The Agricultural
EDUCATION
MAGAZINE

May/June 2022
Volume 94, Issue 6

Agricultural Education for Middle-Level Learners

Being the Best Teachers for Middle Level Learners

by Gaea Hock & Alicia Herbel

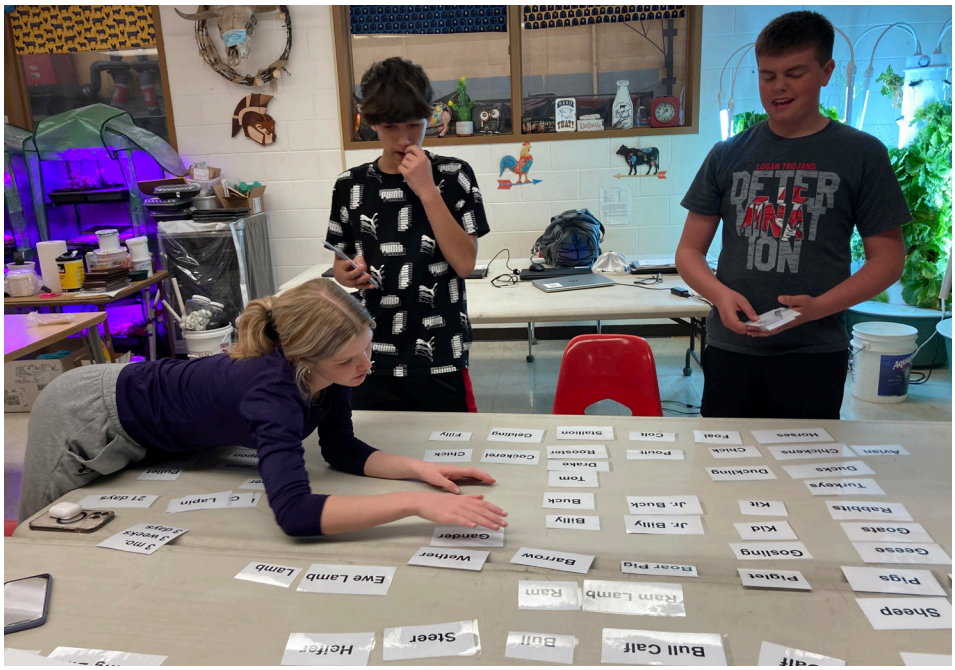
Who are 'middle level' learners? It seems each state/school decides who will fall into this category in a different way. In Kansas, most of the middle schools are 6th – 8th grade, but there are some that are 5th – 8th grade. We also have many junior high schools with students in the 7th – 8th grade. No matter how your school may define 'middle level' learners, this is a crucial age in the development of young people. This issue is focused on moving us forward to better support teachers in their journey to be the best educators for this group of students.

When I returned to Kansas a few years ago, more teachers were teaching at the junior high and/or middle school level. Some of the reasons included a shift in the funding model to encourage teachers to offer an agriculture course before the 9th grade and more programs were adding a second teacher to help fill industrial arts vacancies which allowed for more agriculture courses to be offered in the school. I also believe more teachers started to appreciate this level of learner and what they can bring to their program.

Alicia Herbel, current Kansas agriculture teacher, teaches students starting in the 6th grade. She was curious about how other teachers are successfully teaching middle level learners and decided to investigate best practices for her master's project.

Some of her findings include the following tips/advice:

- **Implement and utilize the best teaching strategies.** Successful strategies include hands-on activities, inquiry-based learning, games, research projects, group projects, discussion-based, student-led presentations, reading strategies, repeating instructions, videos, E-moments, and brain-dumping.
- **Avoid "lecturing" to middle level learners.** Students this age are not able to sit and pay attention for very long. Integrate more engaging educational strategies during the class period (refer to the first tip).
- **Take advantage of their enthusiasm.** Middle level learners are usually very eager to learn and try new things. Take advantage of this and get them excited to keep learning and growing. Keep them moving forward and exploring.
- **Remember their age and teach at a developmentally appropriate level.** Middle level learners are still working to learn how to learn (aren't we all?). Keep in mind the need to budget more time for instructions and directions. You may also have to help them navigate social interactions, utilize educational technology correctly, practice effective discussion skills, and hold them responsible for their own work.



> Middle level learners are usually very eager to learn and try new things. Take advantage of this...

- **Differentiate agriculture instruction between middle school and high school.** Teach at the appropriate level and integrate content/activities that will prepare them for the next stage. Be careful not to "burn out" the middle level learners, but rather excite them for the opportunities that await them at the secondary level. Additionally, utilize students who may have more agricultural experiences and allow them to share their knowledge with their peers.
- **Look for the resources.** There are MANY resources available through other states, commodity organizations, idea sharing at conferences, and asking for ideas on social media. Kansas does not have a state curriculum for any agriculture courses but does have competency profiles for each state approved course. This allows flexibility, but also causes frustration regarding what to teach. Example resources include Nutrients for Life, One Less Thing, Kansas Corn, CDE/LDE training materials, Agriculture Education Discussion Lab (Facebook group), Kansas Middle School and Agriculture Education Identification List (for the Middle School Academies).
- **Keep learning and growing.** The new BriefCASE AgXplore [AgX] was mentioned by many of the Kansas teachers. This new professional development experience will elevate many programs in how they incorporate and support middle level learners. Other trainings include Journey 2050, Kansas Corn: Seed to STEM, Pork Checkoff, CASE Agriculture, Food and Natural Resources (AFNR), and Germinate. *While some of the items listed above are Kansas-specific, there may be opportunities in your own state/region offering a similar experience.*

(OPPOSITE) Photo courtesy of Janet Gottstine. (ABOVE) Photo courtesy of Gloria Belton.

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

Alicia Herbel is a 5th year Agricultural Educator and FFA Advisor at Moundridge High School, Moundridge, Kansas, where she teaches grades 6-12. She will graduate with her Master's degree in Agricultural Education from Kansas State University in August 2022.

Agricultural Education for Middle-Level Learners

Editor Comments

Theme Editor Comments

Theme Articles

Front and Back Cover Photos Courtesy of Leanne Jenkins.

Distribution
Beginning with Volume 93, Issue 1, (July/August 2020), *The Agricultural Education Magazine* will be available in electronic format only, free to all, accessed through the website of the National Association of Agricultural Educators at http://www.naee.org/profdevelopment/magazine. All available back issues of the magazines are archived at this web address, also free to all.

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

Publication Information
The Agricultural Education Magazine (ISSN 0732-4677), published bi-monthly, is the professional journal of agricultural education. The journal is published by The Agricultural Education Magazine, Inc. at 2525 Harrodsburg Road, Suite 200, Lexington, Kentucky 40504-3358.

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

Email: courtney.d.gibson@ttu.edu

Do You See What I See?

by Dr. Ann De Lay & Leanne Jenkins

In a graduate educational leadership course, my instructor moved to the center of the room and held up a ball. He proceeded to invite each member of the class to take a moment and describe what they could see. As he worked his way around the room, utterances referring to a small scrape, the filling valve, a portion of the logo, and more could be heard. Once the final person spoke, he pointed to two different people on opposite sides of the room and asked if they had described seeing the same things. Of course, they hadn't. Each person had indeed possessed a perspective that was a bit different from all others.

People carry different and unique perspectives about all manner of things. Just ask a class full of students about their favorite movies or foods and the responses will vary widely. Often, these perspectives are based on experience which is also unique to the person who lives through it. The perspectives and experiences of agriculture teachers also vary widely. For example, those teaching in densely populated areas approach the discipline a bit differently from those teaching in a rural setting. The same can be said when comparing the experiences of those who teach in a middle school setting with those in a typical high school setting.

From the 1890s, formal agricultural education began to be offered in the secondary setting. With time and governmental support, agricultural education flourished, eventually leading to the establishment of the FFA in 1928. However, it wasn't until 1988 that seventh and eighth graders were allowed to become FFA members. In 1992, there were 52,968 middle school agriculture students (Jones et. al, 2020) and since that time, middle school membership has steadily increased. Nationally, there are 87,550 middle school FFA members, with Florida, Georgia, and North Carolina boasting the greatest number of middle school programs (C. White, personal communication, April 27, 2022).

With growth and expansion comes new opportunities, needs, and challenges. While reading the articles in this issue, consider how the experiences of these middle school experts have formed their perspectives on Agricultural Education. Take note of the structures they have established, often with few resources and little direction. Consider actions that can be taken to revise state and national opportunities for engaging middle-level learners in all three circles of the Ag Ed model. Finally, listen as they offer suggestions for collaboration to develop a relevant program that supports middle school student transition into secondary Ag Ed.

Everyone brings a different perspective to the table and as professionals, we owe it to ourselves, our students, and our discipline to open the floor to all points of view. Like the exercise with the ball, reflecting on the varied experiences of our middle school experts can help us gain a fuller picture of Agricultural Education. It also allows us to see the nuances and complexities of that setting and presents an opportunity to better advocate for them.

References

Jones, S., Doss, W., & Rayfield, J. (2020). Examining the status of middle school agricultural education programs in the United States. Journal of Agricultural Education, 61(2), 41–56. https://doi.org/10.5032/jae.2020.02041

Dr. Ann De Lay is a Professor of Agricultural Education at California Polytechnic State University in San Luis Obispo, CA.

Leanne Jenkins is a middle school agriscience teacher at Beulah Middle School in Pensacola, Florida. The Beulah Middle School Program has been awarded several accolades in the four years the school has been open, including being named "Florida's Finest" and receiving a 3 Star Chapter award from the National FFA. This is Leanne's ninth year of teaching.

Middle School Agriculture… What Does That Mean?

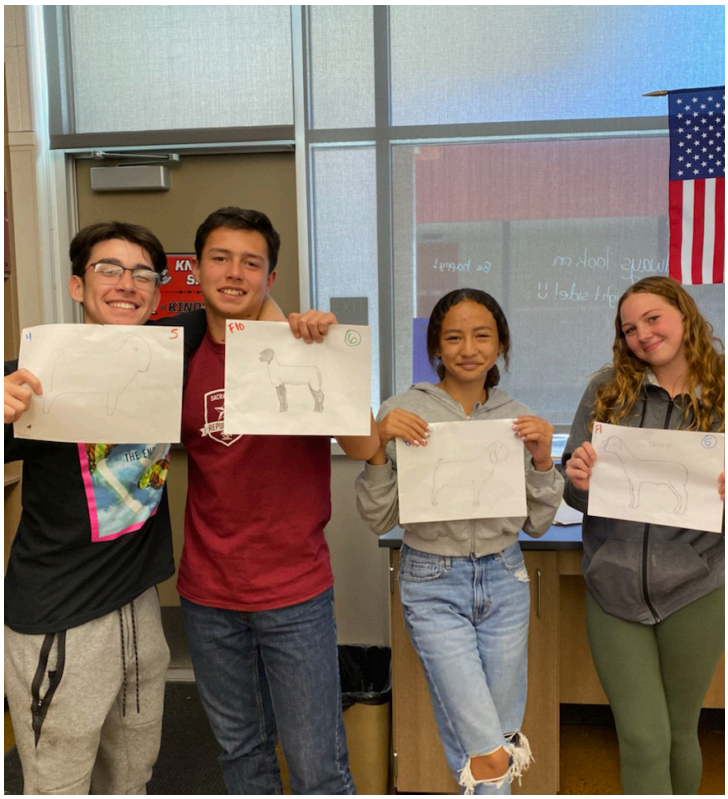
by Christie Fuso

Classroom, experiential learning, and leadership development comprise the three-ring model for secondary agriculture programs. This traditional structure has guided Ag Ed since the model's introduction for good reason… it works! Through this model, high school students have the opportunity to learn and apply agriculture in a dynamic way that few outside the discipline can grasp.

For many, the love for agriculture begins in the classroom. Having little to no prior contact with the industry, the classroom is a place to safely explore the content needed to understand the complexities of production agriculture. Through supervised agricultural experiences (SAE), students dive more deeply into agricultural topics of personal interest. Whether by raising an animal or by accepting a position at a local feed store or veterinary clinic, SAEs allow students to further their agricultural knowledge through hands-on experience. It builds their confidence and competence to make management decisions. Taking what they have learned in the classroom and from their SAEs, students have the opportunity to further advance themselves by acquiring and practicing essential leadership skills. Whether by participating in chapter meetings, attending leadership conferences, or joining a career development event (CDE) team, a programs' activities provide a variety of outlets for development. While this structure is common to secondary programs, many may wonder what agricultural education looks like at the middle school level.

Joseph Kerr Middle School (JKMS) in Elk Grove, California has roughly 750 students and over 300 of those students are enrolled in an agriculture class on campus. Students from all over the Sacramento and Elk Grove areas enroll in the program as it is one of the only middle schools in northern California with a true, year-long science credit approved agriculture course. JKMS's agriculture program feeds directly into the successful agricultural education program at Elk Grove High School. While this connection is beneficial to both parties, the high school's robust portfolio of opportunities and successes can often overshadow the work at the middle school. This scenario makes creating program identity at the middle school level challenging.

To define who we are and what we want to achieve, we at



JKMS readdressed our program's purpose and goals. After much reflection and discussion, our focus was clear: do not burn the kids out. High school students have the four-year opportunity to do so many things in the agriculture program and, at times, the retention rate suffers for several reasons - including burnout. We take pride in the fact that we allow students to dip their toes into agricultural education. We want to avoid overloading and burning out our already passionate young students before they leave for high school and reach their senior year. Therefore, we commit to delivering a simple sampling of FFA and general agriculture classes for students in both seventh and eighth grades. We offer non-elective courses which count for the students' science credit. This gives more students the chance to buy in at a younger age.

The curriculum for students in both science and agriscience are tied to the seventh-grade Next Generation Science Standards (NGSS) for life science. While this helps to structure the courses, there are some differences. Chief among them is that agriscience examines science using agricultural examples, activities, and laboratories. In addition to the life science standards, agriscience features value-added experiences such as the Agriscience Fair, FFA structure, FFA emblems, and the Creed speaking event. Throughout the year, these topics and activities provide students with exposure to all subjects and are taught with the intent to leave them wanting more. Trying to spend just enough time, but not too much, on any one area ignites their interest without burning them out. Additionally, we share how these elements connect to the high school program and how they can take part. This keeps them hooked.

In seventh grade, we host an annual speaking competition for the FFA Creed. Every student must memorize the first three paragraphs in class and those who memorize all five paragraphs get to compete in a campus contest. Students recite the FFA Creed and answer one question about its meaning. The main goal of the contest is to provide students with experience speaking in public. It continues to be very popular with several students competing each year.

The NGSS for physical science guides scientific development for all eighth graders. In agriscience, the focus is again on how scientific concepts apply to the agriculture context. Additionally, eighth-grade students receive the following value-added components: a brief review of the FFA program, agriscience fair, livestock species, and the impromptu speaking contest. By the end of the class, students have a working knowledge of different animal species including breed information, physiological terms, and uses of animal by-products in the food system. To prepare for the impromptu speaking experience, students randomly select non-agricultural topics and in mere moments, stand and deliver a short speech on that topic. Once they are familiar with the format, they repeat the process using a topic on an animal species discussed in class. Though our main areas of focus are simple, the event gives students just enough exposure to

the competitive side of Ag Ed by introducing them to something in which they can compete in in high school.

In recent times, our students were able to gain a local look into production agriculture. Unable to be in the classroom due to the COVID-19 stay-at-home-orders, we took the classroom to the students. Local farmers and ranchers answered the call and we created a series of virtual farm tours to help our students experience agriculture through a Zoom screen. Students were introduced to producers explaining what they do and the effort it takes to get their products to market. Students saw everything from running and operating a pumpkin patch to harvesting walnuts, hops, and tomatoes. The students liked the virtual experiences so much they often watched the farm tours again with their parents, thereby expanding their reach.

In the area of SAE, we feature a school garden consisting of ten raised beds the students maintain. In class, we use the garden to teach scientific principles and hands-on skills in the areas of natural resources and plant and soil sciences. Students also get the opportunity to work in the garden before and after school for credit. Over the years, students have transformed the area into a productive space. They have cleaned out existing vegetation, built the raised beds, and are now growing vegetables and maintaining drip lines. The food grown is used in the classroom for educational purposes and, of course, eaten. A favorite lesson is using the produce to make salsa. They love learning about the key ingredients and where they are grown in our state. It is our goal to continue growing our SAE opportunities and strengthening the impact this piece of the program has on students. We believe mentoring students in how to best select, manage, and learn from the experience not only makes a difference at the middle school but it will pay off when they enter the high school program.

The last unique opportunity we offer our students is the highly anticipated DIVE conference. Scheduled during FFA week, the Elk Grove High School agriculture leadership class plans and hosts a one-day leadership conference for 80 to 100 of our students. Comprised of skits, loud music, leadership activities, and school farm tours, students take a quick dive into the fun, friends, and learning opportunities that await them should they continue in the agriculture pathway in high school. For many, this recruitment event solidifies their commitment to registering.

At Joseph Kerr Middle School, our mission has always been simple, expose as many students to agriculture and the FFA as possible without burning them out. Having great love for agricultural education and the FFA, it can be challenging to hold back. However, with everything we do we seek to leave our students wanting more. By the end of their eighth-grade year, we want them ready to hit the ground running with choosing an SAE project and competing in CDEs their freshman year. Keeping agriculture fun for students is what we strive for and, so far, it seems to be working.

Christie Fuso is a seventh-grade agricultural science teacher and science department chair at Joseph Kerr Middle School in Elk Grove, California. She received her bachelor's and master's degrees from Cal Poly in San Luis Obispo.

Hello, Middle School

One teacher's transition from high school to middle school agriculture

by Courtney Castle

If you had asked me early in my career if I would ever leave the high school setting, I would have told you "no." For so long, it had been my dream to experience high school agricultural education from the perspective of the teacher. I longed to watch these students find their passion for agriculture, develop their leadership, and discover careers within the industry. For a while I lived out my dream, teaching horticulture and agricultural science to secondary learners. The first half of my career was spent working in a supportive environment with numerous student successes, professional development opportunities, and a school farm refresh. For a while, I found fulfillment but a sudden turnover in school administration changed everything.

At one time, our department could be described as vibrant with an electric, invested community of learners and course waitlists that were the envy of all. However, the program sustained severe damage from administrators who failed to find value in agricultural education or the many and varied industry career opportunities for students. The lack of support resulted in unfilled classes and a marked reduction in student engagement. My team and I shouldered on, fighting for our department's livelihood by asserting our needs and working hard to recruit new students to fill course rosters. At that time, I was expecting my third child and felt like I was failing at being an ag teacher, wife, and mother. I reached my breaking point and I knew something had to change.

My final year in secondary agricultural education was tumultuous so I chose to resign from my position. My dream had changed but my commitment to supporting agricultural education had not. After much research and reflection, I committed to a new role, serving as the superintendent, principal, and eighth-grade teacher at a rural elementary school. An exciting new adventure awaited me.

Leaping to the middle school level was one of the most difficult, terrifying, and exhilarating choices I have made in my career to date. In search of peace and new opportunities to learn and grow, I was welcomed by a district with the desire to see the school move in an agriculturally-focused direction. I also found myself in a major leadership role responsible for working with the board, staff, and the local community to create a common vision and mission for agricultural education from kindergarten through eighth grade. What a role reversal!

The first two years in my new position formed my steepest professional learning curves to date. I led our team through the COVID pandemic and navigated the retirements and new hires which followed. I embraced several new professional responsibilities such as learning to teach all subjects in a self-contained classroom and coaching a variety of extracurricular sports. I sought to make use of our new school farm, navigated a new approach to student discipline with younger learners, worked tirelessly to engage our staff, and learned more than I ever thought possible regarding school budgets. These experiences helped me meet the expectations of my positions but I knew I was only realizing part of my dream.

At the start of the current school year, I jumped at the opportunity to take the next step in establishing our agricultural education program by officially chartering a middle school FFA chapter. After spending the previous two years understanding the culture and learning processes of elementary and middle school students, I knew the time was right. Our middle school learners are at an age where they want to feel responsible for their learning and growth. They are hungry to gain experiences outside of the school setting and are full of anticipation for what high school will offer. Their minds are filled with thoughts about their futures, a sense of pride and commitment to being leaders on campus, and a desire to be remembered for the impact they have on their school. I have found this excitement and passion can easily be ignited by the embers of agricultural education and the FFA.

Chartering a FFA chapter as a single-person department in a state where middle school agricultural education is rather new added another layer of complexity to my roles. This past year, I found myself asking new questions and facing different and significant challenges. My questions surrounded how to fund a program without traditional sources such as Perkins or the California Agricultural Incentive Grant, beginning and building a brand new chapter, developing relevant curriculum, introducing a group of students with no real knowledge of FFA to the FFA, building community

and parent involvement, and developing school farm plans. These queries never entered my mind while teaching in the high school setting. Given the rich tradition of secondary Ag Ed in our state, everything was already well established with willing mentors around every corner. This exploration of fresh academic territory left me feeling as though I was on my own. Despite the struggle, the circumstances pushed my thinking and challenged me from both the teacher's and administrator's viewpoints.

I will be the first to admit my focus this year isn't on the FFA, SAEs, competing in events, or even attending conferences. While teaching in the high school setting, I understood the importance of a strong classroom to a program's overall health. My goal has been to create a solid foundation to support the steady building of our total program and it must all begin with the curriculum. Our district expects agricultural concepts to be addressed starting with kindergarten and progressing through the eighth grade. To begin the process, my staff collaborated on the creation of curriculum maps for all grade levels. We pulled resources and lessons from Georgia Agricultural Education, California Foundation for Agriculture in the Classroom, and the National Agriculture in the Classroom organization. For my seventh and eighth grades, I was able to incorporate my certification in CASE's Introduction to Ag, Food, and Natural Resources course. In grades kindergarten through sixth, the instructional focuses are on ag systems, foundations in agriculture, leadership and career resources, and natural resources. When students enter seventh grade, the curriculum shifts to FFA, plant systems, animal systems, natural resources, and agricultural mechanics.

While working through the curriculum development and course mapping processes at our site, it became clear that California needed a more cohesive approach to middle school Ag Ed. I recently partnered with the California Agricultural Teachers' Association to launch a statewide working group tasked with developing the middle school experience. Although the planning is in its early stages, members are motivated to create more structure around the classroom instruction, leadership development, and experiential learning experiences for students in grades six through eight. Collaborating and networking with all middle school ag teachers will ultimately strengthen all middle school programs and their development and growth within our state for years to come.

Aside from curriculum development, my favorite aspect of middle school Ag Ed is the pure excitement of the students. Not having any preconceived ideas or past experiences with an FFA program or SAE projects drives my students to sign up for anything and everything we have to offer. The newness of our program and their curiosity about the FFA gives them the bravery to step up and be our school's leaders. It allows

> Not having any preconceived ideas or past experiences with an FFA program or SAE projects drives my students to sign up for anything and everything we have to offer.

them to try new things and make history. Additionally, our officer team is full of pride... pride for our school, pride for being a middle school chapter, and pride for making chapter history by being the very first team. It is this pride that will fuel our program as it moves ever forward.

Although our main focus is on curriculum this year, I have provided our students with many opportunities in the FFA. Our local community's support of our fundraisers permitted students to participate in events like the chapter officer leadership conference and the opening and closing ceremonies contest, to hold National FFA Week events, and to attend the state FFA leadership conference. We even have our very first meat bird SAE project lined up for our local fair in May. Seeing them proudly wearing the FFA jacket emblazoned with our school's name has been nothing short of inspirational.

While it can be easy to say "yes" to everything, I have been deliberate about what activities and events I offer to our students. I remember ag teacher burnout and the need to "do it all" in the high school setting. I no longer give in to that need to do it all but rather provide students with key opportunities and events that will prepare them to be active members when they transition to high school. My goal now isn't to do all the FFA events and SAE projects but rather to whet their appetite for more.

This first year of in-person instruction has been consumed by a whirlwind of establishing traditions, making history, and planning for the future. As our program moves forward, the list of things we want to accomplish grows ever longer. We want to continue to strengthen our curriculum and enlarge our school farm. We even want to upcycle our old school bus into a farmer's market filled with student-grown produce and eggs. The choice to leave the high school setting hasn't been easy for me but I have found so much reward and promise in the junior high. I look forward to the expansion of quality middle school programs within our state and the overall impact these programs will have on agricultural education. If we can find instructors willing to step into the role and channel the excitement and hunger these students have for learning, then we will see middle school agricultural education excel beyond expectation.

Courtney Castle is an educator in her eleventh year, currently serving as superintendent, principal, eighth-grade teacher, and FFA advisor at Saucelito Elementary School in Terra Bella, California.

Not Alone

by Becca Duran

Fort Bragg Unified School District is located in a small, coastal town in northern California. In the 2020-2021 academic year, the school district approved the development of a middle school agriculture program. This decision created a pipeline into the current high school agriculture program and FFA chapter. It also created a new teaching position that I, a first-year teacher, filled. Establishing a program is not often part of a first-year teacher's responsibilities and for good reason. The first two years of a teaching career are challenging enough without the added stress of beginning a program. While I have endured struggles, I have taken great strides in building support. By collaborating with our high school agriculture teachers, being an active participant in other middle school activities and committees, and by building relationships with local businesses and community members I know I am not alone.

When I accepted the position as a middle school agriculture teacher, I knew right away I was entering uncharted territory. Fort Bragg High School had been a single-person program for many years and it wasn't until just eight years ago they added a second position. Having been a single-person department for so long, the department head had become focused on efficiently fulfilling program goals and completing program activities. Additionally, she too was entering uncharted territory by expanding to a three-person department within one year.

Redistributing the duties and responsibilities has been one of the greatest and most positive challenges for our team. To operate at our fullest, without stepping on one another's toes, we came together as a department to outline all of the different activities and events for our school year. We divided the responsibilities amongst one another based on our strengths and program relevance. For example, I took on the responsibility of coaching the FFA Creed competitors since this competition allows participants in seventh through ninth grades. In addition to this, we crafted a shared vision by creating new department goals. We also shared this information with our administrators to keep them apprised of what our department wants to accomplish.

A big part of being able to work effectively and efficiently with each other is forming an understanding that we all work in different ways, with different ideas, and it is okay to accept help. At times, this can be a challenge. In the agricultural teaching community, it can be difficult to accept help from others, especially after running a program alone for so long. Our department head is still getting used to the fact that she can now rely on others to help accomplish departmental tasks. It feels good to hear her express how much easier it is to do something with multiple teachers working together. For example, the upcoming fair season is going to look a little different. Instead of the department head being the only livestock advisor for all animal species, I am supporting the chapter as the sheep and goat advisor. While I am assuming this responsibility, she has provided me with resources, tips, and advice on successfully managing livestock SAEs. As a first-year teacher and a first-time fair advisor, this task could seem overwhelming but working alongside someone who is experienced gives me confidence and comfort.

From the get-go, I have received support from the high school agriculture program, high school agriculture teachers, and high school administrators. At the middle school, adding a new career and technical education component to the existing electives has made my middle school administration both excited and cautious. This program has never been offered in this school district. The administration, parents, and community members are all very eager to see what this program can offer and how it can benefit the students. But where to begin?

My department head and I met over the summer to co-plan the middle school addition to the agriculture program. Having a blank canvas to work with, she was able to share her experience and help me transform my ideas into something engaging and effective. As a result of our collaboration, I teach two sections of sixth graders in a class called *Farm to Table* on an 18-week rotation. In this class, students learn about a California agricultural commodity each week and complete a food lab featuring that commodity. In the future, the plan is to produce the majority of these commodities on the middle school farm. I also teach two sections of seventh graders in a semester-long *Plant and Animal Science* course. My eighth graders are in a year-long class called *Introduction to Agriculture*. These students are also official FFA members in our ag program. The structure of these classes developed from the amazing support of the high school ag program with the goal that we would see

> There is an overall theme that describes the middle school agriculture program and that theme is fun.

(TOP) Photo courtesy of Andy Morton. (BOTTOM) Photo courtesy of Janet Gottstine.

growth in enrolled ag students at the high school level.

Another way I have leveraged support is by connecting with the community and district administration. At the beginning of the school year, there were some misunderstandings with our shared vision in terms of how to build our middle school program and the effort needed overall. I am a middle school agriculture teacher and a Fort Bragg FFA advisor. My responsibilities reach further than the middle school, as I advise sixth through twelfth graders. However, given that I am the only agriculture teacher at the middle school site, my everyday focus is on my middle school ag students. My agriculture department team came together with all of our district administrators to fully explain the fundamentals of an agriculture program and our goals for the middle school. This meeting got the ball rolling. As a new teacher, it can be intimidating to speak up and persistently express new ideas. However, after this meeting, barriers were broken down, communication grew, and ideas from all perspectives began to be formed. For example, our middle school principal is a local professional who was born and raised in the community. She also has a background in agriculture and was heavily involved in 4-H. She has been so eager to see our program grow that she provided me with her area contacts. As a transplant from the San Joaquin Valley, six hours south of Fort Bragg, connections with these local industry experts have proven transformative. Their willingness to support our new program has opened many doors for collaboration with other agricultural businesses in town.

Collaborating with other agricultural businesses and community members has been one way I have acquired program resources. Building relationships with the community is a key step to developing a successful program. Many of these community members and business owners are the individuals who comprise the advisory committee and boosters and provide other general support. Fort Bragg FFA's advisory committee is comprised of many supportive ag business owners and professionals and they have inquired about the type of support I need to launch and manage the middle school program. They have already provided support in different forms such as

addressing misunderstandings with administrators and physically supplying the ag program with funds or donated items to repair and update our school farm. Additional support has come from beyond this committee, as other business owners have offered a variety of resources. For example, a local meat business has offered educational field trip opportunities and donated meat products for use during food science labs. Utilizing these donated resources efficiently is very important as currently, middle school programs do not receive funding from the California Agricultural Incentive Grant (AIG). Fortunately, our program has been fully funded by the Career Technical Education Incentive Grant (CTEIG).

Since the middle school ag program is affiliated with the high school program, there are shared funds that help cover the costs of leadership activities in which my students are involved. Throughout the academic year, our chapter hosts several fundraisers. Any money raised by the middle school students is dedicated to their use. My program is currently funded by CTEIG, I cannot make capital purchases. Given there are so many rules about what we can and cannot spend money on, additional funds like the California AIG would be appreciated. Fortunately, due to the growth and demand for more middle school ag programs in California, state staff are looking into making changes to the AIG to allow for allocation to middle school programs.

About eight months into the school year, I can confidently say the middle school ag program has been set on the path to success. There is an overall theme that describes the middle school agriculture program and that theme is fun. At the beginning of the year, my mentor advised me to make it a goal to hook my students to get future classes excited. It is safe to say that this goal has been accomplished. As my students are preparing to select their new classes for the next school year, many have asked, "How do I get into your class?" and "What do I sign up for to be in your class?" I have received praise from my administration and other staff members that the culture I am working to establish is exciting and taking root. In the very kind words of my mentor, "That energy is contagious."

Although these past eight months have been successfully playing out publicly, behind the scenes I have endured major challenges. First and foremost, accepting a position that required me to move six hours from family and friends was very difficult. This major life change alone is enough to bring any new professional down but this hasn't been the only hit. I have experienced other typical challenges such as breakups, relocating a pet, making new friends, finding new healthcare professionals, creating a new home, and much more. However, none of these challenges even came close to the most heartbreaking a young person can endure, that of losing a parent. My father had been battling cancer for the past three years and I lost him this January. I share this piece of information for two reasons. First, sharing about the greatness of my dad keeps his love and legacy going. Second, I made the brave decision to be transparent with my students, my students' parents and guardians, and my staff by sending out a message about what I was currently going through and asking for grace as I got back up to speed. After having been out sick for a week with COVID-19, I missed another week of school to be with family. I received so many messages from students and parents wishing me well and offering support in many different ways. My co-teachers also stepped up and helped advise my middle school. Most importantly, I was welcomed back to the classroom with happy faces, understanding, and love from all my students, parents, and staff members.

From my limited experience, I believe a key takeaway has been to welcome uncertainty as an opportunity to begin something meaningful. Sharing a vision with experts and other professionals can lead to the creation of rich plans capable of transforming simple ideas into something beneficial for students. Regular communication and transparency are necessary for building emotional connections and assistance. Regardless of how difficult a new teacher's role is in the first years of their professional career, seeking to build support through a similar approach can markedly reduce stress and improve enjoyment.

Becca Duran is a graduate from California State University, Fresno. She is a first year agriculture teacher at Fort Bragg Middle School where she is developing a new middle school agriculture program.

Harnessing the Power of Innovation

By Teresa Lindberg

One of the keys to my success as a middle school agricultural education teacher has been my commitment to understanding student motivation and determining student interest. I have determined throughout my career that students are motivated to learn when they are interested in the material, find value in learning, and can understand the relevance by applying it to their goals and ambitions. Seeking ways to connect my course content to these motivators has helped me become more innovative with my curriculum.

I have determined throughout my career that students are motivated to learn when they are interested in the material, find value in learning, and can understand the relevance by applying it to their goals and ambitions.

Innovative curriculum development is vital to program success by creating middle-level learners who love to learn. I created the *Renewable Energy Challenge* unit after I obtained a grant to purchase three K'NEX renewable energy kits (http://www.knex.co.uk/). The unit is student-driven and has an interdisciplinary approach involving English, Engineering, and Agriscience. Students utilize hands-on applications in conjunction with inquiry-based learning while working cooperatively in teams. Together, they build, investigate, discuss, and evaluate concepts, ideas, and designs utilizing solar, wind, and water energy applications. This unit improves investigation skills, critical thinking, and understanding of science and engineering concepts. It also requires students to hone their problem-solving skills and their use of technology to collect, analyze, and report data. It also sparks the exploration of questions using displays of student-generated data.

To further expand on the *Renewable Energy Challenge*, the students use their research and results for the *Passive Solar Energy* unit. Students design, construct, and evaluate a model of an agriculture building that utilizes passive solar energy to meet the energy requirements of that agricultural enterprise. Students complete trials, make necessary modifications, demonstrate the effectiveness of the model design, and determine if it is feasible for real-world applications.

Another unit, *Plant Doctor*, utilizes hydroponics and traditional growing methods to assist students in categorizing organisms, identifying stages of growth, analyzing the effects of chemicals on plants, and determining the effects of environmental factors on plant development and morphology. Students observe the synergistic qualities of various nutrients and analyze how plant nutrition impacts human nutrition.

Innovation doesn't stop at the borders of my classroom. Getting my students motivated to be involved in the Supervised Agricultural Experience (SAE) program has always been a challenge. Rather than shy away from this important piece of the program, I have dedicated time to developing many SAEs within the middle school. FFA members have options of working in the greenhouse or the outdoor classroom and exploratory trail, focusing on agricultural education, or conducting agriscience research projects. In addition, I have created a work-based learning unit, called *Lindberg World*. Students are required to keep modified SAE records while in *Lindberg World*. The unit begins with record keeping and financial literacy concepts. Lessons include: learning personal financial literacy concepts such as banking, writing checks, reconciling banking statements, paying bills, developing a financial plan, inventory, depreciation, loans/liens, expenses, incomes, profit/loss, and real-world tasks you have when you are on your own.

Each student establishes a tractor business (entrepreneurship) with a budget of $50,000.00. The money is to be used to design and build a prototype, enter competitions, and finally market the product. Students are responsible for the management and record-keeping of the business. To remain open, a profit must be obtained.

Students use K'NEX products to build their prototypes and each piece used has a cost. The business earns income by meeting rubric criteria and the inventory consists of the parts purchased. For example, the tractor must pass safety standards. In addition, they enter the skills they are learning and using into their

records. The students also develop a marketing plan and the prototypes are evaluated by judges. Awards are given for the best design, most cost-efficient, and best all-around. The record books are judged for accuracy, completion, and neatness. Awards are also given for the record books.

For the agriscience program, I wrote a grant and used it to obtain a 3D printer. Students can use it to design parts for their tractors and their *Renewable Energy Challenge* projects. I have also begun to implement a new unit and have developed curriculum where students design 3D buildings, such as barns and stables, utilizing 3D software.

I have been exploring a new curriculum idea where students are identifying a world issue or world problem. Then, students conduct research and, using 3D designs and K'NEX parts, create a possible solution to the problem/issue they have identified. The students utilize hands-on applications in conjunction with inquiry-based learning while working cooperatively in teams to build, investigate, discuss, and evaluate concepts, ideas, and designs utilizing their knowledge of 3D design, K'NEX, and renewable energy sources. My goal is to improve student investigation skills, critical science, and engineering concepts. Then, students complete trials, make modifications as needed, demonstrate the effectiveness of the model design, and determine if it is feasible for real-world applications. We were in the middle of the implementation of this unit when the COVID-19 pandemic hit, so we are implementing it again this year.

As a middle school agricultural education teacher, I have found that by utilizing this type of curriculum, students are immersed in a simulated work-based environment. They are faced with entrepreneurial decision-making choices and deal with both expected and unexpected outcomes. It is a true-to-life scenario with an SAE application students enjoy.

Another issue I contend with is the fact that there is no high school agricultural education program in our area. Students do not have an option to continue their agricultural education journeys beyond middle school. This has proven difficult as just when students get excited about the pathway and active in the FFA, their agricultural journeys normally come to an end. Determined to help students continue, I went searching for a creative solution.

Meeting with my state Department of Education and the state FFA organization I secured permission for my active FFA members to remain in my program beyond middle school. They are expected to complete an agricultural project totaling at least 180 hours. The project has to be approved and supervised by me and students who complete the project do so after school hours. They do not receive any high school credit for the class. However, they can participate in career development events (CDEs) and leadership development events (LDEs), all FFA activities on local, state, and national levels, and can earn degrees. Through this creative solution, members have earned their state and American degrees and won state and national LDEs and CDEs.

In 2020 the Virginia legislative session had a positive impact on students in Agricultural Education programs. At that time, about 26,000 FFA members did not consistently receive credit for their SAEs as they were not designated on the state level as *work-based learning*. As a result, students were often not reaping the full benefits of these experiences. I contacted my delegate in the Virginia House of Representatives to address the issue. I was able to get the bill formulated and submitted. The bill, with support from across the state, was signed into law by our Governor on July 1, 2020. Now, my students and other agricultural education students can get credit for their SAEs as work-based learning. They can also earn additional high school credit for completing 280 hours of work experience or, in the case of my students, credit for their work.

The pinnacle of my career has been the number of students who have earned degrees in an agricultural field. They have assumed careers as soil scientists, agronomists, extension agents, foresters, crop scientists, veterinarians, agricultural education teachers, and numerous other roles in the agricultural industry.

Teresa Lindberg is a middle school agriscience teacher at Edward W. Wyatt Middle School in Emporia, Virginia.

Keeping It Positive

by Leanne Jenkins

There are two principles I find important in teaching; building relationships and focusing on, and rewarding, positive behaviors. In my discipline of Agriscience, with the support of my school administration, we have found unique ways to incorporate both into our agriculture program.

When I graduated college, I taught for three years then took a ten-year hiatus. During that time, I raised babies and worked at a children's home as a house mom. At any given moment, my husband and I had anywhere from six to nine children living in our home, plus lots of friends coming in and out. It was such a precious time in our story. Every day was a challenge but our time there, and the memories we made, have impacted all areas of our lives.

Returning to classroom teaching following those years of working with children from hard places, I entered with a whole new outlook on student management. I didn't just see behaviors anymore, I saw the hurt behind the behavior. I saw the attention-seeking for what it was and I realized forming relationships was the best way to conquer negative behaviors. I learned rules without relationships just led to rebellion, even in the classroom. Students don't *care how much you know about your subject until they know how much you care about them.*

Based on these transformative experiences, I spend the first two weeks of each school year getting to know my students. Some would say it is too much time, that there is too much material to cover in a semester to surrender that much time to icebreakers and games. However, I have found by dedicating the time to dig deep to get to know my students in the beginning, they learn more in the long run. They are more invested in what I have to teach when they know my heart and that I care. Following the two weeks, I seek ways that lead to one-on-one conversations with students. I believe the best part of being an agricultural educator is the amount of time you spend with your students. Whether it is studying for a career development event (CDE), planting in the garden, or mucking out stalls; I see each of these as an opportunity to have meaningful conversations and opportunities to develop deeper relationships. Magic happens and conversation starts to flow when you are working with your hands.

I am so thankful to work at a school whose administration sees the benefit of focusing on relationships and supporting positive behavior. When I moved to my school four years ago, I completed a series of continuing education courses that introduced me to a new form of discipline and a structure for addressing behavioral issues. This new idea

> I learned rules without relationships just led to rebellion, even in the classroom.

blended so well into the strategy of relationship building. Positive Behavioral Interventions and Supports (PBIS) is a "multi-tiered framework to make schools more effective places. It establishes a social culture and the behavior support needed to improve social, emotional, behavioral, and academic outcomes for all students" (Center on PBIS, 2020).

Instead of focusing on negative behaviors and students in trouble, PBIS emphasizes the reinforcement of positive behavior. Teachers, staff, and administrators are encouraged to keep their eyes open for positive behavior and reward students for it. Whether trying hard to complete their work, going out of their way to hold the door open for another student, or picking up trash without being asked, PBIS teaches adults to watch for positive moments, and teaches students that doing the right thing feels good and sometimes has fun rewards.

So how does it work? As a teacher, if I see something I want to reward I can go onto FOCUS (our grading website) and give a student PBIS points. The teacher or staff member can use their discretion on how many points to assign. It also allows me to write a brief note to the student about why I am sending points their way. For example, I have shared the following with a student which read, "Sally, I saw how sweet you were being to our new student and I just wanted to tell you how much I appreciated your kindness." Often, the notes are just as important to students as the PBIS points.

Once each month, students can log onto the school's PBIS store and purchase items with the points they have earned. Stickers, jewelry, candy, and chips, are just a few of the items that can be purchased. While all of the items can be tempting, let me tell you about my favorite item to purchase... the *Ag Pass*.

About a year into our PBIS journey, my administration approached me about featuring an Ag Pass in the PBIS store. Students would be able to purchase a 15-minute pass to come to our agriculture land lab to interact with the animals. At first, I was skeptical but it has been wildly successful. Since its implementation a couple of years ago, hundreds of students have purchased these passes. Our assistant principal, Sandi Reynolds, the original developer of our PBIS store said this, "When I first started working on the online store, I wanted to provide items I thought the students would work for, incentives for receiving PBIS points. I went to our principal and told her that I would like to do passes for Ag. It just developed from there. By far, Ag and afternoon announcements are the most popular passes to purchase this year. Students purchase them every time the store is open."

On most days, in most classes, we end our class time with 15 minutes of "Hands-On Learning." This is the period when my students and I go into the land-lab area and have hands-on experiences. Some of these experiences include planting in the garden, working in the greenhouse, moving chicken tractors, interacting or caring for the goats, cleaning troughs, cleaning the duck pool (a student favorite), and chasing chickens. Hands-on learning brings smiles to faces, the feeling of accomplishment, and joy to my heart. Students who purchase ag passes jump right in with the agriculture students who show them the ropes.

Our school has close to 1,200 students, so not everyone can be enrolled in an agriculture class. Our administration saw how much students enjoyed agriculture, the animals, and hands-on learning, and that is how the ag pass was born. Ag passes are a way to involve everyone if they are willing to work for the opportunity. Our principal, Marietta McCaskill, said, "Having animals on campus teaches skills that make an impact in a different way than just talking or sharing about these skills. Empathy, sympathy, and the circle of life are just a few. As students learn these skills

through caring for animals, they transfer them to their classmates, teachers, and families. This is the goal to develop kind, empathic, and caring individuals for life and I feel we do this through our ag program and ag passes."

I count it as a blessing and a privilege that our agriculture program has so much support and our administration sees the benefit of providing these opportunities for students. I know this is not the norm. However, I am hopeful teachers across our country can use this article to approach their administration and discuss what an amazing partnership opportunity this truly can be. It is a great way to impact student lives, recruit for your program, and bring joy to the campus community.

References

Center on PBIS. (2022). Retrieved from https://www.pbis.org/topics/school-wide#:~:text=-School%2Dwide%20PBIS%20is%20a,%2C%20family%2C%20and%20community%20needs.

Leanne Jenkins is a middle school agri-science teacher at Beulah Middle School in Pensacola, Florida. The Beulah Middle School Program has been awarded several accolades in the four years the school has been open, including being named "Florida's Finest" and receiving a 3 Star Chapter award from the National FFA. This is Leanne's ninth year of teaching.

Building Community in the Middle-Level Classroom

by Carly Santangelo

"We built these," my now high school students shared while giving garden tours to new students, faculty, and community members. Why would a group of students exhibit such pride in an assignment they completed years prior? As seventh graders, this group banded together and invested heavily into their learning by transforming their school environment. They even influenced the behavior of their peers. How did they do it? They saw their learning as being filled with problems.

Challenging students to solve authentic problems has the power to motivate them to greater levels of academic success and creates a sense of community as they work together. Authentic problems are identified by the student, or a group of students, as being important and worthy of their time and engagement. During the learning process, students receive feedback from their teacher.

To ensure students remain open to coaching, teachers must establish meaningful relationships with their students by getting to know them on a personal level. Not only does this keep the lines of communication open, but it also provides purpose and a greater sense of professional fulfillment. When I shifted the priority of my classroom to get to know my students, my teaching changed for the better. Daily, I make a conscious effort to get to know at least one student a little more as an individual. As a result, I have grown more empathetic to the challenges of being a student in 2022. Additionally, I am able to call on my connections with students to help them be successful in other areas and can tailor my lessons based on their needs and interests.

Offering relevant and authentic opportunities for students requires resources. I make use of the Living to Serve Grant program hosted by the National FFA Organization. The Living to Serve Grant offers four tracks of competitive awards which vary in duration and scope. The goal is to help chapters institute a service project that meets a community need. Ultimately, the support allows me to give my middle-level learners the best environment possible to learn through inquiry.

Through one grant cycle, my students elected to build compost bins and created an educational campaign to encourage their classmates to correctly use our compost buckets in the cafeteria. My students collected and weighed the buckets daily and, after analyzing their data, found the best participation was during the middle school lunch period. Their discussion about the data prompted them to examine the context surrounding their results and they believe the gains were likely due to the work they dedicated to the education and communication campaigns. By reading books about compost, teach-

"Challenging students to solve authentic problems has the power to motivate them to greater levels of academic success and creates a sense of community as they work together."

ing compost-related lessons, and developing compost communication tools, the students were able to enact a sustainable change at the local level.

Through a second Living to Serve Grant, my students built and installed a series of raised bed gardens. This space serves as the focal point of the outdoor classroom located beyond the windows of our school cafeteria. Like an outdoor challenge course, this project begged students to move beyond their comfort zones by operating power tools and equipment and working cooperatively as a team. After pushing through the initial fear of operating potentially dangerous equipment, students were empowered by the relevant context to work together to problem-solve, try out solutions, and evaluate them for effectiveness. Once again, my middle school students were able to influence their peers. By teaching them to safely use power tools, they were able to build two more raised beds and launch their own community garden.

There is such an opportunity for growth when a teacher pours their trust into middle-level learners. By scaffolding their learning and presenting opportunities for them to use their hands to solve problems both independently and collaboratively, students can unlock their potential for success. The more I trust my students and give them meaningful problems to solve, the faster they rise to the occasion, the stronger their sense of community, and the longer their impact.

(TOP) Photo courtesy of Andy Morton. (BOTTOM) Photo courtesy of Gloria Belton.

Learn more about the National FFA Organization's Living to Serve Grants:

https://www.ffa.org/livingtoserve/grants/

Carly Santangelo is a middle and high school agriculture teacher and FFA advisor at Cuba-Rushford Central School in Cuba, NY. She is advocating for teachers and students across New York State as the 2022 New York State Teacher of the Year.

Interesting Thoughts from an 8:00 A.M. Class and Beyond

by Dr. Beth Golden & Farish Mulkey

I began my 8:00 A.M. Agriscience Applications class with a request for help from my students. I have been fond of telling my students over the past 34 years, "all of us are smarter than one of us." It is my "Mulkey-Phrase," of Proverbs 11:14, "Where there is no guidance, a people fall, but in an abundance of counselors there is safety." So, that day I called on my group of "counselors," twenty-seven pre-service agricultural educators, to respond to the question, "Why agricultural education in the middle school?" In the group of students, 60% completed agricultural education in middle school and high school, 30% percent were involved in agricultural education at only the high school level, and 10% had no prior experience with school-based agricultural education. Upon completion of answering the question, the floor was open for discussion. The discussion was genuine, sincere, and passionate from all groups represented. I was encouraged as I recorded students' responses on the whiteboard. Their answers included statements such as:

- It provides the foundation for their agricultural education journey;
- The students are like sponges at this age - they want to learn;
- They are building a community of like-minded students within their school;
- The students are finding areas of agriculture that interest them;
- Many of these students still talk to their families about what they did at school during the day, and ag classes were the best;
- The students learn life skills;
- Middle school students have a chance to explore careers;
- Middle school agriculture promotes agriculture literacy;
- It prepares students for agriculture education at the next level;
- Middle school is a weird time, students struggle to fit in, and an agriculture class can help students find their place.

Indeed, these future teachers were positively influenced by their school-based agriculture teachers. I also found responses from students with no prior school-based agricultural education insightful. I recorded the following:

- Going through a middle school ag program would have allowed me to be part of a community within my school;
- Being part of ag would have enabled me to gain knowledge through hands-on experiences;
- Middle school agriculture classes would have shown me the importance of agriculture in my community;
- Middle school agriculture may have helped me do better with my academic classes;
- It builds a foundation for high school programs;
- For some students, ag makes a huge difference in their lives.

I looked at the responses in amazement and tried to take in the collective wisdom of these students with no formal teaching experience. I asked how many had read any studies on middle school agricultural education. I was met with a few scattered eye rolls and the sound of "crickets." The responses from these students were birthed from their experiences, and in some cases, from no experience. Interestingly, these college juniors gave feedback similar to experienced middle school educators in post-secondary research studies.

Realizing the need for another counselor's voice, I sought the wisdom of Dr. Beth Golden, an agriculture teacher with 25 years of middle school experience. Upon posing the question to her, our rich discussion surfaced a number of additional questions we believe are necessary to address the question, "Why agricultural education in the middle school?"

What is middle school agricultural education?

Middle school agriculture programs educate students about agriculture, agriculturally-related topics, and career options. The middle school curriculum focuses on plants, animals, and natural resources that interest most middle-grade learners. Students can make practical applications to what they are learning in their agriculture classes to many of their academic lessons. This realization of relevancy helps students buy into the importance of their academic courses.

Middle school agriculture teachers engage students by incorporating all three areas of the Agricultural Education model: classroom/lab instruction, FFA, and SAE programs. FFA experiences and SAE programs allow students to practice the agri-

culture and academic concepts they learn in the classroom/lab while learning life skills. These programs incorporate hands-on activities that enable middle school students to exert their energy in active lessons. In addition to developing leadership and communication skills, students can cultivate work ethic, critical thinking, and team-building skills. Additionally, middle school agricultural education students are introduced to the high school agriculture program earlier which provides more time to select specific agriculture career pathways they may choose to pursue.

What are the needs of middle school learners?

This age is when students are changing mentally, physically, and emotionally. They want to be seen as adults, yet they still have many childlike tendencies. National FFA (2009) recognize that "within three to four years, most middle-grade students go through more changes than at any period other than the first year of life." These changes can be both exciting and scary for them. They are becoming more independent and beginning to see they are responsible for their own choices and actions. National FFA (2009) notes that "early adolescents are interested in learning, full of energy and ready to conquer the world if given a chance. They may also be distracted, unkind and apathetic." These students are at a critical phase where they investigate everything to figure out where they fit in and what their interests might be. Davidson (2020) reports that "understanding a student's cognitive stage of development can assist in how to engage a student based on their age." Although awkwardness is a challenge for middle school students, they are also incredibly receptive. Middle school students can be very impressionable and need educational programs to engage in positive experiences. By understanding that middle school students are unique with changing needs and diverse backgrounds, we can imply that they also need educational opportunities that offer differentiation.

Photo courtesy of Andy Morton.

> Middle school agricultural programs are positioned for introducing concepts in agriculture that have positive long-term impacts on students.

How does agricultural education meet the needs of middle school learners?

Middle school learners are unique, and middle school agricultural education programs help students navigate one of the most challenging developmental stages of their lives. These programs offer a diverse curriculum with a wide range of hands-on lessons to engage students. FFA provides another outlet for middle school students. Students can participate in various activities from chapter meetings to Career Development Events. Wang & Holcombe (2010) report that student involvement in extracurricular activities, like those provided by FFA, is a great way to foster student engagement within the classroom. Exploring these activities can help students find their place and develop social groups with others who share the same interests. Participating in these activities with others who have similar interests can also help decrease some middle school students' reluctance to try new

things. Middle school agricultural programs are positioned for introducing concepts in agriculture that have positive long-term impacts on students.

Middle school agricultural education provides a foundation for students interested in taking agricultural education classes at the high school level and becoming active FFA members. In programs where middle and high school agriculture programs work together, middle school students can get to know the high school agriculture teachers. Developing these relationships early on can relieve some of the anxiety associated with transitioning to high school. It allows students to feel they already have a place to "belong" within the agriculture program upon arriving at the high school.

Where do we go from here?

With limited literature on middle school agricultural education programs, more research is needed on every aspect of the program. Additional research will help determine which program elements are working and which need improving. But based on what we do know, we can make a few recommendations.

Middle school agricultural education programs benefit middle school students. It is crucial to continue the programs and establish them in middle schools that do not offer agriculture. Offering opportunities to explore interests and careers in agriculture can provide lifelong benefits for all students. Providing more unique options for middle school students to participate in FFA events may help prevent student burnout. Students may be less likely to experience burnout when transitioning to high school if they learn and apply new technical skills appropriate for their mental development. As elementary agriculture gains momentum, middle school agriculture programs will be critical for offering students a seamless transition from elementary to middle school and high school. Finally, we believe it is imperative to continue to seek input from an "abundance of counselors" who are passionate about serving this dynamic group of students. As noted by the class of pre-service teachers, many of the benefits of middle school agricultural education programs stem from the tireless efforts of middle and high school agricultural educators. Seeking their wisdom in issues related to middle school agriculture programs will undoubtedly ensure the quality of programming at that level remains high.

References

Bible Gateway. (n.d.). Proverbs 11:14 - English Standard Version. Retrieved March 17, 2022, from https://www.biblegateway.com/passage/?search=Proverbs+11%3A14&version=ESV

Davidson, M. A. (2020). Developing a sequence for middle school agricultural education curriculum. Retrieved March 16, 2022, from https://wta-mu-ir.tdl.org/bitstream/handle/11310/389/DAVIDSON-THESIS-2020.pdf?sequence=1

National FFA (2009). A Guide For Middle School Agriculture Science Teachers. Retrieved March 16, 2022, from https://alabamaffa.org/wp-content/uploads/2019/06/A-Guide-For-Middle-School-Agriculture-Science-Teachers.pdf

Wang, M. T., & Holcombe, R. (2010). Adolescents' perceptions of school environment, engagement, and academic achievement in middle school. American Educational Research Journal, 47(3), 633–662. https://doi.org/10.3102/0002831209361209

Dr. Beth Golden began her career as a middle school agricultural education teacher at Eighth Street Middle School in Tifton, GA in 1998.

Farish Mulkey is an Assistant Professor in the Department of Agricultural Education and Communication at Abraham Baldwin Agricultural College (ABAC). He was fortunate to teach agricultural education for 30 years at the middle and high school levels, before beginning a new chapter at ABAC.

Finding Our Place: Middle School Program Concerns

by Addie Tucker & Dr. Sallie McHugh

Middle school. The mention of these two words is enough to make one shudder and recall their own experience. Remember your hairstyle, fashion choices, braces, and those wonderfully incriminating school photographs? We were all awkward and doing our best to find our place. The same is true of middle school agricultural education programs across the country. Although they have risen in number, middle school programs and teachers continue to struggle with finding their place at the state and national levels.

Georgia is the leader in middle school ag ed programs with 136 currently dotting the state. Total middle school course enrollment was 41,839 students in the 2020-2021 school year, comprising a staggering 54% of the total enrollment for Georgia Agricultural Education. Middle school programs have risen as school systems see the importance and value of ag ed programs to student development.

Structured similarly to the high school, middle school programs provide students with a foundation in agriculture and the FFA. They also serve as a recruitment pipeline, contributing to high school program growth. As students transition into secondary programs, they take their experience with them letting high school classes dive deeper from the start.

Despite these connections and benefits, middle school programs must adhere to two cardinal rules when planning instruction. First, middle-level learners require more highly interactive lessons and activities. Given the age of these students, they often find it harder to stay in their seats and remain focused on a task for long periods. As a result, teachers must select a variety of active learning strategies and modalities to grab and sustain student attention during instruction. Setting context more frequently and chunking content can also help. Second, middle school programs must address an introductory-level approach to the curriculum. At this stage, a survey class provides students a tour of the industry that can help prepare them for more specialized coursework upon entering high school.

> Total middle school course enrollment was 41,839 students in the 2020-2021 school year, comprising a staggering 54% of the total enrollment for Georgia Agricultural Education.

It should be noted that a majority of discipline-specific teacher resources are either geared for high school or elementary levels with the middle grades being forgotten altogether. The lack of available grade-appropriate teaching resources requires middle school educators to dedicate additional time to planning. Not only are they writing their lesson plans but they must appropriately modify the curriculum to use it with their learners. Consulting state standards for learning and following the KISS approach (Keep It Simple, Silly) can set students and programs up for success. To further aid middle school Ag Ed teachers and programs, the following recommendations should be considered:

- **State-level middle school director:** The sole focus of this state staff member is to focus on middle school program growth and development. They should handle curriculum development, professional development, SAE resources, and FFA opportunities for middle school programs.
- **Middle school division for career development events (CDEs) and leadership development events (LDEs):** A key focus of middle school programs is to serve as feeder programs to high school programs but lumping middle school and high school students into the same competitive groups can be defeating. Currently, most CDEs/LDEs are run under the junior (grades six through nine) and senior (grades nine through twelve) formats. If a student is competing on a junior level and is a freshman in high school, that student could be on their fourth opportunity to compete. If dedicated middle-school divisions of CDEs and LDEs were offered, this would allow students the ability to compete against their age level. For example,

offering a middle school team for grades six through eight, a junior team for grades nine and ten, and a senior team for grades eleven and twelve would provide a more suitable competitive environment thereby increasing their chance for success. Furthermore, judges would be able to compare apples to apples instead of apples to oranges.

- **More middle school recognition:** Can you hear us from the back? Middle school programs and teachers are wanting to be recognized more on the state and national levels. This includes FFA events, Supervised Agricultural Experiences, middle school record keeping, and teacher professional development. What if we offered Star Middle School Recordbooks like we do Star Proficiencies? What if National FFA produced middle school-based resources? Remember if we can grab these students at a younger level, then we are more likely to retain them.

Some educators say that you either love middle school or you run the other way. Middle school students are awesome. Those who have had the chance to work with them will likely testify to that fact. Unlike high school students who have so many other choices and opportunities that vie for their time, middle-level learners are constantly on the lookout for the next FFA event. They bear a willingness and enthusiasm for participation and a desire to jump in full force. Imagine if agricultural education programs across the nation added at least one middle school program per county. The agricultural education community would grow and expand its reach.

The Ag Ed classroom is an environment where students can find their place and succeed. While this has been true for agricultural education students overall, middle school programs continue to struggle. As a profession, Ag Ed must support middle school programs, teachers, and students so they might better secure their place for now and for the future.

Mrs. Addie Tucker is in her fifth year as an Agricultural Educator at Wilcox County Middle/High School.

Dr. Sallie McHugh currently is in her 15th year of education and serves as an Assistant Professor in the Department of Agricultural Education and Communication at Abraham Baldwin Agricultural College. Prior to teaching at the collegiate level, she served ten years as a school-based agriculture education teacher at the middle, high, and adult education levels in Georgia.

Wouldn't It Be Great If...? Middle School Agricultural Program Needs

by Dr. Robin McLean

When you read "middle schooler," what comes to mind? A fifth-grader? An eighth-grader? Someone entering a new school structure where they are moving around for classes instead of sitting in one room most of the day? A student trying to figure out what peer group they belong to? A person becoming increasingly independent while struggling at times to understand what they should do? An individual who seems to change a little every time you encounter them? Maybe, it is all of the above.

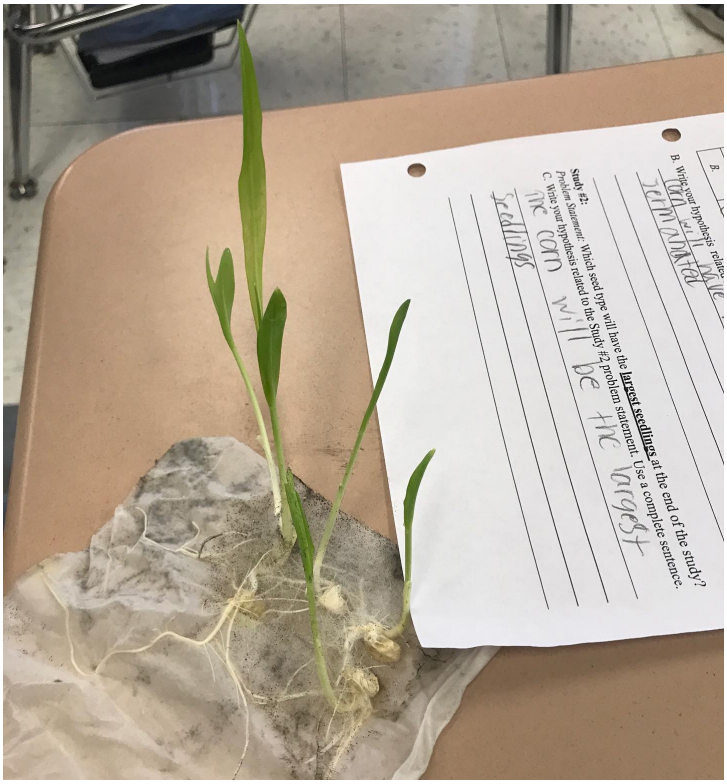
> There is a significant and pervasive need to supply middle school agriculture teachers with resources and training to serve an evolving adolescent population, in a variety of contexts, with a flexible teaching schedule.

Middle school agriculture programs can be as diverse as the students who are involved in them. This creates unique needs and challenges for middle school teachers. Program offerings for this age group carry unique time frames and are often packaged to last 6-weeks, 9-weeks, 18-weeks, a full year, or perhaps somewhere in between. From trying to figure out the best strategies to teach these students in the timeframe provided, to identifying program needs and potential partnerships with high school programs, teaching this age group can prove to be a daunting task.

Entering the middle school classroom after five years in a high school setting and four years as state staff, put me on a learning curve to develop content and materials that would meet my students' needs. Not wanting to teach an elective course based solely on a textbook, I spent a lot of time looking for appropriately leveled instructional resources in the discipline. Finding very little, I set out to acquire interesting pieces from a variety of authors, written for a variety of grade levels. Then, I would modify them for the middle school audience and sequence them for my school's instructional time frame. For example, the ideas I grabbed from *National Agriculture in the Classroom* (https://www.agclassroom.org/) had to be more challenging as much of it was written to engage younger students. However, the content gained from *Project Learning Tree* (https://www.plt.org/) and from the professional development for high school teachers both required significant modification to make them accessible to my students. *The Middle School Food and Agricultural Literacy Curriculum* (https://ffa.app.box.com/s/2s3w6e7ft-0ez8oyfc36gfpk20ifpzmen), supported by *Pork Check-Off*, featured great content but needed to be more engaging. Locating grade-level curricula offered by states with strong middle school programs was always of great help, as long as it did not require a password for viewing. Over time, and with considerable investment, I have developed a rich library of materials I often share with teachers who happen to reach out. What about those who need the support and are not part of my network? **Wouldn't it be great if there were a repository of grab-and-go middle school lessons flexible enough for whatever timeframe programs were structured?**

While creating curricula, I often thought about how middle school needs differ from those of high school students. These youth are hitting puberty. They're entering a phase of identity confusion and personality changes. Their reasoning skills are increasing. With a developing frontal cortex, they are taking risks they might not normally take. It's a time of pushing boundaries. Their communication changes and more attention is paid to body language. Peer pressure can become intense and they experience increased sensitivity. Higher-level thinking skills also begin to develop but all of this does not happen at the same time. In the classroom, the 11, 12, and 13-year-olds are at different places on this journey. **Wouldn't it be great if there was some sort of training to help teachers better understand these dynamic changes?**

Carrying out instruction in a developmentally-attentive way was only one facet of what I



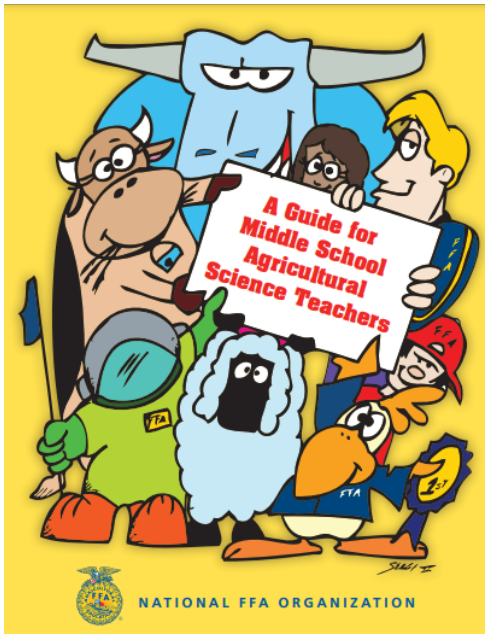
(LEFT) Engaging middle school students with hands-on learning experiences is critical but can be challenging based on course timeframes.
(RIGHT) At a time when students are developing identity and gaining independence, instruction often involves positive ways to use resources available to them and challenging their thinking skills.

needed to consider. I also needed to think about how to conduct chapter officer elections, create a robust but relevant program of activities, and motivate middle school members to engage in FFA activities. While some states have events designed for middle-level learners, New Jersey's middle school members are expected to go head to head with high school members. This presents a difficult dynamic for coaching students and helping them thrive in a competitive context. Additionally, the difference between the two groups in terms of maturation can present issues with planning leadership conferences and workshops.

Discussing the idea of supervised agricultural experience (SAE) with students was another area of concern. What were the expectations for supporting this critical piece of the Ag Ed model with students who are not old enough to have working papers, don't all come from farms, and might only be in the program for one-fourth of the school year? What was required to achieve student buy-in when middle school students required much more parental support? The foundational SAE concepts in the *SAE for All* platform (https://saeforall.org/), provide opportunities for engagement but the resources are not necessarily middle school focused. Utilization required more revision to be useful. **Wouldn't it be great if there were ready-to-go middle school lessons to support SAE development?**

Fourteen years ago, I entered middle school teaching with significant experience in agricultural education. I drew heavily on my expertise in curriculum development and managing secondary ag ed programs just to survive those early years. I was relentless in my pursuit to meet the many challenges, all the while noting that nagging voice in the back of my head saying, "I wish there was..." Collaborating with my network has also been one of the keys to my survival. In fact, when it came to writing this article, I reached out to my network and encountered perspectives that helped me understand I am not alone in my thinking. Social media has been another space for building connection.

The Ag Ed Discussion Lab group on Facebook (facebook.com) has been a great space for growing my network and exposing the realities of middle school ag teaching. When the group informally asked, *"What are the unique supports or needs you feel you have for your program whether curriculum, materials, resources, or professional development?"* several educators shared and the teachers varied in their experience. One had just 1.5



(LEFT) Balancing middle school and high school FFA activities as well as helping middle school members thrive is a training and support need of middle school teachers.
(RIGHT) In the Early 2000s National FFA published a guide for middle school teachers.
Circa 2006

years in the profession and had not yet taught in a non-COVID impacted setting. Another has taught middle school science and would be starting an agricultural science elective in the upcoming school year. Several others taught both middle school and high school agriculture classes. A sampling of their replies follows.

- I struggle with the curriculum for 5th graders. I love the One Less Thing curriculum for 6-8. But I only see the 5th graders once a week so I spend the first 10-15 minutes recapping what we did last class and I feel like I lose a lot of time doing that. I'd rather see them at least twice a week.
- Juggling a junior FFA chapter with a high school chapter as a single advisor/ teacher program is a struggle. I don't feel like I have time for it all.
- Communication and engagement with students and parents when you don't see the students in class every day.
- Getting buy-in from students who didn't choose to take the class or are disengaged regardless of lesson or activity.
- Lack of flexibility in middle school scheduling.
- Professional development related to the middle school curriculum.
  - *Note: Several responses returned to this concern, advocating for the upcoming release of the Curriculum for Agricultural Science Education (CASE) Ag Xplorer Curriculum which will begin offering training in Summer 2022.*
- Virtual PD on resources and funding available for agriculture programs.
- Video series on lessons in Intro classes.
- Examples of hands-on projects geared towards middle school, as what is available seems to be basic or not experiential learning that is well-aligned with the curriculum.
- Where to start as a teacher in a brand new program?

The 2014 study of Georgia middle school teachers' needs by Golden, Parr, and Peake noted writing grant proposals, motivating students to learn, balancing priorities, and promoting the involvement of FFA members topped their lists. Interestingly enough, they are found in the concerns and needs shared by teachers above. This study also addressed recruiting business partners, coordinating activities with local agricultural organizations, and developing effective public relations while concluding that even within one state, the needs vary greatly. **What does this mean for teachers nationally?**

With so many perceived needs of the middle school agricultural educator, a one-size-fits-all answer may not be possible yet the National FFA did offer some guidelines. In 2006, *A Guide for Middle School Agricultural Science Teachers* was published (https://alabamaffa.org/wp-content/uploads/2019/06/A-Guide-For-Middle-School-Agriculture-Science-Teachers.pdf). I started teaching in 2007 and never knew

of its existence. The guide included some of the changes middle school students are encountering, proposed key questions to assess a program, suggested general course content and timelines for a variety of teaching scenarios, identified activities, provided checklists, suggested "how to start a program," and offered resources geared toward middle-level learners' needs and development. A lot has changed since the document's last revision in 2009. The students I see today were not even born at that time. Additionally, membership of middle school FFA is nearly 108,000 in 32 states. **Wouldn't it be great if a new edition was published and made accessible to educators?**

Agricultural Education has come a long way since 1988 when seventh and eighth graders were suddenly eligible for FFA membership. There is a significant and pervasive need to supply middle school agriculture teachers with resources and training to serve an evolving adolescent population, in a variety of contexts, with a flexible teaching schedule. The need to offer richer inquiry-based, hands-on experiences geared toward middle-level students is very real. **We may not be able to respond to every need today, but wouldn't it be great if...**

To explore *A Guide for Middle School Agricultural Science Teachers*, visit https://alabamaffa.org/wp-content/uploads/2019/06/A-Guide-For-Middle-School-Agriculture-Science-Teachers.pdf

References

Golden, M. E., Parr, B., & Peake, J. (2014). An assessment of the needs of middle school agricultural education instructors in Georgia. Journal of Agricultural Education, 55(5), 222-234. https://files.eric.ed.gov/fulltext/EJ1122762.pdf

Dr. Robin C. McLean, Ed. D., is in her 24 year in the classroom and 14th year as a middle school agricultural science teacher at Northern Burlington County Regional School District in Columbus, NJ.

Gothic Arch Greenhouses

Catch the Sunshine!

Gothic Arch Is Your Source for Institutional & School Greenhouses

Backyard growers and commercial operations aren't the only ones who need high-quality greenhouses for less. At Gothic Arch Greenhouses, we also cater specifically to institutional customers who require greenhouse kits and custom designs to teach, provide food for a burgeoning population and much more. No matter the size or style of greenhouse required or the intended application, we're here to assist.

Gothic Arch Greenhouses is an Alabama-based business that's been around since 1946. Since our inception, we have worked hard to become the most trusted name in the greenhouse industry. As a family owned company, we take customer satisfaction very seriously. To ensure our company is the go-to source for greenhouse supplies, we offer only the very best in greenhouse kits and custom designs at prices our customers love. From backyard designs to large-scale commercial and institutional creations, we put quality into everything we do.

800-531-GROW-4769
https://www.gothicarchgreenhouses.com/

Gothic Arch Greenhouses


FFA
FOREVER
BLUE
19 28