; we should be able to show that online.

#7 Continue to grow

One of my favorite quotes says “Who dares to teach must never cease to learn.” All teachers are lifelong learners. This is why we attend conferences, read articles about education, and attend classes to in turn better our students. It is vital to our careers that we continue to grow as educators.

There are easy ways to continue to grow with technology. One of my favorite websites in terms of utilizing technology in education is the Infinite Thinking Machine. ITM is produced by CUE (Computer Using Educators) and hosted by a variety of CUE’s favorite presenters. All presenters are current teachers who utilize technology in their classroom on a daily basis. The videos and information put out by ITM is fun and informational but not overwhelming. Just by following and watching a handful of videos you would easily pull away a tip or two to put to use in your classroom.

In terms of classes, Coursera is a site of compiled online college courses. The length of time ranges from 6 weeks to roughly three months and all courses are completely free. I’ve used their free courses simply to teach myself something new or review a subject prior to teaching it. For example, when I started teaching Ag Chemistry I actually took the Introduction to Chemistry course twice. I did the free option, so I didn’t receive credits, but in the end I was able to review the various subjects that I had forgotten

over time. I feel it made me better prepared to teach that course. Check it out, they may have something that interests you.

#8 Ask for Help!

Many teachers, myself included, finish their credential, get hired and feel like they are on their own. You have this mindset of “I’ve got this, they prepared me, I should be able to do this!” Somewhere along the line we feel like we are unable to or shouldn’t ask for help. We as teachers need to learn that we should be there to help each other, we should be there to build each other up. If you get stuck, especially if you begin incorporating technology, don’t be scared to ask for help! Seek out a teacher on your campus that is doing this well and learn from them. If all else fails, shoot me a message! If I can’t help you, I might know someone who can. The point is you shouldn’t feel like you’re alone.

Technology can enhance the caliber of any lesson and make learning fun and educational for both students and teachers. Remember that comment about the elephant, I don’t want you to feel like you must drop everything, adopt an LMS and put all your lessons online. You will be setting yourself up to fail. Instead, take one thing away and next week implement it in one class. How did it go? What could you do differently? The following week do it again, but change something. The next week incorporate something else. Grow as a professional, try something new and create a higher quality learning experience for

everyone involved. Technology, whether you love it or are intimidated by it, isn’t going anywhere.



QR Code to the complete document titled “8 Rules for Rockin’ the Tech-Ed.” All websites discussed in the article are present as well as many more.



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Utilizing Geocaching for Hands-on Learning

by Christina Slone

The current educational environment has evolved greatly with the introduction of technology. Secondary education relies heavily on in-class learning, but that is not always the best option for students. One method to overcome this obstacle is through the introduction of geocaching, a new, kinesthetically applicable learning tool. Geocaching is an outdoor recreational activity, similar to a treasure hunt, which utilizes a GPS receiver or GPS-enabled devices. This activity can be set up in groups or performed individually. The term “geocaches” or in some cases, just “caches”, refers to the actual containers in which the GPS coordinates are given. Geocaches are often placed in plastic containers, like Tupperware, and most often have a log book to keep track of those who have been able to use coordinates to find the site. Occasionally, to add an additional level of excitement and adventure to geocaching, the caches may contain souvenirs or trinkets that may be kept or traded.

The simplest way to get started geocaching is to first sign up for an account at geocaching.com. To sign up, an educator would be required to have either a valid email address or a Facebook account that can be linked (based on policies of the educational environment, Facebook may not be a viable choice.) Once an account is set up, the account holder can determine locations where they

would like to hide their geocaches. For each geocache, several items will be required, including a container that will either contain a logbook or a souvenir that can be traded. A separate container and contents will be required for each cache. According to geocaching.com, the minimum distance between geocaches needs to be at least 528 feet.

To utilize geocaching.com, under the “play” link, select “hide a geocache”. The website will provide the steps/instructions for hiding the geocaches. Once it has been determined where the geocaches will be hidden, select “create a geocache” and then select “already know your hiding spot?”. The choices to create the geocache are either “traditional cache” or “multi-cache”. For teaching purposes, the “multi-cache” choice is more effective, as it allows for

and the contents of the cache. A description about the location of the cache and its importance can also be included in the cache itself or within the logbook.

One of the best advantages of using geocaching.com is that it is free for the public to use and the geocaches can stay in place as long as they are needed. The significance of the longevity of geocaches is important to educators because it means that once they are in place, they can be used for different semesters. However, the geocaches do need to be approved by a volunteer (chosen by geocaching.com for their expertise) and this process usually takes about three days to be completed, prior to the geocaches being posted live on the site. Therefore preparing and planning ahead should be taken into account when planning an activity using geocaches.

Geocaching is an outdoor recreational activity, similar to a treasure hunt, which utilizes a GPS receiver or GPS-enabled devices.

educators to set up multiple caches at one time. For the location of the cache, the exact coordinates of the hiding place are required and they must be entered into the “coordinates” box. There is also a “description” box that allows for additional information to be provided about the cache, such as the significance of the location and how it relates to course of study

In order for students to use this site, they will also have to create an account. If a class was divided into groups, then only a few people would need to create an account, otherwise each student can create their own account. Once the students create an account, they can download the app for their smartphone or mobile device

and use the GPS from their smartphone or mobile device to locate the geocaches, which the educator has hidden. However, it must be noted that the GPS systems in phones and mobile devices are not completely accurate and therefore, a handheld GPS device may be more beneficial. Using their accounts, students will have the ability to check-in online, noting whether they have found the caches or not and they will be able to leave relevant comments. Checking in can be completed with the use of a smartphone/mobile device or through the website, which provides the educator with a system of accountability for the students. The geocaching.com site keeps a log of every cache that has been found, which ultimately ensures each geocache has been located.

As an example in practice, an introductory level environmental microbiology/microbial diversity course could greatly benefit from an activity such as geocaching. As the educator, a class could be divided into small groups and each group could be provided sterile swabs. Choosing five or six locations around campus that might represent different areas of microbial growth, the educator could direct the student to collect samples. The samples could be collected in areas near trees, water sources, or different types of soil. At each geocache, the students could write a brief description of the area, and collect the swab sample from the area. They would then bring the swabs back after everything had been collected and streak the appropriate media plates for growth of the organisms. After incubation, they would be allowed to perform

different tests to determine the types of organisms they found at each site. Since geocaching.com allows pictures to be taken and posted for the various geocaches, the results from the growth on the media plates could have pictures taken and documented by linking them to the location of their origins. The process of collecting these samples could be repeated at different times of the year to determine if different species grow based upon changes in climate conditions.

Another example in practice would be the use of geocaches in an environmental biology/ecology course to observe different natural animal environments. Once again, an educator on a collegiate campus could choose a variety of locations that would offer different surroundings and animal habitats. These could include areas of trees, flower gardens, or streams. The students could then take pictures around each geocache to capture the wildlife and habitats at each location. Afterwards, they would be able to compare the habitats and determine which animals would be found in those locations and expand on the information collected to form conclusions about why certain animals are found in certain habitats. Again, it may be beneficial to repeat this geocache project a couple of times throughout the year to document the changes in the environment, habitats, and animals observed.

Geocaching is a great example of a technologically-based, recreational activity that allows students to be physically active, while kinesthetically learning about

GPS coordinates, tracking, and any accompanied tasks associated with the caches that they are directed to locate. Geocaching can be manipulated to suit a variety of educational needs. Due to the technological nature of geocaching, educators can track their students' work and progress, thereby allowing a system of accountability and grading for activities completed out of the classroom. Additionally, educators can expand on the technological aspects of geocaching, and encourage students to create their own geocaches and track individual or class progress on a website or Instagram account. Educators can also share their geocaches with each other, and because the service is free and there are no limits to how long a geocache may remain posted on the geocaching.com site, the educational resources are preserved on the Internet for everyone to utilize.



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More than “Words with Friends” Applications for iPad Integration into the Classroom

by Elizabeth Noblett

In today’s classroom the use of technology is vital in engaging students and presenting material in a fun and interactive manner. With all the technology available and with many students possessing smart phones and tablets, it’s no wonder they would rather play “Words with Friends” or “Flappy Bird” instead of sitting through yet another PowerPoint presentation on plant identification or the reproductive cycle of a ewe. Instead of “banning” these technological devices in the classrooms, educators need to take advantage of the applications tailored to education and even agricultural education.

Let’s take a look at some of the applications (for everyday classroom use as well as those that focus on agricultural education topics) that are available for use on the iPad and iPhone.

Google Drive (<https://www.google.com/drive/>) is an application available for download on a computer as well as applications available for portable and mobile devices. This program allows for creation of documents, presentations, spreadsheets, and forms etc. Google Drive then allows for sharing of files, increasing the opportunity for student collaboration. This platform is excellent for implementing group projects, since it allows for multiple editors

to work on the same document simultaneously. Another useful feature is that Google Drive provides cloud-like storage and can be accessed from anywhere with Internet access, ultimately removing the age old excuse of “I left my homework at home.” Encouraging students to complete and submit assignments electronically allows for students to have constant access to their work and promotes organizational skills.

Evernote (<https://evernote.com/>) is another excellent educational resource to encourage organizational skills. Evernote, much like Google Drive, is available for download for computer desktops as well as tablets and mobile devices. This software allows for notes and documents to be uploaded and then organized via “note-

Quizlet (<http://quizlet.com/>) serves as an excellent high tech study aid for students. No more making vocabulary flashcards on plain white index cards, when students can make them electronically and access them anytime on their phone or tablet. Students can create a free Quizlet account and have access to a huge database of flashcards regarding subject matter in Horticulture, Animal Science and a wide variety of agricultural topics. Quizlet contains over 35 million study sets that have already been created and can easily be accessed. Students also have the option to create their own set of flashcards pertaining to specific classroom content. The Quizlet application can be downloaded for mobile/tablet devices and provides students with unlimited access to their flashcard sets.

This particular application can be used to encourage “active learning” and cause students to investigate the trees around them.

books” and/or tags. The synchronization function within Evernote allows for any and all devices with Evernote enabled to maintain the same content, essentially another version of “cloud storage.” Evernote allows for sharing of information, allowing students to send information to one another. The search function within Evernote also allows for notes to be found in a quick and efficient manner.

Let’s now consider some applications that can be implemented specifically in an Agriculture Education Classroom.

CEV- Floral and Wildlife ID apps- These applications are great for re-enforcing plant and wildlife identifications. The Floral ID application can be used to assist in preparation for the National Floriculture CDE. This application

contains the entire 124 floriculture plant list and is geared toward assisting students with plant identification. The app contains plant images, audio pronunciation of the common and botanical plant names, as well as a practice quiz (so students can test their knowledge). The Wildlife ID app is set up along the same lines as the Floral ID app. The Wildlife ID app is aimed at student preparation for the National Environmental and Natural Resources CDE. The app contains 115 different species as well as equipment. The application contains images of wildlife and equipment, audio pronunciation, and a practice quiz. These applications are excellent teaching aids to assist and reinforce concepts needed for competition.

Leafsnap (<http://leafsnap.com/>) is an application that was developed by Columbia University, the University of Maryland, and the Smithsonian Institute. The application aims at identifying tree species based on photos that are taken of their leaves. The Leafsnap application also contains images of leaves, flowers, fruit, petiole, seeds, and bark that was compiled by the conservation organization "Finding Species." The application currently contains the trees of the Northeast but will soon include the trees of the entire continental United States. This particular application can be used to encourage "active learning" and cause students to investigate the trees around them. Going outside and using photographs of leaves for identification allows for an interactive experience versus simply sitting in the classroom

and viewing a photo presentation. Implementing this type of visual recognition technology can increase a student's curiosity and result in tree identification outside the classroom assignment atmosphere.

Gestate (<http://www.enatal.com/gestate.htm>) is an application that can be implemented within an Animal Science course to provide interactive experience with animal gestation length. The application includes a default gestation length for fifty common species, and allows for these lengths to be adjusted based on variations among breeds and species. The application allows students to enter a particular species and calculate several things. They can calculate: breeding date from birthing date and vice versa and calculate gestational age and days remaining, as well as save information for "custom animals." This application would be an excellent resource for a classroom that has live animals and needs to track their gestational progress and/or determine a breeding or birthing date. This application could also be used with students who have their own family farms and could allow them to keep track of an animal's gestational progress.

Livestock Manager (<https://itunes.apple.com/us/app/livestock-manager/id728215405?mt=8>) is an application allowing students to keep track of animals that reside within their agriculture education program. The application uses cloud storage within iTunes and is compatible for use with horses, sheep,

cattle, goats, and pigs. The application sets up a profile for each animal which includes a photo, information regarding lineage (i.e. a sire and a dam), date of birth, date of breeding, anticipated due date, vaccination history, and offspring history. This application encourages students to integrate technology into their school's animal science program and maintain records very similar to that of commercial livestock operations.

These are just a few of the applications available for use on the iOS platform with devices such as the iPad and the iPhone. Students have access to so much technology that it is time to embrace these devices in the classroom and to encourage their use in an academic manner versus the ever so infamous task of "gaming" or "checking Facebook." The abilities of iPads and their applications are somewhat endless, as new applications are appearing daily. Implementing their use within the classroom will aid in presenting information, reviewing information, and storing information in a technologically savvy way.



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Schoology: Instructional Management for the Busy Ag Teacher

by Chad Holloman

The balancing act of grading, lesson plans, Career Development Events, school meetings, parent conferences, and managing the school barn or greenhouse is an everyday challenge for agriculture teachers today. In the years I have spent in my classroom, staying organized seems to always be a bucket-list item that never gets checked off. As an Agricultural Educator entering my fourth year of teaching at the same school

ties for agriculture teachers. Even after extensive research and consideration, I was not satisfied with resources afforded to my students. Then, a colleague introduced me to Schoology. Finally, I thought my bucket-list item of organization management may be checked off.

Schoology is a FREE Instructional Management System (IMS) providing teachers with all the flexibility needed but still maintaining structure for students. Over the last year, students in my class

course over so that you don't have to start over from scratch each semester.

Key Features

Assessment – The teacher can create multiple choice, true/false, essay/short answer, ordering, and fill in the blank test questions, which can be manually graded or computer graded (based on question type). Other options include having the student see the responses immediately, have the students see responses at a later date, have the student see the correct answer, etc. The teacher also has the flexibility to open and close assessments at a certain date and time, randomize the questions and the answer choices, or assign the students' different versions without the student knowing it has been administered this way.

Folder Organization – The teacher has the option to divide curricula and material as necessary. Folders can be labeled based on the preferences of the instructor. For me, folders are labeled based on Unit Plans (Competencies and Objectives).

Files and Links – The teacher can select what type of format the student will view the material. Files can easily be added from already organized files on the computer desktop or in Google Drive. Links can be provided to external resources such as videos, web

In the years I have spent in my classroom, staying organized seems to always be a bucket-list item that never gets checked off.

where I started my career, I had cycled through organizational methods and programs such as Google Drive, Edmodo, a school website, and daily emails to keep my students organized, engaged, and "trained" so information was readily available for their use. It was a priority as a classroom teacher to ensure instructional technology was not only used in my classroom but also served as a model for other teachers. While in graduate school, I spent considerable time examining various technological tools while examining the use of instructional technology in agriculture classrooms and professional development opportuni-

ties have embraced the use of this IMS and have encouraged other teachers to adopt the system. While the system is not unique in some design features, it has the potential to save the busy agriculture teacher hours of curriculum design and implementation.

Features that my Professional Learning Community list as the essentials in Schoology include assessment variety and grading, folder organization, organizational variety such as files, links, work submission, and discussion for students. Other items regularly used include the Gradebook, Attendance, Parent Access, and the option to "copy" the core of the

links, live documents in Google Drive, pictures, diagrams, etc.

Work Submission and Discussion – Want students to electronically submit the assignment? Have a hot agricultural topic that your students need to discuss? A discussion feature can be easily added to the course to promote

can see everything that is viewable to their child. This is one of the best features that the parents of my student’s love!

Course Shells – With most IMS, the struggle is the course design each semester. After much work and consideration, a teacher can finally get the course to look

Parents like the organization of the course and participation as a stakeholder in their child’s education. As a teacher, it provides flexibility in instructional design and implementation, integrates instructional technology, and provides the opportunity for my students to be introduced to how many colleges organize curricula now. This opens the door for my students to be college and career ready just by the design of this program. At the end of the day, Schoology is a win-win for all users! As you consider the best tool to establish and organize your course, I would encourage you to invest time exploring the versatile features of this free program!

As a teacher, it provides flexibility in instructional design and implementation, integrates instructional technology, and provides the opportunity for my students to be introduced to how many colleges organize curricula now.

student thinking and dialogue. This can also be moderated by the teacher!

Gradebook – Teachers have the option to set assignment weights based on grading policies. For my class, the gradebook is weighted for Tests and Labs (50%), Homework (25%), and Classwork/Participation (25%). Once the grading weights are established for one course, they can easily be copied to others.

Attendance – Worn out by taking paper attendance? Schoology has a feature for daily attendance, which is accessible by all stakeholders, along with grades.

Parent Access – Struggling with parent communication? Do you have issues with students not sharing with their parents what is going on in class? Parents can be provided access to the individual student’s Schoology account and

exactly like they want only to have to restart the next semester. With Schoology, teachers are able to copy over everything and modify as needed. For me, I copy everything over, change deadlines and availability, and add/hide items.

As a young professional, I appreciate the many features of Schoology. Even if I forget to open an assignment when competing in a day-long Career Development Event, my teaching partner can open it for my substitute (since I have assigned him as a co-teacher to the section) or I can open the assignment using my mobile device once a student emails me to let me know the concern. Few programs offer a mobile presence that is so intuitive!

Overall, Schoology has changed the way I do business in my classroom. Students appreciate the structure, availability, and overall design of the program.



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Prioritize, Plan, and Maintain Motivation with Trello

by Nicole Ray

In the world of education, to-do lists are a must for many teachers as well as successful students. Teachers can help students meet learning objectives by teaching them the tools they will need to help with organization and prioritization. A great way to do this is modeling the tools you use to organize your life. Personally, I love my Google Calendar, and I find Wunderlist really helpful for tasks like packing and groceries, but recently I discovered Trello. Trello is awesome because users can create several boards, or “to-do lists,” and on each board users can create and share several tasks, checklists, attachments, comments, and more. As a teacher and supervisor of student leadership activities, I can help students to determine which steps are required to work toward their goal.

How it works

After creating a Trello account users can create boards. There are a variety of ways to organize these boards (lists).

- Creating a team board allows users to view a group of boards with those in an organization. Individual boards can also be created and even shared if desired.
- Once a board is created, users can add lists (columns). These lists organize the tasks in col-

umns. Column names might include to-do, in progress, and completed. These list names can be edited, and additional lists can be added to meet the user’s need.

- Cards can then be added to these lists. Each card has a myriad of tools to assist the user including adding due dates, a checklist, assigning the task to members, and even attachments. Once created these cards can be continually

Teachers can help students meet learning objectives by teaching them the tools they will need to help with organization and prioritization.

edited and also moved from list to list as needed. Users can also print, copy, and share the list.

- The calendar feature is a great way for users to visualize due dates and help users to meet deadlines. These tools can help teachers and student leaders to assist their followers in meeting goals while breaking perhaps daunting projects into manageable steps.

Supporting Science

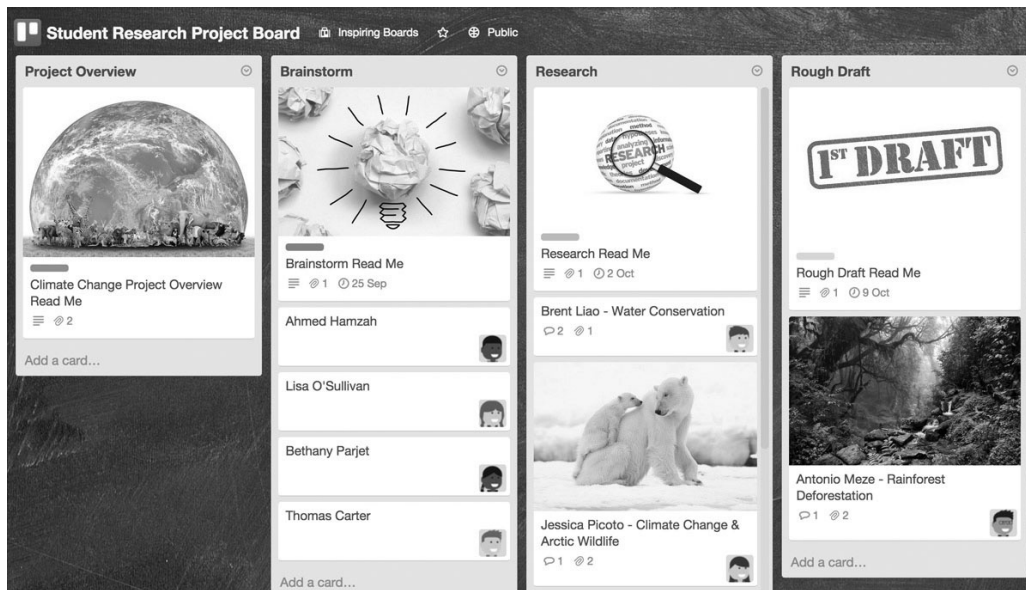
According to Ambrose, Bridges, DiPietro, Lovett, and Norman (2010), “students’ motivation gen-

erates, directs, and sustains what they do to learn” (p. 69). Motivation is strongly tied to self-efficacy, an individual’s belief they can accomplish a specific task. Further, to maintain motivation, individuals must also believe the goal or task they’re pursuing is worthwhile. Since students set goals based on their previous successes and failures, it is important to ensure the goals set for students and followers are perceived as attainable. If goals are attainable and the rewards (either intrinsic or ex-

trinsic) are worthwhile, they will likely pursue the goal. As leaders (teachers are leaders in the classroom) we can increase followers’ self-efficacy by helping them to experience success. In order for efficacy to be increased however, the goals must be perceived by the follower as challenging. Followers and students with high efficacy are likely to continue to pursue goals even in the face of difficulty (Tollefson, 2000).

Impacts

If teachers can help students to maintain motivation, students may be more likely to attain goals



Trello provides goals and breaks projects into manageable outcomes for students.

and desired learning outcomes. Trello can prove to be a valuable tool with students in classes, student leadership, and even teacher collaboration.

Trello can help break large projects into manageable parts, thereby making goals more attainable and consequently maintaining students' self-efficacy (belief they can attain the goal) and motivation. Trello can be helpful in assisting students in planning and determining the steps necessary to complete complex projects. Teachers and advisors can also monitor progress on shared boards. Users can delegate tasks and learn to work collaboratively. Depending on the project, teachers may or may not want to assist the students in determining all the key steps. A crucial part of project and problem based learning however, is allowing students to take these problems on and work through them with their teacher

as their coach. Allowing students to take the first steps in determining the course of action is a great learning experience for them.

Advice on getting started

Trello is an extremely powerful tool with many resources and features for users. Once users create an account, a "Welcome Board" is created to showcase the basic features. The Trello Resources page can help users to take their boards to the next level with inspiration ideas and tutorials. Trello is free and can be used as a web based application, as well as through an Android or iTunes app. In order to share lists with others, they will need an account. Users can log on using an existing Google account which makes for quick startup. Teachers can share an invitation link with students to quickly add classes to a shared board.



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Move Feedback and Student Learning to the Forefront with Doctopus

by Nicole Ray and Robert Strong

Doctopus is a google sheets add-on that will change your teaching life! Doctopus allows users to organize shared documents, provide feedback quickly and easily, allows peers to provide feedback and MUCH more. Doctopus can even integrate with Google Classroom for those teachers who have access as a Google school.

The unfortunate part of most technology use in classrooms is it fails to engage students in collaboration and critical thinking. Google Drive has surfaced as a tool many teachers are utilizing to support the paradigm shift from the teacher, to the student centered learning model. Doctopus has emerged as a valuable instrument to help teachers manage distributing assignments to students as well as allowing for collaboration. Teachers and students can use these tools for free anywhere, any time.

Although hardware and software are more widely available now than ever before, there is a deficiency in the ability to implement them in education. Pitler et al. (2012) summarized Schacter and Fagnano (1999), “applied effectively, technology not only increases student learning and understanding, and achievement but also motivates students to

learn, encourages collaborative learning, and helps develop critical thinking and problem-solving skills” (p.3). A classroom with a focus on technology utilizes teacher facilitated, not teacher reliant learning. Students are inspired to move beyond finding the right answers and truly engage in the learning process (Cuban, 2001).

How it works

Google Drive and Doctopus can facilitate the shift to teacher facilitated learning. Once teachers and students have Gmail accounts, teachers can use the following steps to share assignments and begin collaborating:

1. Teachers begin by creating a new Google Sheets and adding the Doctopus add-on.
2. Doctopus will walk teachers through the step by step process of creating and distributing an assignment.
 - Doctopus Step 1: Teachers can choose to use an existing Google classroom assignment or use an existing roster (or create a new one) to create a new assignment.
 - Doctopus Step 2: Doctopus creates folders for the class.
 - Doctopus Step 3: Teachers determine which sharing

arrangements they’d like for their project: individual-all the same, individual-differentiated, group project, or whole class single shared document. Teachers then determine access for the whole class as well as individuals. Viewing allows students to only view the document. Commenting allows text to be selected and comments to be made. These comments appear in the margin, others can respond to these comments as well. Editing allows edits directly to the document.

- Doctopus Step 4: Teachers choose the project template or assignment they would like to assign.

Once shared, the documents will appear in the students’ shared Google Drive. Teachers can monitor student progress from their dashboard, and when the assignment is complete teachers can prevent students from making any further edits for as long as they choose.

Impacts

Google Drive is an invaluable collaboration tool. When combined with Doctopus this software can transform teachers’ classrooms into centers of great thought. The benefits of collabor-

ative work are well documented, and is certainly required as part of the 21st Century Skills. Google Drive and the Doctopus add-on have several benefits:

1. Flexibility in sharing arrangements for teachers- Group, individual, or whole class projects are possible depending on the intended learning objective.
2. Organized shared files- Saves teachers' and students' time and frustration by organizing files into classes on Google Drive.
3. Allows for collaboration of students and teachers anytime, anywhere through the commenting, suggesting, and edit functions. With group and individual projects classmates can provide feedback.
4. Progress monitoring tools- Teachers can monitor student progress by having access to every document via individual links on the teacher dashboard. Teachers can also view data on the word count, number of comments the teacher, students and peers have made and resolved, and the number of comments students have made on others documents.
5. Provides a teacher feedback mechanism- Teachers can comment on text selections. Additionally,

teachers can work in suggesting mode, which shows students the suggestions the teacher is making directly in the text. Students can choose to accept or reject the suggestions.

6. Provides an assessment mechanism- Teachers can leave feedback and a score to be emailed to students from the teacher dashboard as well as comments on the document.

Advice on getting started

There are a myriad of tutorials in existence on YouTube, as well as other platforms to assist teachers in getting started with this resource. Although not required, a Google Educator Certification would serve as a valuable tool for those teachers who might not yet be familiar with Google's capabilities. An additional Google app called Goobric permits teachers to create rubrics and utilize them for summative and formative assessments. This app is intended to be used in conjunction with Doctopus, and certainly adds more valuable feedback for students, and ease of use for teachers in regards to technology related assignments. Google Chrome is free to download, as is the Doctopus add-on. Google Drive can be used on any web browser; but it works best when used on Google Chrome. Teachers and students will need a google account to use this collaborative educational tool.

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Padlet: A Graffiti Wall for Today's Agriculture Teacher

by Meghan Wood

It is no secret that agriculture teachers wear many hats. There were many days when I felt as though I wore the hats of a secretary, book keeper, guidance counselor, greenhouse manager, mentor, publicist, computer technologist, coach, seamstress, chauffeur, janitor, plumber and lastly teacher and FFA advisor. How do agriculture teachers keep up with the responsibilities of the job? We must quickly learn how to use valuable resources and effectively manage our time so our efforts are more productive.

Adding another hat to the pile of job responsibilities just seems normal as we find useful tools to help us do our job. So, let's add a hat called "social media manager." Agriculture teachers have figured out social media provides

great ways to effectively market and publicize our students' great talents and FFA chapter happenings. Whether it is informing community members of chapter activities or reminding officers of weekly duties, social media can help make agriculture teachers more effective in our efforts.

This article provides another example of a social media tool called Padlet that can be used by agriculture teachers to creatively manage many components of their classroom and FFA program.

Padlet is an interactive "message board" and "graffiti wall" that can be used by the teacher and students to collaborate together and be shared with others. Worried about privacy? Don't be. As with any social media site, privacy settings can be set accordingly and accessible to only

those who you invite. You can also adjust the privacy settings for who is allowed to write or post on the wall as well. Padlet can be customized for just about any occasion and has a variety of wallpapers to choose from or you can upload a picture of your choosing such as an FFA emblem background. Padlet offers a variety of ways to customize your wall to show posts randomly or in a sequential, streaming order. I personally like the free-form option.

Padlet in the Classroom

Padlet serves as an interactive classroom tool for students to complete and post assignments through pictures, website links, or comments. Padlet can also be an "exit ticket" or interactive assessment tool to use in your classroom instead of the traditional (yet sometimes boring) pen and paper. Padlet can be used as a tool for students to complete class research projects by posting their content to their own personal Padlet wall and sharing it with you. Additionally, Padlet may be helpful in classroom brainstorming sessions where participation can be active rather than passive for all students. Teachers can use Padlet for K-W-L (what I know, what I want to know, what I learned) charts for pre and post assessment in your classroom. Students can also post questions about specific assignments or topics. Parents can be given access as an easy way to see their



Padlet used in the classroom.

student's work in the classroom. Padlet also allows for teachers to keep lesson planning resources such as pictures or websites all in one safe spot. You can easily post relevant website links for each lesson plan topic. This is an example of students using Padlet as a way to reinforce concepts in greenhouse pest management. I labeled it Mrs. Wood's Classroom and added the description: Please post one picture of a greenhouse pest we discussed in class today.

Padlet in the FFA

Padlet offers a wide array of options for teachers and students to use for their FFA chapter. Padlet may serve as a type of interactive scrapbook to archive all of your favorite pictures during the school year. I am guilty of not always printing pictures from our events and then would have to search for hours just for one picture. Pictures of student work, projects, activities, memories, and so much more can be shared with



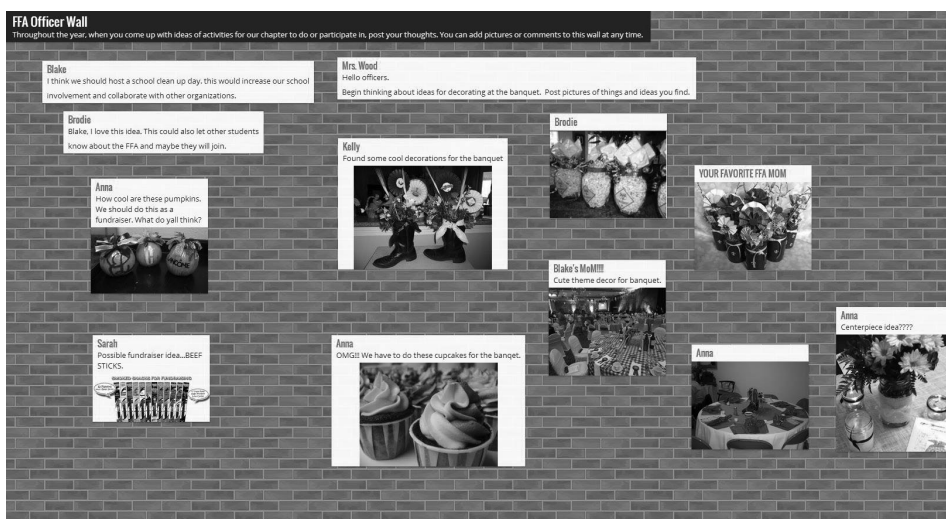
Padlet used for the FFA chapter.

those people you invite to your wall. It can also provide teachers a great way to recruit students to their classroom and FFA chapter, as well as inform the community and school administrators of what activities your chapter is involved in throughout the school year and summer. In this example, Padlet is used as a “Memory Wall” for students to post their favorite FFA memories throughout the year. These pictures can be added or

removed at any time by you as the page owner. You also have the option of moderating posts before they appear on the wall.

Padlet for FFA Officers

Padlet is also a great tool to share ideas amongst a group. When developing your Program of Activities, you can easily refer back to your ideas and comments made by others to remember ideas from year to year. Padlet gives a voice to creative minds and allows students to share their ideas, even when they think others aren't listening. Agriculture teachers are always looking for fundraising ideas, community service projects and other ways to get their chapter involved in the school and community. Padlet offers a way for students to quickly share their ideas with others without having to wait on the next chapter meeting. Padlet can also serve as a reminder board for students about class assignments, FFA meetings, officer meeting agenda topics and many others.



Padlet used for the FFA officers.

A Cross-Contextual Consideration: The Agricultural Education Profession and Free-Lance Economy: How Unorthodox Ideas May Potentially Promote Growth

by Helen Barela

The “Gig” Economy

The unemployed, underemployed and discouraged workers have remained above prerecession levels via utilization of the “on-demand” economy (CNBC, 2016). Data from National Employment Law Project show low wage job gains outpacing higher wage jobs growth (CNBC, 2016). There are now 1.2 million fewer jobs in mid and higher wage industries than there were prior to the Great Recession, while in contrast there are 2.3 million more jobs in lower wage sectors than before the recession (CNBC, 2016).

Many American workers, college students to chronically underemployed and above 50 years old, have turned to small task jobs to create a patch work of employment (CNBC, 2016).

“Labor that falls under the underemployment classification includes those workers that are highly skilled but working in low paying jobs, workers that are highly skilled but work in low skill jobs and part-time workers that would prefer to be full-time. This is different from unemployment in that the individual is working but isn’t working at their full capability” (Investopedia, 2016).

According to a 2014 report by independent research an estimated 53 million Americans greater than 1 in 3 workers are freelancers (CNBC, 2016).

In 2013-14, the American Association of University Professors (AAUP) annual report, demonstrated the number of part-time faculty members and full-time, non-tenure track faculty members hired increased by 286 and 259 percent, respectively, since 1976 (AAUP, 2013). On the other hand, the amount of full-time tenured and tenure track faculty members hired only increased by 23 percent since 1975 (AAUP, 2013).

In recent years, academia has had a steady increase in adjunct/instructor positions which from a cross-contextual consideration can be likened to the precariat.

The Precariat

A term has appeared more common within business literature, the “free-lance economy”, the “gig economy” and “sharing economy” (Forbes, 2015). These terms appear new however, “precariat” has been around awhile from sociology and economics (Macmillan Dictionary, 2011). Connections between sets of terms stem from uncertainty and how professionals/industrialists handle volatile economic factors (Macmillan Dictionary, 2011).

According to the British academic, Guy Standing, the Precariat is a growing class of people living with short-term and part-time work (New York Times, 2014).

Amidst the tough economic climate of 2011, the reality of budget cuts, job insecurity and diminished employment rights has been captured in a socio-economic term, the precariat. The precariat describes a social class of people whose lives are ‘precarious’ because their employment situation provides them with very little or no financial stability (Macmillan Dictionary, 2011).

The “American Precariat” seems more insecure, risk averse, relying on friends and family but without faith in the traditional American dream of a long term career or the land of opportunity perception that historically prevailed within various generations. These views are historically uncharacteristic of America (New York Times, 2014). The emergence of the precariat is thought to be a direct result of employment policies in our modern, global economy (Macmillan Dictionary, 2011).

Unorthodox ideas and increasing growth in Agricultural Education

Educational backgrounds of a precariat may be highly educated/skilled or individuals fearlessly attempting to secure financial re-

turns in a volatile market. Cross-contextual and historical considerations with a modern lens will be idealized in this article and how to further build one's agricultural educational portfolio to increase opportunities within the emerging free-lance economy.

A free-lance economy has also arisen via technology advances such as, applications, Uber and Airbnb, as well as, online advances making the pathway to entrepreneurship easier for those without much assets or start-up capital (New York Times, 2015). In various ways, there have been several market efficient outcomes for freelancers and consumers have voiced they enjoy the benefits of these on-demand services (New York Times, 2015). However the newer economy is not without its own set of challenges in that there are still legal issues to be considered with regards to tax structures and the role of "employee" vs. "independent contractor" (New York Times, 2015).

Agricultural Education remains a small profession however; agricultural communications brings an added opportunity from a technological stand point. All things considered to potentially promote growth within our agricultural education profession here are some unorthodox ideas to generate brainstorming. We have a number of under-capitalized opportunities: (1) Collapse the higher number of emerging teaching and graduate assistantships into more assistant professor positions with the concept of placing newer graduates within the profession

but with the "gig" economy perspective that such positions will follow non-tenure 1-2 year appointments. And have these short-term appointments mentioned in the description with the expectation that newer assistant professors are required to collaborate amongst multiple departments of their choosing and/or international universities. This will provide opportunities for emerging professionals within the Agricultural Education profession to establish

experiences beyond traditional curriculum or employment will only make our graduates stronger, wiser and more prepared for volatile economic times. Additionally, our graduates can easily document and demonstrate how their educational background in agricultural education is highly transferable. One of the greatest barriers we face within our profession of agricultural education is the incorrect perception and lack of understanding of what an agricultural educa-

Building broader experiences beyond traditional curriculum or employment will only make our graduates stronger, wiser and more prepared for volatile economic times.

new experiences with many different universities. Such opportunities can provide for higher rates of cross-disciplinary innovative research that distinguishes our profession. Long standing professors within our profession can play a vital role in bridging connections/networks that additionally expand our profession through their advanced historical methodologies and accomplishments.

(2) The agricultural communications sector of our profession could be the key to collaborating with computer programmers to develop applications that seek to pair graduates within our profession to either universities or companies seeking out related agricultural education skills with the mention of a temporary/full time/part time "gig". Building broader

tion degree empowers students with beyond traditional classroom teacher roles. (3) Last but, not least, our students and emerging curriculum within agricultural education should contain unique but complimentary minors and internships such as, computer programming focused on applications development, accounting with the opportunity to become a certified public accountant, criminal justice with emphasis in forensics for crime scene investigations (to include animal cruelty amongst a multitude of crimes) or loss prevention or military science with emphasis in logistics or actuary for students who excel in mathematics/statistics within our profession. There are so many different skills our students learn from agricultural education that can be cross-utilized in other profes-

sions, but officially documenting and overcoming these barriers still remains an unsolved challenge within our profession. We can create continual building blocks with flexible curriculum that will allow our alumni to add such types of continuing education credits that will allow them to bridge into additional sectors that are well related to our profession.

Final Remarks

Our economic landscape has changed for agricultural educators within the university setting based on limited grant funding and so has overall emerging economic trends (Barela, 2015). Many of these trends have happened in a short time span thus, further setting the stage for innovative opportunities and forces a necessity for adding stronger building blocks to our profession which can in turn create amazing growth for our current professionals plus new interest for recruiting students into our profession. Our profession needs to grow along with continual opportunities and the challenges within the emerging economic trends. Part of growth and expansion is realizing trends around us and thinking in an unorthodox manner that provides opportunity for all of us within our profession. It is certain any form of change and growth will produce “growing pains” however; these are what challenge the profession to become sturdier while more dynamic. Industry is of a more dynamic nature and academe is becoming more dynamic.

In conclusion, our profession has changed over the years ac-

ording to the needs of our farm/ranch clients and now more than ever we have a wider audience with the aid of technology at our finger tips therefore, we should view these volatile times as our greatest time for the most amazing and substantial innovations.

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Are we truly serving all?

Keys to making a positive difference in the lives of ALL students

by Stacy Vincent, Quentin Tyler,
and Tiffany Harper

Early in my teaching career I was way too confident in my ability to teach every student. Why wouldn't I? My colleagues and I had built a large program, students were winning contest (because that is what it is all about – sarcasm font), and the community was providing us with everything a teacher would want. Efficacy high – ability to connect to ALL, low. Reality/Gut check hit me during the summer of my sixth year of teaching. I had 16 students attending the Washington Leadership Conference. During one day at the conference, one of my students made a huge leap of faith by professing his sexuality to one of my chaperones. The chaperone acknowledged the difficulty the young man was going through and compassionately suggested he talk to me for guidance. It was then that he sent the knockout punch, “Because I think he will hate me after this.”

I would hope that all of us would never want our students to think that they couldn't come to us during a trying time in their life. But how would we feel if we discovered that the student didn't feel comfortable talking to us? For me, I questioned everything I had done in the classroom. Did I say something that made him believe that I was not welcoming? Did I laugh at a joke that could have been offensive? Did I ignore

comments that he paid close attention to?

In my practical life (and yes, professors do have one) and my research world, I discover these subconscious behaviors play a very major role in who feels comfortable around us. Let me provide you a few examples. Have you ever been on a first date and knew after the first thirty minutes whether there would be a second date? Did you take a college class and have a gut feeling that you should drop the class after only being in there for 10 minutes? The process is called “thin-slicing” and the results are devastating in the classroom. Our subconscious behavior allows us to “thin-slice” particular students in the class and we don't even know it is occurring.

Now, before you turn the page and move onto another story because you think this one is full of “hocus-pocus” fluffy stuff, there are hard-core scientific data to support why our brain, and the brain of our students, thinks the way it does. Trust me when I say that we all thin-slice. The more important point is we can minimize thin slicing.

Below, my colleagues and I take a quick stab (not a solution) to assist you with steps that can help you in being a more inclusive teacher. I am providing some items for reflection...from one teacher to another.

1) Do you favor? (Dr. Vincent)

Hopefully none of us want to think that we show favoritism. Favoritism is thin-slicing in one of its simplest forms. A very simple test that can assist you in recognizing how you thin-slice without knowing it is have a student or two evaluate which side of the room you are teaching to at every five-minute interval. Sometimes it is to avoid a student that reflects a bias we obtained from our younger years. It has nothing to do with the specific kid in the classroom, but our brain begins to think way ahead and associates the student as having the same as one from the past. Maybe it was their mannerisms, behavior, or even style of clothing. It doesn't matter, thin-slicing occurs and the student is already turned off, dropped the class, never involved, or simply never really connects with us.

To break the habit of thin-slicing in my classroom, I sometimes ask every student to make a paper-wad. They had complete permission to throw it at me if, by the end of the class period I had not a) called on them to answer a question; b) requested their assistance on something; or c) had not associated something positive towards their work. When I visit a teacher in the field, I will often make a seating chart of the classroom and evaluate the students. I place a check if the teacher called on the student to participate in the lesson in some form.

I provide a star when the student receives praise and a triangle for the students who were devious. A question mark to students who asked questions and a square for any time a student was off task. The more evenly dispersed the checkmarks, the less thin-slicing occurs in the classroom.

2) Consider how the message can be interpreted. (Dr. Vincent)

You may not know this, but Kentucky is the birthplace of both civil war presidents: Abraham Lincoln and Jefferson Davis. We have a state park at the location of both birth places with Lincoln's reflecting a smaller version of DC's Lincoln Memorial with the original cabin inside. Davis' monument is a massive concrete version of the Washington Memorial in Washington, D.C. Dr. Tyler reflects on a time when his elementary school teacher took the class to the Jefferson Davis memorial for an in-class field trip. Like most kids, the best part of a museum is the gift shop and on this trip, the "gift" that all the

boys ended up purchasing was a bull-whip! WOW! Looking back he couldn't believe that his teacher never considered this as something that he, or his parents, would consider offensive (Dr. Tyler is very successful African-American professor at the University of Kentucky).

As teachers, we have to consider everything that our students may consider. Just this week I sent a text to a trusted colleague asking for their thoughts on a t-shirt design I was considering. They allowed me to see a much larger perspective. I would highly recommend that you have this "go to" team that will provide similar insight. When advising the local FFA chapter, I had to aid my students during the banquet to be sure to consider ALL – this went all the way to the meal we served to the music we played. I'll never forget attending a banquet (not an FFA banquet) where I sat beside a mother and her son whose religious belief forbid the intake of pork. The menu: pork chop, salad with bacon, double-

stuffed mashed potatoes (this entails bacon and cheese), and green beans cooked in pork fat (it's a southern thing and it is very tasty). I watched the family struggle through humiliation while eating a dinner roll and cheesecake for their meal. Did they feel welcomed? Of course not. Did the host care? They never thought about it prior to the event (nor after because they did it again the next year). What message did that send?

3) Expand your students' mindsets. (Dr. Vincent)

When I first ask students what they think of when they hear the words "Culture", they immediately go with visual identifiers (i.e. race, clothing, economic, age). The truth of the matter is that culture is simply a mindset. It is easy to understand why people go with visual identifiers as culture because previous occurrences may inform us that those who don't look like us do not think like us. If we place this philosophy of culture as a mindset in the realm of a classroom, we determine that we are teaching a room full of

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This example shows how FFA officers can share program ideas, specifically for the FFA banquet. If shared with parents, they can also share pictures and ideas they have.

Wearing the "social media manager" hat can be fun and doesn't have to add stress to your job. Padlet offers teachers great ways to collaborate and share ideas with others and can

also help promote your program twelve months of the year. Sharing your Padlet walls with your school administrators can also show them the innovative, educational classroom and FFA activities that happen through agricultural education. Students enjoy the interactive component to Padlet and the best part, you as the teacher can control who sees everything while moderating what is posted.



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mindsets; hence a multicultural classroom exists. To assist your students in working with a variety of mindsets, we have to expose them to a variety. After all, it is our responsibility to prepare them for the workforce and be accepting of their working colleagues.

Tons of research will acknowledge that barriers are limited if the parties can find commonalities. Many commonalities come in the realm of music and food. In a class preparing future agricultural education teachers here at UK, we hold a cultural Thanksgiving the Monday prior to the Thanksgiving holiday break. Students select an ethnic grocery store, talk to the owner to determine a good dish to prepare, purchase the ingredients and bring the dish to class. The exposure is eased by our reflection over a potluck style lunch. The students recognize their bias, acknowledge their fears (which is good), and accept that they developed, in their heads, much more drama than what actually occurred.

4) Expose your students. (Dr. Tyler)

As I continue to think about the future of our students, it is important to prepare our students not only for the world today, but also for what the world will be. We will be living in a multicultural society filled with many diverse people with a variety of thoughts, ideas and beliefs. Exposing our students to this multicultural society through a structured setting can provide the intentional and purposeful learning needed to form the complete

global scholar – all in a safe learning atmosphere. Exposing students is very important in the classroom and can be done with the simplest of things such as having discussions around current and world events and how they relate to a diverse and multicultural society and also how they relate to the home communities of their own peers. There are many times that students think that events across the country cannot happen on their campus or in their classroom, but we must challenge our youth by first informing them to these issues, having open and candid conversations that these events can happen anywhere. Furthermore, exposing students can be suggesting that they can join an organization with a focus on students stepping outside of their comfort zone. After all, are we not developing the next generation of leaders?

5) Reflect and Journal. (Dr. Tyler)

Additionally, as a life-long learner it is very important to reflect on your thoughts and document your growth. As a leader in higher education, I write down different thoughts that come across my mind daily and reflect back and see how I have grown. As I reflect back on my experiences, and in particular at an institution with a variety of parts and components such as instruction, research and extension, I observe and document students' perceptions of me as an African American Professor in Agriculture at the beginning of the semester and how their behavior, perceptions, and willingness to engage with me progress by the

end. Many of the students that I encounter voiced that they have never had an African-American Professor in their high schools or college class, another issue for another time. But I approach these situations and view them as an opportunity to exposing and educate them not only about our differences, but, more importantly, our immense similarities. It important as a leader in education to reflect on how we are continuing to serve everyone with specific items that you have accomplished and things you would like to accomplish as one becomes culturally competent and acquire the skills, understanding and awareness to truly teach, and serve ALL.



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