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Innovative Programs

Innovation is Rewarding!

by Dr. Gaea Hock

> "Innovation is the ability to see change as an opportunity, not a threat."
>
> *Steve Jobs*

The ability to look at change in a positive manner was shared in my editorial in the preceding issue of this magazine. This issue builds on the ideas shared previously by featuring examples of how programs are working to be innovative. The two issues of the magazine work well together in telling the story of how those who are innovative do not shy away from trying something new, but rather look at changes in their community, school, and state as an opportunity to make a positive difference.

I enjoy hearing about the many new and novel ways our agriculture teachers and students are creating to teach, learn, promote, and support the agriculture industry. Planners of the Kansas State FFA Convention have worked to find new ways to highlight and celebrate the innovativeness of our FFA chapters. Creative or unique programs are selected from the National Chapter Application each year to be featured in the Blue & Gold Conclave. This opportunity allows students to share their programs via a presentation and answer questions from the audience.

Here are the list of projects and chapters featured in 2023 and 2024.

Growing Leaders

- Dinger Derby - Oxford
- Positivity Wall - Russell
- Where's the Energy - Chapman
- Ships and Shadows - Skyline
- Financial Management Workshop - Ottawa
- Turkey Talks - Arkansas City
- Life Skills of the Week - Skyline
- Pumpkin Pickin' and Sale - Cheney

Building Communities

- Sitting with the Seniors - Minneapolis
- Warming Our Outside Friends (Woof) - Sedan
- PRIDE with Cow Patty Bingo - Doniphan West
- Butterfly Release - Tonganoxie
- Raising Five Pigs for Food Pantry Donation - Riverton
- Hill City FFA High School Rodeo - Hill City
- Sow Hope Grow Hope Mental Health in Ag Speaker & Event - Pike Valley
- Panthers at the Patch - Royal Valley

Strengthening Ag

- Corn Hole Tourney for a Cause - Inman
- Sound the Alarm - Dexter
- Morning Announcements - Girard
- FFA Exchange - Smith Center
- The Blue Jacket Podcast - West Franklin
- The Silent Killer, CO Prevention - Inman
- Community Welding Night - McLouth
- Fishing Tournament - Minneapolis

I wish I had the space to tell you about all the programs listed above, but here are a few I found to be especially innovative and impactful. (Descriptions were altered slightly from their National Chapter Application for use in this article. Credit goes to the original authors and their teachers.)

1. **Sound the Alarm** - The rural area of Dexter only has a volunteer firefighter department, so the FFA joined with the American Red Cross organization to go door to door to check or install smoke detectors in homes.
2. **Butterfly Release** - A local Tonganoxie business brought butterflies in from their butterfly garden for the horticulture class to learn about butterflies and their migration pattern. Students got to tag and release the butterflies. They are able to track them on a website.
3. **The Blue Jacket Podcast** - Various West Franklin FFA members interviewed a wide-ranging group of agricultural professionals in the community on how they succeed and advance through their respective career paths. The lessons that they learned are shared with 320+ listeners.
4. **Sow Hope Grow Hope Mental Health in Ag Speaker & Event** – Members of the Pike

Students from Tonganoxie FFA and Riverton FFA participated in innovative and impactful programs to expand their learning and help their local communities.
(LEFT) Photo courtesy of Zachary Callaghan. (RIGHT) Photo courtesy of Jacob Larison.

Valley FFA Chapter partnered with a local non-profit, Pivotal Health and Wellness, Kaneali Ag and Creekside Land & Cattle to sponsor and host an event called Sow Hope, Grow Hope. They hosted a nationally renowned speaker who opened the conversation about mental health, particularly in agriculture.

5. **Fishing Tournament** - The annual Minneapolis FFA fishing tournament aims to get local fishermen involved with the chapter. At registration, contestants got a bag of safety supplies, including band aids, alcohol wipes, and a safety brochure. Fishing safety has not been well-practiced by the local outdoorsmen, and they wanted to promote safe habits while still enjoying the outdoors.
6. **Raising Five Pigs for Food Pantry Donation** - Students in the Riverton Animal Science class built upon their annual activity of raising pigs as a project for members in the FFA chapter by purchasing five feeder hogs and raising them to maturity. With grants from Frontier Farm Credit and National FFA Living to Serve, the chapter donated over 750 pounds of fresh pork products to a local pantry.
7. **Financial Management Workshop** - Ottawa FFA partnered with LPL Financial to host a financial management workshop at the request of students in the school.

Your state probably has a similar program to feature the innovative ideas coming out of your programs. If there isn't a current model in place, there might be a need for innovation in order to feature the creativity occurring throughout our agricultural education programs.

Another way to feature teacher's innovation and creativity is through the Ideas Unlimited event. This program has been supported by NAAE for many years. Kansas hosts one annually with a variety of categories and prize money. It is a great way for our teachers to share their ideas and get a little reward for their work.

I encourage you to share the innovative ideas coming from your students and yourself! This magazine welcomes you to submit articles for future issues in order to spread the great ideas happening in our agricultural education programs. I hope you enjoy reading and learning about a few innovative programs in this issue of the magazine.

Dr. Gaea Hock is an Associate Professor of Agricultural Education at Kansas State University and Editor of ***The Agricultural Education Magazine.***

Innovative Programs

Front Cover Photo Courtesy of Dr. Gaea Hock
Back Cover Photo Courtesy of Zachary Callaghan

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Business Manager

Dr. Jay Jackman, 2525 Harrodsburg Road, Suite 200, Lexington, Kentucky 40504-3358.

E-mail: JJackman.NAAE@uky.edu.

Article Submission

Articles and photographs should be submitted to the Editor or Theme Editor. They will acknowledge their submission. Items to be considered for publication should be submitted at least 90 days prior to the publication date of the intended issue. No items are returned unless accompanied by a written request. Articles should be approximately 1500 words. Information about the author(s) should be included at the end of the article. Photos and/or drawings appropriate for the "theme issue" are welcomed and should be submitted as separate files (jpg or tiff format preferred – minimum 300 dpi). A recent photograph (jpg or tiff format preferred– minimum 300 dpi) of all authors should accompany the article. Articles in the Magazine may be reproduced without permission but should be acknowledged.

Editor

Dr. Gaea Hock, Associate Professor, Agricultural Education, Kansas State University, 315 Umberger Hall, Manhattan, Kansas 66506, Phone (785) 532-1166, FAX: (785) 532-5633.

E-mail: ghock@ksu.edu

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Design and Layout

Dr. Courtney Gibson, Associate Professor, Agricultural Communications, Texas Tech University.

Email: courtney.d.gibson@ttu.edu

Agriculture Teachers Innovate Every Day!

by Dr. Amber Rice

What do you think of when you hear the word innovation? This word has permeated popular culture, but it seems as if everyone has their own personal definition of what qualifies as true innovation. To me, innovation is bringing something new to the table with the goal of improving what already exists. Specifically in education, this can be a teaching method, a program, a solution, or an idea that adds value. In fact, many authors in this issue questioned whether their ideas were worthy of inclusion when presented with the theme title. I don't know when the idea of innovation became such an impossible standard to meet. I believe each of these ideas should be shared with a wide audience of agriculture teachers and partners and I hope you do too.

Agriculture teachers innovate every day. Whether it's doing something no one else has done before like Matt Ross, or building off an existing idea like Davida Noble, agriculture teachers are tasked with figuring out ways to improve all aspects of their program to serve their students. From FFA, to SAE, to the classroom, each of these agriculture teachers are breaking new ground at the local level. They represent a diverse cross-section of teachers, some from single teacher programs and others multi-teacher, some located in rural areas and others in suburban and urban areas, and some beginning teachers and others with years of experience. What they all have in common is their dedication to continuous growth and improvement and a willingness to try something new.

In the world of agricultural education, we often focus on award winning programs. However, there are many "hidden gems" in each of our states and districts where innovative things are happening every day. These ideas may not always lead to state or national accolades, but they are making a positive difference for students, schools, and communities. This issue is dedicated to ideas that are practical and feasible in your schools. I hope you are inspired to replicate or adapt one of the innovative ideas presented here or try something completely different in your local program.

Let's take a moment to celebrate some innovative ideas from practicing teachers who are doing good things. Let's consider what small changes we can make that will likely have a big impact on students. It may not win you an award, but it will make all the difference.

> "Innovation is bringing something new to the table with the goal of improving what already exists."

Dr. Amber Rice is an associate professor at Iowa State University in the Department of Agricultural Education and Studies in Ames, Iowa. She has been a part of the agricultural education profession for 17 years, first as a high school agriculture teacher in Bardstown, Kentucky and most recently as a teacher educator in Arizona and Iowa. She is committed to celebrating the innovations and successes of her agriculture teacher community nationwide.

Cutting Edge: The Role of Hands-On Learning in Meat Processing at Gilbert High School

by Taylor Bird & Casey Farnsworth

The Gilbert High School Agricultural Processing Laboratory began in the mid 1970's under the direction of agriculture teacher Mr. Clifford Kinney. The goal was to help students gain hands-on experiences in the agriculture industry and see the results of proper animal husbandry practices. Today, students custom process livestock for area residents and develop skills and knowledge that will assist them to become more marketable and employable citizens.

The processing laboratory is licensed through the Arizona Department of Agriculture as a custom exempt slaughter and processing facility. Although the Gilbert High School Agricultural Processing Laboratory does not sell meat to the public, the service of custom slaughter and processing is offered to members of the community within the larger Phoenix, Arizona metropolitan area. This facility is also licensed through the Arizona Game and Fish Department as a wild game processor. Wild game must be legally tagged and skinned before entering the facility.

The Gilbert High School Agriculture Program, active since 1929, continues to offer Agricultural Processing classes even throughout changes in industry and demographics of the town and school. By providing classes, the school caters to the interests and career goals of its students. Students participate in hands-on learning activities that deepen their understanding of sciences, food processing methods, and animal care practices. This immersive approach nurtures a link between knowledge and real-world applications improving students' academic performance and fostering a love for continuous learning.

Within Gilbert High School the agricultural meat processing lab serves as an extension of classroom education. The facilities are unique and allow students to experience industry standards of meat processing. Through generous support of the school district and excellent part-

> This immersive approach nurtures a link between knowledge and real-world applications improving students' academic performance and fostering a love for continuous learning.

Senior agriculture student Colbie Smith, shown, demonstrates to new students how to further break down a beef carcass by removing the round tip to separate the round from the sirloin primals. Colbie has mastered the art of butchery and takes great pride in the work he performs daily. He has a deep understanding of the entire process from harvest to freezer and has gained the skill sets needed to be successful in this industry over the last two years. Colbie has stepped up into the role of lead butcher among his classmates who oftentimes will go to him for questions and further clarification. He keeps a sharp knife, is not afraid to operate the saw and gets the job done.

nerships with the community, the facilities include a full functioning harvesting room with a holding shoot, bleed pen, automatic lift, and set up to complete the entire process of skinning and eviscerating.

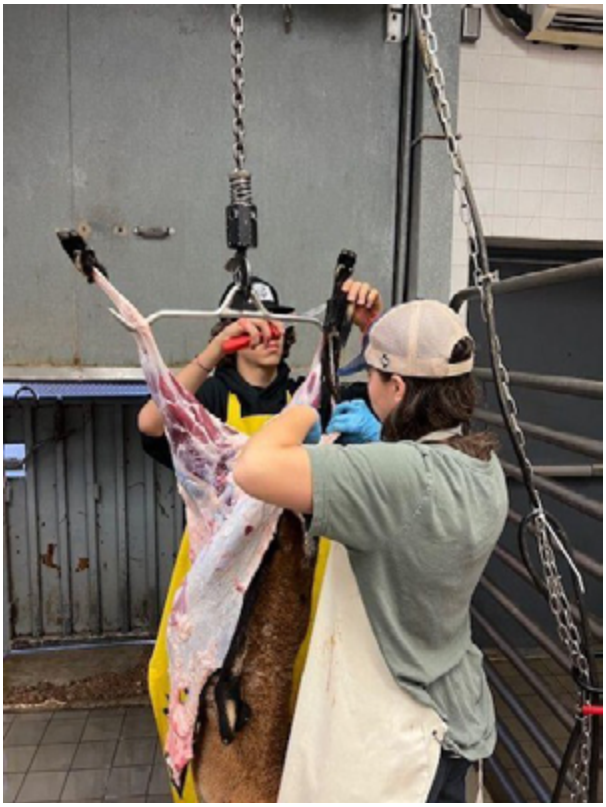
Furthermore, the lab acts as a hub for cooperation by connecting science, technology, engineering and mathematics (STEM) disciplines. Students combine knowledge from biology, chemistry, and math to understand the intricacies of meat processing, enhancing their problem-solving abilities. This holistic approach enhances students' academic pursuits and prepares them for the diverse challenges of today's workplace.

The meat processing lab offers students opportunities to develop skills crucial for professional success. With guidance from educators, students dive into the art and science of meat processing, mastering techniques like butchery, curing, and sausage making. Through involvement in each step of the process students refine their agility, accuracy, and attention to detail—skills for excelling in various culinary and agricultural fields.

Additionally, the lab fosters a sense of accountability and stewardship among students regarding animal welfare and sustainable practices. By exploring ethics and engaging in conversations about food security students develop a compass that influences their choices as consumers and industry experts. By promoting environmental awareness, the lab nurtures a cohort of conscious individuals ready to tackle global food production and consumption challenges. Students learn about legislation and policies when it comes to these processes of meat animal harvesting. For example, a unit before students are allowed to work in the harvesting laboratory refers to The Humane Methods of Slaughter Act of 1978 [7 USC 1901 - 1906).

The introduction of an agriculture meat processing lab at Gilbert High School goes beyond skill enhancement; it

(LEFT) Katie Cochran, senior agriculture student at Gilbert High works alongside fellow classmate to skin a lamb and prepare to enter the carcass cooler where it will chill for two days before further processing and packaging. Katie is also employed by the district as a student intern worker. Not only is she a phenomenal student in the class everyday but comes in at the end of the day to clean, sanitize and set-up the processing lab to ensure it is ready for the following day. She is very knowledgeable throughout the entire lab and can operate several pieces such as the saws, grinders, stuffer and computer software that is used to keep track of customer's orders and records needed by the Arizona Department of Agriculture. She is the go-to gal in the harvest room, ready to roll up her sleeves and dive in on those early morning harvest days.
(RIGHT) Beef, lamb, hogs and poultry too! Agriculture processing students at Gilbert High School gain quite the diverse background in harvesting techniques to serve the community and their needs. Students harvest on Tuesdays and Thursdays each week and further process the other three days. Students learn a variety of skill sets including how to brine and smoke pork products, make custom sausages, and snack sticks for example. It's not your typical classroom setting and that's what makes it so fun and unique being one of four high schools in the country!



carries societal implications. By educating students about agriculture the school helps local communities thrive and endure. Graduates leave not just with technical skills but also with a deep understanding of how important agriculture is for food production and the economy. Additionally, the lab encourages community involvement by working with local farmers and ranchers. The day of yearly harvest schedules is like a holiday in the town of Gilbert, Arizona. Community members with livestock intended for harvesting begin calling every year on August 1st at midnight. The first call, first-serve scheduling system has grown into many dedicated yearly customers and the introduction of new customers with an extensive wait list. The mutually beneficial relationship between the agriculture program and the community builds strong support for the students enrolled in the Gilbert Agricultural Education program.

Gilbert High School's Meat Processing Lab is a hub of education that empowers students to excel academically, gain skills, and make a meaningful impact on society. By offering classes for juniors and seniors the lab embodies the school's dedication to well-rounded education that fosters curiosity, ethical thinking, and social responsibility. As students progress through this learning environment, they not only become skilled meat processors but also active citizens ready to shape a better future for all.

Taylor Bird is a doctoral student at the University of Georgia studying Agricultural Leadership, Education and Communication. Taylor previously served as an agriscience teacher in Gilbert, Arizona teaching numerous classes including the agricultural processing courses with program Juniors and Seniors. Now in her graduate studies, Taylor's research focuses on the integration of hands-on and inquiry-based learning experiences to agricultural education students.

Casey Farnsworth is an Agriculture Education teacher of 13 years. He has taught all areas of agriscience in three school districts from teaching in a single teacher, two teacher, and now three teacher program. He currently teaches at Gilbert High School in Gilbert, AZ and focuses on two subject areas; Ag Engineering & Fabrication and Agricultural Processing. Mr. Farnsworth oversees and manages the Gilbert Custom Meat Processing Lab and loves teaching hands-on, real-world experiences where students can prepare themselves to enter the industry.

Ethanol and Cyclekart Labs: Fueling the Future of Agricultural Education

by Matt Ross

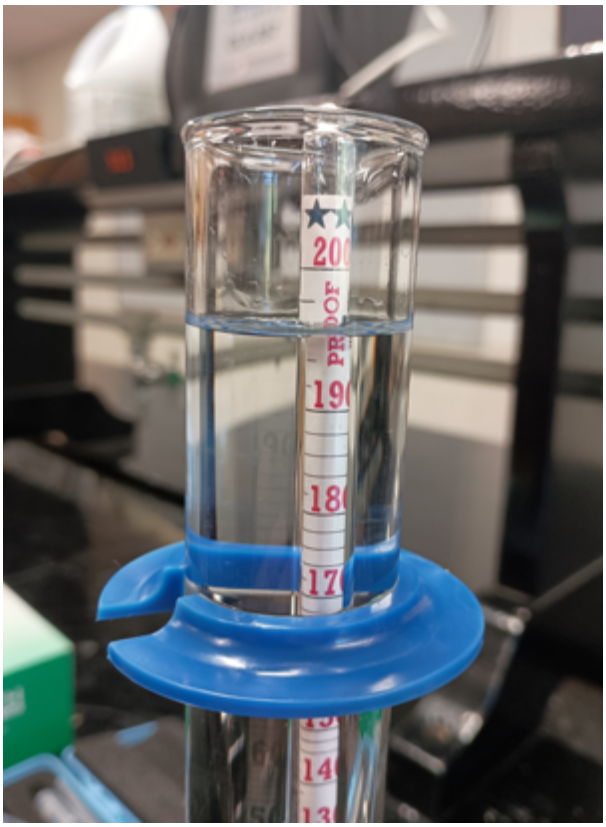
In the Fall of 2018, I taught a lab during my small engines class where we made biodiesel in quart jars. It was a fun experiment, and the students loved the hands-on lab. However, once we were done, one student's question stuck with me and changed how I taught labs for the rest of my career. All he asked was a simple, "Now what are we going to do with it?" The only response I had was, "Nothing, we just throw it away."

Why do we have our students work on projects or labs and then in the end, throw all that work out? That was the question I struggled with for almost a year. In the end, I settled on the idea that I needed to create a capstone project for our series of biofuels labs that would put those finished fuels to work. Not only could we prove their validity of use to run an engine, but we could also use that engine to power a personal vehicle.

Anvil Academy, a local art school in my former community, had begun to advertise an after-school program that included building large go-karts they referred to as cyclekarts. After an introduction from a community member, I began a partnership with them to build a pair of cyclekarts at my high school. I met with them many times to learn what was required to successfully build cyclekarts. They were perfect for a school program, flexible and open to creativity. The typical kart is less than 8 feet long, uses a small gas engine, has 1970's style spoke motorcycle wheels, and the preferred design resembles a 1920's to 1930's racecar.

I decided to add my own creative interpretation and make the bodies of our cyclekarts separate from the chassis. Why is this a big deal? It would allow my classes to build new bodies each

(LEFT) Body panels of the cyclekart were designed to train students in different skills and techniques used in HVAC work. Students built each panel from a drawing and then assembled them using locking seams and pop rivets. (RIGHT) Frame for our Biofuel Cycle Kart. The karts were designed and built by my students when I taught at Sheridan High School in Sheridan, Oregon.



(LEFT) Ethanol distilled and then refined in the high school science lab to 196 Proof or 98%.
(RIGHT) We had nearly completed our cyclekart when we left for Spring Break of 2020. Unfortunately it would sit at this point of construction for more than a year before students came back in person.

year in our courses without having the added expense or storage problem of building complete cyclekarts each year, while being able to reuse the chassis from year to year. I could use the same basic materials and promote trade work by choosing to have the cyclekart bodies made in the spirit of various skilled trades. For example, the body of a cyclekart promoting HVAC would be built out of galvanized sheet steel using the tools and techniques of that trade.

In my first year of cyclekart building, we were only able to complete one chassis and one partial body. We were on track to finish by the end of the school year, but the Oregon COVID events of 2020 brought our project to a screeching halt. For the next year and a half, our cyclekart sat partially finished, waiting for students to return in person to the classroom. Unfortunately, I made the decision to leave my position at the school before we could begin building again. In the months following, I would receive photos and messages from students and staff that the carts had indeed been finished.

A year later and one state over, I returned to the idea of biofuel powered cyclekarts. I teamed up with Eric McDowell, an ambitious science teacher at my new school who wasn't afraid of a challenge. I explained my dream for the lab, and we decided to focus on just two fuels, ethanol and biodiesel. Biodiesel was relatively easy as our lab already had all the necessary equipment and glassware to make it. Ethanol, however, was a more difficult task as it carries with it certain ethical and legal challenges.

> "Why do we have our students work on projects or labs and then in the end, throw all that work out?"

I knew going into this project that I would face hurdles to making alcohol on a school campus. Clearing the plan with our administration was surprisingly easy. The principal and science teacher both came to the agreement that as long as we produced ethanol in a controlled laboratory setting, we could move forward. I also needed to ensure that producing ethanol in a school facility was legal, and when I consulted state law and didn't find prohibitions from ethanol creation, I knew that problem was out of the way for the state level. However, regulations for ethanol at the federal level was an entirely different challenge.

Federally, there are restrictions on the distillation of any form or quantity of alcohol and the law does not differentiate between laboratory quantities and high-volume production. I was advised that even if we distilled as little as a quarter cup of ethanol, we still needed to comply with federal

regulations. So, the science teacher and I began an uncharted journey with the TTB, a little-known governmental organization known as the Alcohol and Tobacco Tax Trade Bureau, and we went into uncharted waters.

When I spoke to the federal agent lucky enough to answer my call, she didn't really know what to do with us. We were an anomaly and didn't fit into any of the predetermined categories. We then were given to her supervisor. Shock of all shocks, they decided to have us apply as an alcohol fuel producer. We filled out the same paperwork as any large-scale distiller and waited for a response. Finally in the spring of 2023, we were granted our Federal Alcohol Fuel Producers Permit. As far as we are aware, we are one of very few, if not the only, high school that is federally licensed to produce fuel alcohol.

We have spent this past year creating a curriculum to match our ethanol labs and have expanded it to both the agriculture and science classes. The deeper we look at the labs, the more lessons we create. We have focused on finding the most efficient and cost-effective ethanol feedstock, optimizing the nutritional content to best feed our yeast, and even investigating the most appropriate yeast for optimization. To date, we have made ethanol from wheat, oats, potatoes, and white sugar and each fermentation cycle and distillation teaches us more about the process.

I am happy to report that yes, we can distill ethanol strong enough to run a gasoline engine, straight from our distillation column. Our fuel comes in at 184 proof, but with a little further refinement we have been able to achieve 98% or 196 proof. Don't think you can pour yourself a shot of this powerful brew; part of our process is to denature it which makes it toxic to consume.

Not everything this year has been successful as we have not been able to completely wrap up my dream of finalizing both the lab and cyclekart capstone portions of this project. We are still working to secure new funding to build out both the diesel and ethanol cyclekarts which means this year we had a "cyclekart stand-in" to test the viability of our ethanol. This year that lucky machine was a donated push mower. I don't believe I have ever witnessed high school students become excited about mowing grass at school, but it did indeed happen this year. The class ran the mower for nearly 15 minutes before we ran it out of ethanol.

If you would like to see more about our biofuel cyclekart project, please subscribe to my YouTube channel: AgTeacherThoughts. You will find all my ethanol production videos under the Ethanol Production playlist.

Matt Ross is a classically trained minister who graduated from George Fox University with B.A. in Religion and a M.A. in Christian Ministries. He is an industry certified teacher with ten years of experience in CNC manufacturing at A-dec, a dental equipment manufacturer. He also has a lifetime of nursery and greenhouse experience. Mr. Ross has been teaching for seven years, starting his first year at Tillamook High School in Tillamook, Oregon. He also spent three years teaching at Sheridan High School in Sheridan, Oregon before transitioning in 2021 to Kendrick High School in Kendrick, Idaho.

Thinking Small for Big Results: Engaging Non-Traditional Agriculture Students in the Three Circle Model

by McKinley Gonzales

An agricultural education program is defined by the community around it. The Arizona Agribusiness and Equine Center (AAEC) Paradise Valley Campus is in north Phoenix, Arizona, making it a true urban agricultural education program. Local agriculture consists of plant nurseries, veterinarian clinics, feed and equipment stores, companion animals, and the equine industry. The student population varies widely, but the one thing they have in common is that most of them have little to no connection to traditional agriculture.

> Intentional professional interactions with adults allow students to practice their soft skills while having a safety net that allows for failure while minimizing any long-term consequences.

Most AAEC Paradise Valley students, who have a connection to agriculture, have goals of becoming a veterinarian or working in the equine industry. A variety of agricultural courses are offered to fit into curriculum tracks to meet those needs. As freshmen, all students are required to take Agriscience as their science course and choose between four different four-year programs. Those programs are Equine Science, Veterinary Science, Dog Training, or Agribusiness. This system prepares students for real-world careers or allows them to explore options they may not have been exposed to otherwise.

Agribusiness students closing Mustang Market up after a lunch shift.

Even though these programs are successful, not every student knows what they want to do after graduation or wants to be employed directly by the agriculture industry. The Agribusiness track is built with those students in mind. Starting with Agriscience, all students are introduced to agricultural education and a wide range of agricultural topics. The subsequent elective courses in the sequence are designed to allow students to explore areas that may interest them. Following one or more of these courses is Agribusiness.

In Agribusiness, students learn business principles, economics concepts, and practice soft skills. Students who take this class for the whole school year earn credit for the state economics requirement, get their food handlers license, and complete their OSHA 10 training. The highlight of this course is Mustang Market, a school store that primarily sells lunch items. Students in Agribusiness are responsible for everything from marketing

their products to deciding what to sell and how to price it. They also count money earned every day and take it to be deposited through the front office.

Small Groups Create Big Impact

Agribusiness is capped at 15 students and even then students often work in groups of three to five. Each day, a small group is assigned a responsibility and is expected to complete the tasks with little to no guidance. These tasks include the opening, working, and closing procedures as well as daily money counts and deposits. These small groups keep students accountable and provide help when needed, as in the case of an absence.

Having a small group also means tailoring the curriculum to what students want to learn. In some years, students want to focus more on making a business plan; in others, students want to improve their leadership and communication skills. Tailoring the classroom instruction time to what students feel like they need increases engagement and ownership of their learning. Throughout the course of the year, students take on more self-evaluation and tend to reflect more deeply on their learning.

Small Steps to Student Ownership

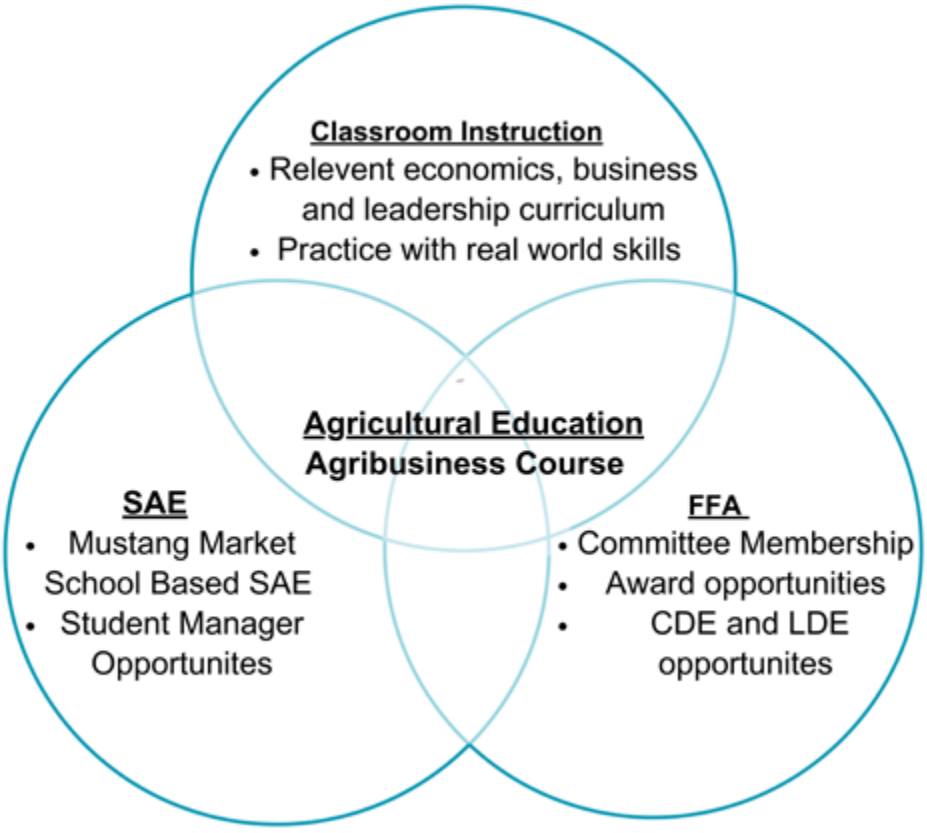
Managing a store can be overwhelming for students, especially those with no work or leadership experience. Before school starts, the FFA chapter orders a basic supply of what is usually sold at Mustang Market. The first couple days of school Agribusiness students get a tour of Mustang Market and a walk through of what a typical day looks like. From there, students work as a team to decide what they want their physical space to look like and they set up shelves, fridges, and freezers. During class time, a mock lunch period is set up so students can practice serving "real" customers. Once they have had some practice, it opens at lunch for students to buy lunch items. Students start by learning about marketing and immediately put those skills to practice in the Mustang Market. As a class, they decide on Mustang Market's theme for the school year and create marketing guidelines, a logo, and a slogan to use for the year. At this point, students see their work having an impact on the school community and it gives students a sense of pride that motivates them to take on more challenging tasks and work independently.

Once students complete Agribusiness, they can be invited back to complete their internship or SAE as a student manager for Mustang Market. The student manager takes over some of the training and management tasks for the year and uses their experience from the previous year to guide the current class. This adds another layer of student ownership and provides opportunities for students to gain leadership and workplace skills or to expand their Mustang Market SAE.

Small Steps to FFA and SAE Involvement

Once students feel comfortable in their roles and responsibilities with Mustang Market, it gets taken one step further. Although students enrolled in agriculture courses are used to being required to participate in FFA, in Agribusiness the involvement is aligned with the curriculum and goals of the students. Agribusiness is considered its own committee in terms of the structure of the FFA chapter resulting in an active role for students. Every student in Agribusiness is a member of the committee, giving them a place in FFA when otherwise they may feel that they don't have one.

Sometimes, Mustang Market is asked to open during school events like school dances. Due



Components of the Agribusiness course that align with the Three Circle Model.

to the ownership Agribusiness students feel, they are the first to volunteer their time outside of the school day to run Mustang Market. In some cases, students come up with a themed menu or special items. They put together an order, determine pricing, and execute their plan.

In class, when making business plans, the same format is used as in the Agricultural Business Management CDE. They are invited to compete at the regional and state level and are more likely to participate because they have already done the work and feel more confident in showcasing their skills. The same principle applies for awards. Students are required to track their hours working at Mustang Market as a school-based SAE. In addition to hours worked, students track skills learned, FFA events attended, and volunteer hours. As a final grade, students fill out an award application of their choosing. In most cases, students receive their chapter degree, but in other cases, students have applied for proficiency awards and state degrees when eligible. Building these requirements into the course makes SAE and FFA involvement seamless for students who may otherwise be hesitant to participate.

Small Risk in Learning Employability Skills

In Agribusiness, students must work professionally with adults on campus. When a student oversees ordering supplies, they must approach the principal to get his signature on paperwork. When completing the daily deposit, students must take it to the registrar, who then checks for errors. If an error is found, the feedback is given directly to the students with instructions on what they need to do to correct their mistake. Intentional professional interactions with adults allow students to practice their soft skills while having a safety net that allows for failure while minimizing any long-term consequences. These lessons often become the most valuable to students, giving them the confidence to be able to reach out professionally to adults outside of the school community.

Rarely do Agribusiness students come from an agricultural background, and yet they are fully participating in all components of the three-circle model. Classroom instruction is focused on learning about agriculture in a way that is relevant to each student, motivating them to explore and apply topics about business, economics, and leadership. SAE plans are goal-based with a focus on skills students want to learn. Students become willing participants in FFA in a role that is a core component of the FFA chapter. The diverse backgrounds of the students typically found in Agribusiness strengthen the Agricultural Education Program as a whole and enrich the entire school community. Improving Agribusiness is a constant process of implementing small ideas. Small changes that can be made at any time in any class. Taking small steps to incorporate FFA and SAE into a course allows the non-traditional agriculture students to thrive just as much as the “traditional ag kid” can.

McKinley Gonzales is an 8th year high school agriculture teacher, a graduate from the University of Arizona, and lover of all things outdoors. She currently teaches at AAEC Paradise Valley in Phoenix, Arizona.

Rigor, Relevance, and Rabbits

by Jacob Blank

After a long trek across the campus, I walked into my first class of my sophomore year at the University of Missouri in the Animal Science Research Center. Feeling out of place as a non-Animal Science major, I knew my classmates could sense the amount of discomfort and intimidation that I felt towards this course in which I did not have the prerequisite, Physiology of Animal Reproduction. Sharply at 9:00AM, an older gentleman named Dr. Smith walks down the aisle and stands at the podium at the front of the lecture hall. After introducing himself and the name of the course, I can recall this phrase that changed my entire outlook on my educational journey, "Today, are we just becoming animal science students, or animal scientists?" When I heard these words, a tidal wave of reflective thoughts came over me, and I began to ponder why I was taking this class. Was it to change my career to become a reproductive physiologist? Was it to provide my potential future students with more in-depth information during my animal reproduction unit? As the reflective and inquisitive questions kept rolling through my mind, I truly started to understand that my pedagogical approach to life in the classroom was going to change dramatically, regardless of my future career.

Fast forward to the summer of 2021, I finally achieved my first teaching position at the Eldon Career Center in Eldon, Missouri. The Eldon Agriculture Department is comprised of a three-teacher agriculture program, two mechanics shops, a greenhouse, a food science lab, and a brand-new animal lab where students house their animal projects for a short period of time. Being fresh out of college with lots of energy and dreams to fulfill, I set out to make the best course schedules that I could for my Ag Science I classes, Advanced Animal Science class, and my Veterinary Science class. Growing up on a small family farm in Richland, Missouri, I wanted to incorporate livestock and production experiences into my classroom. However, without having a school farm on campus and being unable to consecutively raise livestock animals, I knew this was going to pose a challenge.

> "Am I an animal science student or animal scientist?"

Finally, it was August of 2021, and I was officially teaching my first set of classes as a full-time educator. Just like any typical first-year teacher, my first year presented many challenges and obstacles, and I knew that it was going to be a trial by fire situation. As the months started to roll along, I could tell my students were beginning to turn tired and bored with the classroom curriculum. Specifically, I noticed that my Advanced Animal Science class, in which I used CASE curriculum, began to become frustrated, since they had not engaged with any live animal experiences other than our pill-bug lab at the beginning of the semester. Now, this is not to discredit the CASE curriculum by any means, as I've come to find it to be an integral asset in my classroom, especially for the young teacher who wants to provide high quality lessons with laboratory instruction; however, I personally felt that the curriculum lacked the "production agriculture touch" that I knew my demographic of students needed. As the first semester grew closer to the end, I knew I needed to come up with a sustainable project that would aid my students in understanding the various components of animal science in a practical and hands-on manner. I needed something that would help shift their mindset from animal science students to animal scientists.

Then, an idea came to me. I knew I needed something quick, simple, and cost effective that would provide each of my students with hands-on engagement in the industry, and that provided all aspects of welfare, nutrition, reproduction, genetics, health care, and marketing strategies. After researching a few species and engaging in administrative conversations, my mind hopped right along and planned out a strategy for each of my students to raise, breed, and manage their very own rabbits during the second semester, and market them around the time of the Easter holiday.

While this rabbit project may seem minimal for many farmers, it has been a pinnacle experience for many of my students. From the beginning of this project, students act as young animal producers and research the basic management, care, terminology, and selection of rabbits. From this research, students can begin their journey towards expertise and improve their self-efficacy of a rabbitry operation, while also understanding the expectations and standards for the industry. Additionally, prior to selecting

(LEFT) Students check vitals on their rabbits looking for any issues. They found small scabs on the ear pinna. After discovering this, students researched the cause, and found out that it was ear mites, and successfully treated the affliction using an aural medication.
(CENTER) Throughout the process, students assess the physical conditions of the rabbit, while also tracking weight through the gestation period. Since it can be challenging to observe pregnancy signs in rabbits, students utilize quantitative and qualitative data to track the progress of their rabbits.
(RIGHT) During the first week of their new rabbit operation, students learn basic care techniques, such as restraining their rabbits to trim their nails. This not only keeps the animal safe, but also ensures handler safety for effective and efficient care methods.

a rabbit, students are required to determine gestation periods, weaning schedules, and marketing guidelines so that all rabbits within the operation can be sold before or around the time of Easter each year.

Once students have completed this vital background work, students are then paired together, and they make a crucial decision- selecting a doe or a buck. The pool of rabbits to pick from are either previously bought from a local rabbit breeder or donated by my family's farm for students to raise and manage during the cold winter months. Typically, there is also a variation of breeds, colors, and characteristics to choose from, which plays a vital role in the genetics portion of this project.

After the student pairs select their rabbit, the real work begins. Before any student is allowed to touch their rabbit, I demonstrate how to properly hold and restrain a rabbit. This entails a small skeletal anatomy lesson, accompanied by a rabbit behavior lecture. With this newfound information and the National FFA Vet Science CDE Rabbit Restraint Rubric, students are then required to demonstrate the proper handling technique prior to continuing the project. Moreover, after students have mastered the restraints, they also begin to facilitate basic care and maintenance practices such as trimming nails, checking teeth, grooming to maximize rabbit health and safety, and sanitizing pens. The final portion for this phase of the project includes explaining basic diseases and vitals students need to observe. For this, students are provided a care worksheet to complete every day, along with the basic tools and medication needed to be successful. Throughout the history of this project, students have encountered and managed ear mites, nail injuries, and minor ocular afflictions.

After students feel comfortable handling their rabbits and assessing vitals, each student creates a label for their rabbit, which includes basic information, contact information, a feeding instructions template, and a gestation schedule template. From there, students begin to dive into animal nutrition, in conjunction with the CASE Curriculum. Students can relate their classroom knowledge to the rabbit's pseudo-ruminant system, to provide the correct ration and nutrients needed for their operation to succeed. Moreover, each pair of students oversee maintaining their rabbits' personal nutritional goals, while evaluating their rabbits' body condition using a weight scale and physical observations. This allows them to facilitate a feed-cost analysis and explore various feeding strategies (e.g., limited vs. free feeding), to evaluate which method is most effective for their rabbit.

The next phase of the project is for the students to breed their rabbits. Through carefully matching a doe with a buck, students can gain experience in breeding techniques and successful reproductive procedures. Additionally, students apply basic genetic principles by utilizing Punnett squares to estimate the colors of their potential offspring, along with their potential ear characteristics. Through this process, students learn how to create gestation schedules that include breeding dates, birthing periods, weaning dates, and marketing dates. Moreover, since the gestation period of rabbits is relatively short, students get the opportunity to observe and manage maternal care, pre- and post-parturition care, and neonatal care. This includes everything from ultrasounding the rabbits to ensure safe parturition takes place, implementing resources such as heat lamps and nesting boxes as needed, tracking the weight of the does and kits, and ensuring a safe and healthy environment for the rabbits to grow. Additionally, during this phase of the project, students can directly correlate how nutritional needs and reproductive status coincide with each other and how this concept relates to other species as well.

Finally, towards the end of their rabbit operations, students become active participants in marketing and selling their rabbits. This includes networking with the community and businesses to sell their product around the time of Easter, along with creating marketing advertisements, and basic care worksheets to supply their buyers with at the point of sale. Additionally, the students had previously made plans to contract out their rabbits with a local business, to sell their product as well. This has been a great way to connect the program with the community and has also supplied over 40 students with an active SAE.

Through the rabbit project, students not only come to a deeper understanding of the principles taught in animal science, but also gain the invaluable experience of what it means to be an animal producer, caretaker, and scientist, while developing an unwavering work-ethic that will last them a lifetime. At the end of the day, I sincerely hope that my students can reflect upon the question, “Am I an animal science student or animal scientist?”, and always pick the latter.

Jacob Blank is a third-year Agricultural Educator in Eldon, Missouri at the Eldon Career Center. Being raised on a small, diversified livestock and horticulture farm in the town of Richland, Missouri, Blank went on to pursue his passion of educating youth about agriculture by obtaining a Bachelor of Science in Agricultural Education: Teacher Certification and a Minor in Animal Sciences at the University of Missouri. While at the university, Blank expanded upon his agricultural experiences and worked at the Mizzou Meat Market, studied Equine Sciences abroad in Scotland, and took on a Teaching Assistant position in the Animal Science Division. Since accepting his first full-time teaching position at Eldon, Blank has had many successful CDE and LDE teams, including two state champion Vet Science CDE Teams, and five other finalist teams at the state level. Finally, through providing his students with practical hands-on experience in the classroom, and in conjunction with the CASE Principles of Animal Science Curriculum, Blank won the 2023 CASE Innovation Award.

Cultivating Success: Chandler High School's Innovative Corn Enterprise Program

by AJ Argueta

Introduction:

In the heart of Chandler, Arizona, a suburb of Phoenix, a program is shaping the future of agricultural education. Chandler High School's Agriscience Program integrates production agriculture and business practices through a corn enterprise. The Corn Enterprise Program is a staple in the Chandler community and has become an experience where students are not just passive learners but active participants in a real-world, non-simulated agricultural venture. This article delves into the innovative aspects of this program and its profound impact on students' learning and personal development.

A Unique Approach to Education:

In education, it is easy to fall into the trap of putting students in simulated experiences, but Career and Technical Education teachers' have always sought to teach through real-world experiences whenever possible. Chandler High School's Agriscience program has found a way to do this by providing a true entrepreneurial experience that aligns with the plant science and agricultural business curriculum. The Corn Enterprise Program provides students with the opportunity to become stakeholders in a real agricultural business. By purchasing shares in the corn enterprise, students not only invest financially but also emotionally and intellectually, fostering a sense of ownership and responsibility. They also receive a check for their portion of the profit, which provides an authentic entrepreneurial experience. Some years' crops, and profits, are better than others, and nothing is promised. Howev-

(LEFT) After picking corn in the early morning, students work to create bags of a dozen for convenience of selling and picking up. Additionally, we have a display that shows the years' accomplishments to the community so stakeholders can get an update on the chapter as they shop.
(RIGHT) Students work on assembling the irrigation system for one of our garden beds. In these beds, students produce supplement produce for our corn sales such as tomatoes, tomatillos, and zucchini.

er, students know the harder they work on the project, the more likely they are to be successful.

Hands-on Learning in Action:

The cornerstone of the Corn Enterprise Program is hands-on learning. From planting to harvesting, students actively participate in every stage of corn production. Under the guidance of experienced instructors, they learn the intricacies of crop management, soil health, and pest control. Moreover, students are empowered to make critical decisions that impact the success of the enterprise, from selecting corn varieties to devising marketing strategies. All operations are conducted at Tumbleweed Ranch, a nearby off-campus facility owned by the city of Chandler in which the Chandler High School Agriscience program utilizes.

Experiential Learning meets Entrepreneurship:

Beyond cultivating crops, the Corn Enterprise Program instills entrepreneurial skills in students. Through advertising and promotion efforts, students learn the importance of marketing in driving sales and generating revenue. These students annually sell over 20,000 ears of corn that they hand pick themselves. They gain insights into consumer preferences and market trends, honing their ability to identify opportunities and adapt to changing circumstances. Moreover, by managing finances and tracking expenses, students develop essential financial literacy skills that are applicable beyond the realm of agriculture.

Fostering Collaboration and Teamwork:

The success of the Corn Enterprise Program hinges on collaboration and teamwork. Students work together towards common goals, leveraging each other's strengths and expertise. Whether it's coordinating plant-

> In a rapidly changing world, agricultural education must evolve to meet the needs of future generations.

(LEFT) One of the applied biology classes participates in a discussion about how seeds are products of meiosis and how mitosis will help them moving forward, after learning these concepts in the classroom and planting seeds in the Garden. Having the discussion outdoors also helps connect students to the applicability of conceptual biological ideas.
(RIGHT) Sweet corn is hand picked by students between 5-7am to beat the Arizona heat. Covid taught us that masks are very useful when corn picking as it helps keep dust and pollen away from our faces and we pick corn. Being in an urban area, this process truly connects both the students and the community with how food is produced. Additionally, students become very knowledgeable about the product and are able to answer community questions as they arise.

ing schedules or organizing sales events, students learn the value of communication, cooperation, and collective problem-solving. These interpersonal skills are invaluable in any professional setting, preparing students for success in the workforce and beyond.

Real-world Impact and Community Engagement:

The impact of the Corn Enterprise Program extends beyond the classroom walls. By selling corn to the local community, students bridge the gap between agriculture and urban life, raising awareness about the importance of sustainable food production. They become advocates for agriculture and teach the community and key stakeholders about the processes that were used. These students learn about the pros and cons of key agricultural issues first-hand and share that information with the community. Whether it be switching to GMO corn, or why we pick our corn by hand, students are well armed with knowledge to advocate for agriculture. It truly has become a staple in the community and local school board members, city board members, administrators, and business owners all stop by to purchase some of the annual crop.

Conclusion:

In a rapidly changing world, agricultural education must evolve to meet the needs of future generations. Chandler High School's Corn Enterprise Program exemplifies this evolution, providing students with a dynamic and immersive learning experience that transcends traditional classroom boundaries. By integrating hands-on learning, entrepreneurship, and community engagement, the program equips students with the skills, knowledge, and the mindset needed to thrive in the agricultural industry and beyond.

Arthur "AJ" Argueta is a high school agriscience teacher at Chandler High School in Chandler, Arizona where he has been teaching for six years. He manages the Tumbleweed Farm, which produces over 20,000 ears of sweet corn annually. Mr. Argueta is a graduate of the University of Arizona, where he earned his bachelor's and master's degrees in Agricultural Education. He is currently serving as treasurer of the Arizona Agriculture Teachers Association.

Guided Growth: FFA Mentor/Mentee Program

by Davida Noble

Life is full of challenges; however, when an individual has a strong support system in place, these challenges are met with ease. Many freshmen enter high school not sure how to face the challenges that are set before them. These challenges can include class choices; managing time with FFA, sports, homework, family, and hobbies; which organizations to join; running for elected offices; choosing friend groups, etc. Even though these students have their families, teachers, and coaches to guide them, sometimes the most effective mentor is a peer.

Our chapter acquired the idea of a mentor/mentee program from a Phoenix, Arizona chapter during a leadership conference. The idea of mentors guiding mentees is not a new concept; however, the changes that were made throughout the last 10 years to the Elfrida FFA program have included some innovative concepts. Initially, the chapter officers selected three to four freshmen at the beginning of each year to mentor. The officers were instructed to write encouraging notes and leave them in the freshmen binders. Older FFA members persuaded the younger members to be active by attending the FFA meetings at lunch and joining CDE and LDE teams. In January, our chapter takes a trip with the mentors and mentees. During the trip, the chapter officers teach leadership lessons to the mentees to help them grow as leaders and hopefully run for chapter office in March.

Each summer, our chapter officers complete an officer training conducted by the advisor with the assistance of one or two retiring officers. In the summer of 2023, while the chapter officers were completing the POA, they mentioned they thought the mentor/mentee program was not as effective as it could be. Students shared that they felt like their relationships with the freshmen were too shallow, hindering the older students from being as effective. After listening to the officers, we realized we needed several facilitated discussions between the freshmen and the mentors.

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With the changes in place, the 2023-2024 school year revealed the most impactful mentor/mentee program our FFA chapter has ever had. We had 60% of our freshmen active in the FFA, meaning they attended FFA meetings, competed in at least one CDE/LDE, and showed leadership initiative. The Elfrida FFA's most recent "Guided Growth" mentor/mentee program encompasses the following three steps:

1. Selection Process
2. Teacher Led Mini Lessons
3. Student Led Lessons and Trip

Selection Process

During our discussion at the 2023 officer training, we realized we need to take our time when pairing the freshmen with a chapter officer. After two weeks of school, we meet as a team and write each freshman's name by the officer in which we think they would work best. Being a school close to the Mexico border, we have gained several students in the past few years who only speak and read Spanish. Therefore, it is essential to pair them with an older student who speaks Spanish as well. Additionally, if the freshman has a prior relationship with an officer, we pair them with that individual; keeping in mind that if the relationship is well established (e.g., a family member), then we will pair them with another officer so that they have another individual who can help them throughout their first year of high school.

I am often asked why we do not include members other than officers as mentors. In the past, we have done so; however, some of our volunteers who were paired with freshmen had negative impacts on the students. To be fair and consistent, and keep the positive environment of the program intact, we have elected to only use chapter officers as official mentors for the program.

Teacher Led Mini Lessons

The officers and I selected three dates during the school year in which we can conduct our mini lessons, ensuring there were no conflicts so all freshmen can

The arm wrestling competition between our mentors and mentees was very unfair for certain individuals, but the activity helped the students understand that we all have different strengths.

be included. The officers attend the freshmen classes so that it is easier to incorporate all freshmen. We are very fortunate at Valley Union High School to have teachers who willingly work with us.

The mentors requested that I cover the following topics during the mini sessions: identifying strengths and weaknesses, growing in confidence and self-respect, and incorporating bonding activities. Based on their requests, I work to have activities that address each of these areas during all mini lessons.

August Mini Lesson: We start with the "truth or lie activity." The mentors write three things about themselves on a whiteboard. The mentees take turns trying to determine which statement is a lie. This activity is an effective icebreaker and stimulates conversation between the groups. Next, each mentor/mentee group participates in a pine cone toss competition. The mentor and one mentee stand in the back of the classroom with an empty bucket while the other two mentees stand in front of the classroom with pinecones. During a one-minute period, the teams toss pinecones into buckets while following the explained guidelines. Afterwards, we count how many pine cones made the bucket and declare the winner. The point of the game is that it takes teamwork to accomplish our goals. In this case, our goal is to toss the most pinecones into the bucket. In life, we need to help each other accomplish our more serious goals as well.

Next, we go outside to learn the importance of blocking out certain "noise" in our lives that may prevent us from accomplishing our goals. All mentees are placed on one side of the ag yard and blindfolded. The mentors are stationed approximately 50 yards away. While the mentors call their mentees' names, trying to guide them to the proper location, several of us attempt to distract them with words that they may often hear, but are not true. Once the mentees make it to their mentors, we discuss what type of "noise" should be ignored: comments on social media, negative thoughts, and discouraging statements from other people. This leads to explaining the importance of a mentor who can help guide the mentees in the proper direction, help them through problems, and be there as a friend. We end the session with the mentors and mentees writing a goal for the fall semester, sharing that goal, and explaining how they can help each other accomplish the goals. The mentors set alarms on their phones to ensure that they remember to check in with their mentees on their goal progress.

November Mini Lesson: In an effort to have the mentees and mentors get to know each other better, they complete a "bioglyph" for themselves. Each person, while sitting in their mentor/mentee groups, completes a face-drawing activity that explains their birthday, siblings, physical features, as well as other interests. These papers are used in the January mini lesson to determine how well the students know each other. When finished, we have an arm-wrestling tournament. After the winner is determined, we discuss that each person has different strengths that will allow them to be an essential part of our chapter, school, and community. The mentor/mentee groups sit together and talk about their strengths and then each person identifies an area for improvement. As a group, each person writes an improvement goal and outlines how people in their mentor/mentee group can help them achieve their goal.

One mentor/mentee group discussed the importance of where to place their feet so that they could complete as many push ups as possible.

January Mini Lesson: Our final mini lesson focuses on "being your best self." We start by identifying whose bioglyph belongs to whom. The students find that they know each other better now than they had in August. Then, the mentor/mentee groups complete the "push-up" challenge. Each person must put their feet on the lower back of a group member, which creates a square. Next, the team must complete as many pushups as a group as they can within one minute. The need for cooperation is essential for the completion of this activity. Every team member does the best they can to "lift" each other up to accomplish their goal. We end this session by discussing the importance of being grateful. The mentors and mentees begin a worksheet where they write one item that they are grateful for today. Next, the groups complete a worksheet and check each other's writing each day for a week. Our last mini session concludes with the understanding of the importance of others in our lives and how we can help them just as much as they help us.

Student Led Lessons and Trip

Two weeks prior to attending our mentor/mentee trip, each officer selects a leadership characteristic they feel is essential to servant leadership. In the past, officers have taught lessons on trust, communication, responsibility, time management, listening, and teamwork, among others. The students must complete a written lesson plan and get approval from the advisor. Once approved, the students practice teaching their lessons during our Advanced Agriculture Business class.

During our FFA meeting, the students select a location for the trip that will be enjoyable and allow time for the officers to teach their mentees. In the past, we have gone to the zoo, bowling, ice-skating, golfing, and roller skating. The officers teach their lessons at a park or indoor facility. It is impressive to see the respect the mentees have for their mentors during these leadership lessons.

While preparing for our mentor/mentee program, the officers are reminded of their role in developing others as individuals and leaders. The mentors need to keep Steven Spielberg's words in mind, "The delicate balance of mentoring someone is not creating them in your own image but giving them the opportunity to create themselves." Changes to our mentor/mentee program have paid dividends to our chapter and it all started because a few officers were willing to share ideas for innovation.

Davida Noble has been an agriculture instructor for 17 years. She currently teaches at Valley Union High School in Elfrida, Arizona in a single-teacher rural program. She received her master's degree in agricultural education at the University of Arizona and has successfully mentored multiple student teachers.

Problem-Based Learning in an Agricultural Leadership Class

by Joshua Troub

At the Arizona Agribusiness and Equine Center- Estrella Mountain High School (AAEC-EM), FFA members interested in leadership positions at our charter school are encouraged to take Leadership as an agricultural elective. Within the Leadership course, we complete hands-on activities that develop practical skills for leadership positions in our FFA chapter and in clubs. One of the units included in our Leadership class is Constitution and Bylaws. Students are expected to analyze constitutions and bylaws of youth leadership organizations and make decisions for the organizations in which they are members. To teach constitutions and bylaws this year, I decided to take an alternative approach to a case study or lecture and implemented problem-based learning in the Leadership class.

Problem-based learning provides students with a problem to solve, which serves as a venue for learning. The problem presented to the Leadership class was that of another club on campus, the Debate Club. Debate Club was started by a freshman student in the beginning Agriscience course, and she had been struggling to get people to join her club, participate, and engage during the meetings. She approached the FFA advisors for assistance since she had been to FFA meetings and appreciated the structure and behavior of the students in our organization. After asking her some questions to learn about her club, I realized that there was no constitution or bylaws to provide structure for the meetings, officer elections, finances, or anything necessary for the proper functioning and longevity of a youth organization. Thus, I presented the complex problem to my Leadership class with the notion that they could better learn about constitutions and bylaws if they were able to successfully build one for Debate Club.

> The problem being presented to them was a real-life problem that needed a real-life solution to positively impact their fellow students.

When using problem-based learning, it is important to bring in stakeholders to provide details and address questions that come-up throughout the process. The Debate Club President visited Leadership class weekly to interact with the consultant groups.

The judge panel's rubric allowed for students to be graded numerically while also providing space for subjective feedback and ranking.

Rank: _____

Judge:

Group Members:

Highlights of the Constitution and Bylaws:

Overall Impression: 1 2 3 4 5

Presentation Skills:

- **Eye Contact: 1 2 3 4 5**
- **Volume: 1 2 3 4 5**
- **Articulation: 1 2 3 4 5**
- **Organization: 1 2 3 4 5**
- **Hand Motions: 1 2 3 4 5**
- **Use of Stage: 1 2 3 4 5**

Quality of Written Document:

- **Articles are Realistic and Feasible: 1 2 3 4 5**
- **Grammar and Spelling: 1 2 3 4 5**
- **Articles are Understandable: 1 2 3 4 5**
- **Articles are Relevant to the Debate Club: 1 2 3 4 5**
- **Articles are Creative: 1 2 3 4 5** **Total: /60**

Things Done Well	Things that Need Improved

From the start, there was the issue of incentive for such a complex, intimidating project, so framing the problem for the students was integral to the success of this endeavor. I took some time to explain to the Leadership class exactly what problem-based learning is and told them the problem being presented to them was a real-life problem that needed a real-life solution to positively impact their fellow students. They were to work in self-selected teams of three to act as consultants to the founder of the Debate Club. Their task:

1. Research Debate Club and the constitutions/bylaws of youth organizations.
2. Develop a constitution and bylaws for Debate Club based on their research.
3. Present the final constitution and bylaws to the Debate Club founder and a panel of invested teachers.

The panel would then select the constitution and bylaws that would best serve the Debate Club. The team of students who won got an all-expenses paid dinner at a restaurant of their choice.

While the framing of this problem sounds rather extravagant, it was done intentionally. First, to create buy-in for solving the problem, the problem must be relevant to the students solving it. They should be able to see the results of the solution they provide and know that it impacts someone they will be seeing every day. Second, by allowing students to self-select teams, it ensured that the teams created were competitive from the beginning. One student literally said to another, "I only want you on my team if you're going to try." Lastly, if knowing that people were counting on you wasn't enough for some students, the extrinsic motivator was chosen to entice them even more. Students in the Leadership class are the leaders on campus, they have good grades, can drive places, and most of them have jobs. The typical incentive of a $25 dollar gift card or extra credit was not going to be enough, so an all-expense paid dinner with your team was selected as the prize. The Leadership students were intrigued by the novelty of the idea, and all four teams of students began to work competitively towards creating the best constitutions and bylaws they could.

During the process of creating the constitutions and bylaws, I presented basic information about what they are and why we frame them the way we do. We also looked at examples from our FFA chapter and other youth organizations across the United States, such as the Boy and Girl Scouts, 4-H, and other debate clubs. As students worked in their teams, I also made sure to walk around and

check their progress. Immediate feedback as I read through their rough drafts provided key teaching moments for all teams. For example, in the constitutional section addressing membership, one group had written that anyone could join the debate club, which led to a conversation about who should be allowed to join and using specific wording in our constitutions. Students also had opportunities to interview the Debate Club founder we were assisting and were even able to attend a Debate Club meeting to see what problems she was facing first-hand.

In the end, all four teams presented high quality constitutions and bylaws to the panel of judges. The student who founded the Debate Club requested access to all of them, so she could piece together highlights from each of the products. Teachers on the panel were excited to see the quality of the presentations and were also impressed to see two separate organizations on campus working together. As for me, I took the winning team out for dinner at a local Mexican restaurant and enjoyed the fruits of a very successful stab at problem-based learning.

The benefits of this endeavor are as follows: students thoroughly learned a very complex, potentially mundane topic in a competitive, fun way; we were able to solve a problem for another club on campus and foster a positive relationship for FFA; and students were able to develop leadership skills along the way as they interviewed and completed public presentations. In the future, I hope to continue fostering learning by helping other organizations on campus solve their problems, and I hope that some of what I've done can serve as a practical inspiration to others in our profession.

Joshua Troub completed a Masters in Agricultural Education at the University of Arizona and has been teaching Agriculture at Arizona Agribusiness and Equine Centers- Estrella Mountain High School for four years.

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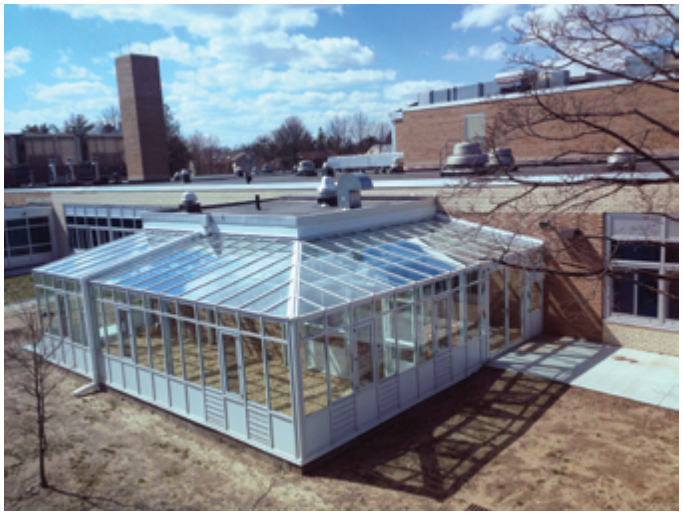

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