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Experiential Learning in the 21st Century

THEME EDITOR COMMENTS

Experiential Learning in School-Based Agricultural Education: Still Vital After All These Years

by R. Kirby Barrick

Not often do we reflect on how school-based agricultural education (SBAE) got its start. Sure we teach the origins of FFA in 1928. And at least at the college level we talk about the National Vocational Education Act (commonly called Smith-Hughes) of 1917. But before there was a student organization, and before there was a federally authorized and funded teaching program in public schools, there was experiential learning in agriculture and natural sciences.

As early as the latter part of the 19th century, rural schools (including elementary schools) were engaged in teaching students about nature, about science, and about agriculture. Of course we have to recall Rufus Stimson and the home project method. Stimson is often credited with being the founder of our modern-day supervised agricultural experience (SAE) program concept and practice.

Agriculture has obviously changed over the last hundred years. Instruction in (and about) agriculture in schools has changed dramatically as well. And while the notion of SAE has evolved from home project, to farming program, to SOE and to SAE, the need still exists to address these questions: what is it, what should it be, and how do we go about ensuring that SAE remains a vital part of school-based agricultural education?

In January 2014, agricultural educators across the country gathered in Indianapolis for the National Agricultural Education Summit. In addition to the teachers, supervisors, teacher educators and others who were present, many more participated via electronic connections. Participants heard from agriculture business and industry, from state agriculture agencies, and from educators outside of SBAE. Some were formerly associated with SBAE while others had never had a personal involvement. Difficult questions were asked; some of those are summarized in articles within this issue, including remarks by Scott Stump, Matt Lohr, and James Stone.

Each of the professional education partners met to discuss further the plans they have addressed for their respective groups. In this issue, Ken Couture speaks to the involvement of NAAE and teachers, Jason Davis summarizes the plans of NASAE, and Ryan Foor reports on the work of AAAE. Each state Team AgEd also met to think through what could and should be done at the state level to reinvigorate SAE as a part of school-based agricultural education.

The remaining articles in this issue provide ideas that can be incorporated into local programs, from agriculture teachers Craig Kohn and Katrina Swinehart, as well as some recent findings from an investigation of exemplary programs and what makes them exemplary by Eric Rubenstein.

The driving force behind these recent developments has been the National Council for Agricultural Education. The theme of the national summit in 2011 included SAE. A task force presented a report of the status and needs for renewing SAE, and a subsequent committee outlined (and gave the charge) for NAAE, NASAE, AAAE and The Council to move forward in their individual and collective efforts.

While SBAE, instruction in and about agriculture, the FFA, and SAE have survived all these years, gone is the day when some state or federal authority provided mandates and funding. If school-based agricultural education is to continue to grow and prosper, and more specifically if SAE is going to continue to be recognized as vital to the program, then it is up to the profession to make it happen. Hopefully the ideas shared in this issue of the magazine represent a step forward in that effort.

Dr. R. Kirby Barrick is a Professor of Agricultural Education at the University of Florida and the Theme Editor for the May June issues The Agricultural Education Magazine.

Due to the number and size of articles submitted for this issue, I did not include the "Editorial" segment. Please enjoy the information on "*Experiential Learning in the 21st Century*. Harry N. Boone, Jr. Editor

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Reclaiming Prosser's Promise

by Scott Stump

First and foremost I must confess that during my tenure as a new agricultural educator at Manchester High School in North Central Indiana, supervised agricultural education (SAE) supervision and visits were not on the top of my priority list. However, from where I currently see the world as Colorado's State Director of Career and Technical Education, work-based and/or experiential learning opportunities for students are not just on my list, but are at the top of it.

This urgency around work-based learning has been fueled by two non-related but equally important recent events. Over the past two years, Colorado's Governor, John Hickenlooper, has been working with communities across Colorado through a "bottom-up" approach to create a blueprint for Colorado's economic growth and vitality. One of the core objectives identified through the process was Educate & Train the Workforce of the Future. As educators, we were not surprised with that objective. We were surprised though by the solution voiced by each of the 14 industry councils: Expand the number of students participating in internships and work experiences! Students with some experience in the workplace are what our employers desperately are seeking.

During this same period, an international study was being compiled on the systems preparing young people and adults for professional and technical careers. The 2013 study, "Skills beyond School" issued by the Organisation for Economic Co-operation and Development (OECD) reviewed policy and practice considerations ranging from labor market needs to integration with workplace learning.

Decline in Workplace Readiness

One of my key takeaways from the report was that "Work-based learning is by comparison weakly integrated into the US CTE system." In addition, the report noted the continued decline of opportunities for students to secure work experience while in high school. This decline is punctuated by the 2008 Bureau of Labor Statistics Report Youth Enrollment and Employment Report which shows that the Employment population ratio for youths age 16-19 in the United States is at 32%, which is the lowest rate since data were first collected in 1947.

The report suggests a combination of factors that have led to this low rate of teenagers in the workplace. Greater school pressures like Advanced Placement, No Child Left Behind, and a decline in the retail trade and restaurant opportunities for teens have had an effect on students finding valuable work experiences. What will be the effect of this decline? What will be the result of a generation of youth entering college and/or a career with less than a third of them having any experience in the world of work?

That is the question driving work-based and experiential learning, internships, and all of their various promulgations to the center of policy conversations nationwide. The US Department of Labor recently released the Youth Career Connect grant opportunity with a focus on placing students in the workplace. Legislation in Colorado is currently under consideration to expand incentives for businesses that expand their internship opportunities. The time is right for Supervised Agriculture Experiences to be the "Gold Standard" in the work-based learning landscape. But for that to happen, the profession of agricultural education must agree to set as a priority the expansion of SAEs to all of our students and the evolution of the most relevant component of the three circle model.

Focus on Outputs

In considering how to move forward toward a reality where more students are experiencing SAEs that build their career readiness, we might

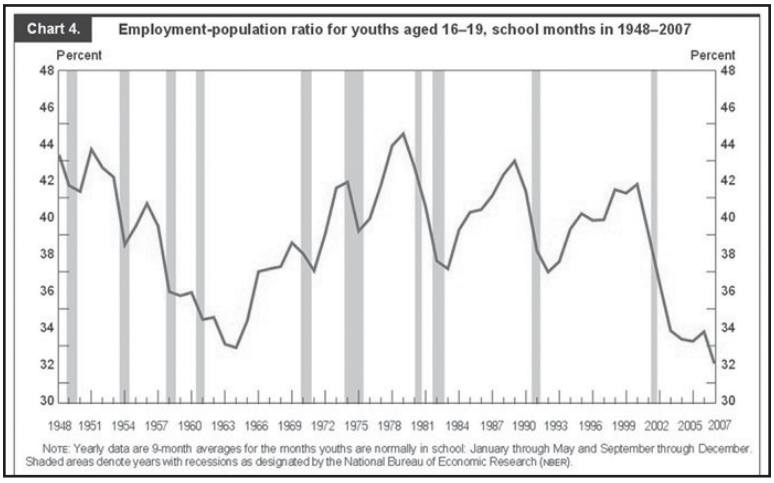

Figure 1: Bureau of Labor Statistics Youth Enrollment and Employment Report showing the employment population ratio for youths age 16-19.

look to the work of Charles Prosser, author of the 1917 Smith-Hughes Act. Prosser encapsulated his thoughts on effective Career Technical Education (Vocational Education) into sixteen theorems. His first theorem may provide the direction needed. "Vocational education will be efficient in proportion as the environment in which the learner is trained is a replica of the environment in which (s) he must subsequently work." Based on this theorem, a quality SAE is arguably the most efficient way to train a student for future career success, especially when the work-based, experiential or exploratory experience looks, feels, tastes and smells like a true work environment.

> "Vocational education will be efficient in proportion as the environment in which the learner is trained is a replica of the environment in which he must subsequently work." Charles Prosser, 1925

In addition, when you consider the first line, "Vocational education will be efficient," it is apparent that Prosser was focused on the output first and the action second. It is time we in agricultural education rediscover Prosser's Promise and reframe our approach to Supervised Agricultural Experiences to focus first on the outcomes we aspire to see in our students' behaviors and abilities.

A New Name?

In order to begin to move from an input centric approach to SAEs to an output focus, we need to start with the name: Supervised Agricultural Experience. Ask yourself, "Is this moniker input or output based?" I would suggest that providing each student an "experience" is an input. Even the supervision we provide could be considered an input. But if we were to define the true output we are seeking, I believe we would all say learning of workplace and career readiness competencies and skills. Maybe a title like Work-based or Experiential Learning (WBEL) would provide a better description, communicating to students, parents and administrators cleanly and clearly the output we seek.

A New Look to Supervision

As learning becomes the focal point, supervision will need to simultaneously evolve. Again we must move away from how many visits we conducted as an input measure of success to how many of our students through their SAE/WBEL have demonstrated mastery of career readiness skills like those defined in the National Association of State Directors of Career & Technical Education Career and Technical Core Career Ready Practices which can be located at www.careertech.org. When we can document that a student can "Use technology to enhance productivity" or "Utilize critical thinking to make sense of problems and persevere in solving them," we will have moved to measuring what employers value most, the outputs.

I am guessing that an appropriate question is forming in your brain as you are reading these words: how is there enough time in my already overloaded life as an agricultural educator to not just have more students in SAEs but to review and document their skill attainment? Fair question! I believe the answer is found in one of my father's favorite statements, "Keep your priorities in line!" This change in supervision may require a rethinking of priorities.

Maybe we no longer make on-site SAE visits unless there is a difficulty or barrier to learning that must be addressed in the actual environment. Instead, supervision could take place at school during regularly scheduled class time, eliminating travel time and increasing the effective use of the instructor time. Consider the possibilities if an instructor were to prioritize SAE supervision and set aside one day every other week as their SAE/WBEL day. On this day they conduct meaningful supervision conversation with 4-5 students during each class. Consider them formative assessments for the SAE instructional process. The balance of the students might be updating their skill sets or working independently to build necessary career readiness skills. A typical instructor with six courses of 25 students each will have comfortably conducted 150 SAE visits by the end of the first semester. Repeat the process for the spring and the number of visits doubles. All it takes is a slight adjustment to the priorities in the classroom.

The other change to consider in these supervision visits is our approach to the conversation. Instead of focusing on the numbers of animals, acres and/or hours, what if the conversation followed the four component experiential learning model pioneered by David Kolb and Ron Fry in the early 1970's. They contend that every experience can yield learning with the appropriate reflection, consideration and testing of new approaches.

In its simplest form the supervision would involve asking "What has been happening lately on the job

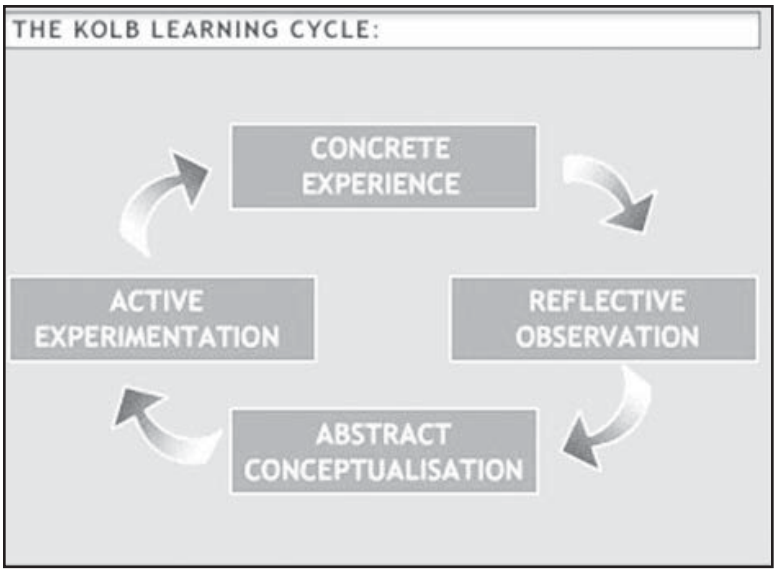

Figure 2: Kolb and Fry four component experiential learning model.

or in your business? So what does that mean for you, your productivity, or the profitability for the business? Now what do you think you should do or try next?" Each of these questions moves the conversation toward the higher level learning that is the best output that quality SAE or WBEL can provide.

Authentic Assessment

The final input versus output I would offer for consideration is: Completed Applications versus An Authentic Assessment of College and Career Readiness. By now I hope the output was easy to spot in the authentic assessment. According to a recently released report, Career Readiness Assessments Across States (2013, Center on Education Policy), only 13 of 46 states have a statewide definition of career or work ready. As states struggle to provide their employers a clear confirmation of readiness, consider the impact if agricultural education were to step forward with not just a mark of Career Readiness but also the means to measure it through SAEs. That would be the "Gold Standard" in action!

I have seen SAEs from my perspective as a student, teacher and state leader but recently I have also seen them as a parent. Through the experience of my sons, I can confirm the amazing growth and development that only this type of authentic learning can provide. Every young person in the United States needs that experience!

Summary

There are currently around 800,000 to a million agricultural education enrollees annually across the United States. We know that over half of these students choose to be members of FFA. But I would estimate that only a fraction of these students and FFA members have a quality SAE. What would be the impact if every student had a quality SAE experience? How many more small businesses would be created across each of our communities? Would agricultural education be known as the economic development engine of rural America?

Bottom line: What if every year agricultural education and FFA provided to higher education and America's agricultural employers more than 100, 000 SAE verified and documented college and career ready students? That's when we will have reclaimed Prosser's promise!

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SAE Renewal: The NAAE and Teacher Initiatives

by Ken Couture

Do we emphatically agree that Supervised Agriculture Experience requires renewal? What do we mean by renewal anyway? Do agricultural education teachers truly value the Supervised Agricultural Experience component of our School-Based Agricultural Education Model? These are some of the questions that I have considered in my role as Goal Leader for the Supervised Agricultural Experience Renewal Initiative of The National Council for Agricultural Education. As a high school agricultural education teacher, I was honored to be asked to serve in this capacity. I believe that Supervised Agricultural Experience renewal will require the buy-in of all of the stakeholder groups. I also believe that local agricultural educators are the key to the success of this effort. The biggest issues with SAE renewal are the level of student engagement and the quality of the experiences. The local teacher has the most direct impact on those two issues.

During the 2014 National Agricultural Education Summit, the comment was made several times that we have been struggling with this issue for many years. The agricultural education profession has recognized that SAE is the weakest link in our model. There are numerous reasons that supervised agricultural experience needs an overhaul, and many of them reflect the changing demographics of students who chose to enroll in an agricultural education course. Teachers have had to rethink and adapt how agricultural education is to be delivered in an era of suburbanizing/urbanizing communities, school reform, school schedule changes, competition from charter/magnet schools and more. Many students may enroll in only a single semester of agricultural education during their high school years. As an elective course, agricultural education often competes for time with advanced placement courses and an increased focus on the core academics.

SAEs can take many forms including small animal care.

Having said all that, how do we make the SAE component of our School-Based Agricultural Education Model of equal value and engagement for our students, and what can teachers and the National Association of Agricultural Educators (NAAE) do to contribute to the renewal of SAE? Based on the work of the Council's SAE Renewal Committee and discussions with NAAE leaders and staff, there are several areas where we can make a positive difference.

Sharing Knowledge and Experience

One of the strengths of NAAE is the ability of all agricultural educators, not just teachers or NAAE members, to share knowledge, ideas and best practices through Communities of Practice (CoP). In my opinion, Communities of Practice is the single best contribution that NAAE has made for our profession. The ability to share with each other and to have that knowledge accessible at any time is truly remarkable. When CoP begin with a few hundred users it was exciting. Now there are thousands of users and the potential is enormous for all agricultural educators. No one has the time to "reinvent the wheel." CoP provides agricultural educators looking for answers a forum to ask a question and receive the collective feedback of the profession. There are no state borders, no proprietary knowledge, and no bureaucracy. It is just a place to help make agricultural education better and less overwhelm-

Deliver on the Promise

- **Expand** experiential learning to all of our students
- **Evolve** our methods of deliver and supervision
- **Engage** partners

Scott Stump

National Agricultural Education Summit, 2014

ing because of the many dedicated people who volunteer to moderate a community or give of their talents and experience. And it works because of a spirit of collegiality.

In that spirit, CoP can help us with SAE renewal by serving as a collection point for several topics including SAE management, grading policies, and rubrics. Many teachers are doing outstanding work in the classroom, FFA, and supervised agricultural experience. They are not just the veterans among us either. We have much to learn from everyone in the profession. We need to ask some pointed questions about SAE and then ask for feedback from everyone. There are teachers who are doing innovative things with SAE in their schools. They may not be applicable everywhere but that knowledge is important and often creates additional questions we may never have considered.

SAE Management

SAE management is at the heart of student engagement. How are you managing SAE for those one-semester students? What does a quality SAE look like regardless of your school demographics? How are you disconnecting SAE from the FFA awards program? How are you getting the "supervision" into SAE? How are you engaging every student in a SAE? Where are SAE opportunities for those suburban/urban students? How are you using agriscience research as an SAE? What kind of record-keeping system works for you and why? How are you demonstrating that SAE contributes to your students meeting standards and demonstrating college/career readiness? These are just a few of the questions for which we need answers if we are to broaden the engagement and quality of SAE for our students. For every one of these questions, there are many teachers who can share their experience for the benefit of the entire profession.

Agricultural education teachers must encourage students to explore non-traditional opportunities.

Worthy of a Grade

If SAE is worth doing (and it is), it should be graded. I have heard teachers say "no way will my district allow me to include SAE in a grade." If that is true, your administration does not understand that agricultural education is a program and not just a class. They do not understand our three-component model. If they did understand it they could not rationally say that SAE cannot be graded. The components of the model are INTEGRAL, not independent of one another. If they don't understand it, you need to educate them, with help if needed from state supervisors and advisory committee members. Of course, this also means that every student in the class has to have an SAE to grade. How are you grading SAE in your school? What does your grading rubric look like? Do you have different rubrics for placement, entrepreneurship, research, etc.? Do your students get credits for SAE or is it incorporated into the class grade? Is student reflection on established goals part of your rubric? Are knowledge and skills as important as hours and dollars in your rubric? Again, these are only a few questions that need your feedback.

Meeting Standards

Another area where NAAE and teachers can make an impact on SAE renewal is in the work to be done on standards. While the Council has a standards initiative, its focus is on the

review of the National Content and National Quality Program standards. In terms of SAE renewal, we need to look at how SAE aligns with the Common Core State Standards, the Common Core Technical Standards, and the Framework for 21st Century Skills. We also need to align SAEs to the AFNR Career Cluster Essential Topics statements and categorize appropriate SAEs for each AFNR cluster. That sounds like a lot of work but it is essential work for SAE renewal. Standards, whether we like them or not, give us the big picture view of what is important according to some agency or organization. We may have more ownership of some than others, but all can be very influential when we need to justify why we do things like supervised agricultural experience. We will need to define what SAE really is and then create a set of standards/benchmarks that specifically state what skills and knowledge a student conducting an SAE should master. Only then can we look to align those standards/benchmarks with the Common Core Standards.

The P21 organization that developed the 21st Century Skills has issued a *P21 Common Core Toolkit* that aligns 21st Century Skills and the Common Core State Standards. This should help us align to both. Why is this important? We must be able to show that SAE contributes to student success in meeting these standards if we have any hope of maintaining agricultural education. Students who do not meet standards in language arts, mathematics, and science will not be enrolling in elective classes like ours. We also need to train teachers to look at a particular SAE and provide those teachers with a process for how to identify which standards are being met.

Professional Development

Another strength of NAAE, as well as its state associations, is the ability to conduct excellent professional development for agricultural educators. Through the NAAE annual convention, regional conferences, and state association efforts, agricultural educators have some of the best professional development opportunities of any teaching discipline. Add to these opportunities the National Agriscience Teacher Ambassador Academy (NATAA), Teachers Turn the Key, and CASE institutes. All are affordable, timely, relevant and often presented by our colleagues with specific expertise. As a regional vice-president and NAAE President, I was fortunate to attend many national, regional and state conferences as well as NATAA. Without a doubt they were and are the best professional development of my career. One of the themes of the 2014 NAAE convention in Nashville will be SAE renewal. The Council's SAE Committee and the NAAE leadership and staff will work together to provide professional development workshops based on many of the topics I have mentioned.

Experiential learning often begins in the elementary school.

Summary

In summary, I said at the Summit last month that if we believe in our Model of School- Based Agricultural Education we can no longer accept the status of Supervised Agricultural Experience. SAE renewal is as important an issue as any we face today in our profession. I am confident that we will continue to focus on this issue for many years to come. Our ultimate goal should be that all students in an agricultural education program should be FFA members and be engaged in a quality supervised agricultural experience for as long or short a time they are enrolled. Despite the challenges of SAE renewal, the profession can and will work toward that goal.

Ken Couture is the Department Coordinator of the Killingly Agricultural Education Center, Killingly High School, CT.

Get in the Wheelbarrow!

by Jason Davis

The story goes that upon completing a highly dangerous tightrope walk over Niagara Falls in appalling wind and rain, 'The Great Zumbrati' was met by an enthusiastic supporter, who urged him to make a return trip, this time pushing a wheelbarrow, which the spectator had thoughtfully brought along.

Experiential learning opportunities have a wide range of opportunities. (Photo courtesy of Jason Davis)

The Great Zumbrati was reluctant, given the terrible conditions, but the supporter pressed him, "You can do it - I know you can," he urged.

"You really believe I can do it?" asked Zumbrati.

"Yes - definitely - you can do it." the supporter gushed.

"Okay," said Zumbrati, "Get in the wheelbarrow." -Unknown

As we begin to explore the opportunities in experiential learning and supervised agricultural experience, it is time for all of us to get into the wheelbarrow!

In March 2010 the National Council for Agricultural Education (The Council) authorized the establishment of a committee to conduct a study of experiential learning on agricultural education. The committee made recommendations to each stakeholder group in agricultural education to address the issue. The National Association of Supervisors of Agricultural Education (NASAE) is currently engaged in addressing this issue. A committee of NASAE developed a proposal to serve as a guidepost for directing state leaders to address experiential learning. The proposal looks holistically at what is being done in the area of experiential learning and SAE and what can possibly be done to enhance participation nationwide. This proposal is divided into four areas:

1. Establish minimum state-level standards and guidelines.
2. Identify and neutralize obstacles and barriers to student participation.
3. Reinforce the integral nature of experiential learning and SAE within the agricultural education curriculum.
4. Lead professional development in experiential learning and SAE.

Minimum Standards and Guidelines

"What gets measured is what gets done" is more than just a cliché; it is a fact of life. In the world of SAE we need to measure our results. This measuring of results requires a common language of SAE and data gathering about the efforts and impacts of SAE. Each state is different in the development of state standards and their respective application. Where some states have strict guidelines and program standards coupled with accountability, others lack strict enforcement. As states develop and adopt guidelines for SAE, the common language that ensues will enable the quantification of the work in SAE that is being done by our teachers and students. The creation of minimum standards provides the essential point from which to begin.

Many times standards and guidelines for the overall SAE program become blurred with those of award and recognition programs. No policy exists that states every SAE must feed into a proficiency award area, nor should it. A common misconception is that a student's SAE project must qualify the student to be a "Star" candidate in an award area. In very traditional areas, this can be feasible, but it should not be a limitation; the

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Jason Davis is the State FFA Coordinator for North Carolina.

Thinking Different about the Second Component of the Agricultural Education Program Model: Perspectives from a Young Teacher Educator

by Ryan M. Foor

Why do we do what we do in agricultural education? For some, we may draw on the example set forth by our high school agriculture teacher, draw on the knowledge gained from our teacher preparation program, and use personal experiences and instinct. These experiences assume that we came up through the ranks as an agricultural education student, engaged in work-based learning (Supervised Agricultural Experience [SAE]), and as an FFA member. Increasingly, it seems fewer teachers are trained through teacher preparation programs and may not have the same experiences or knowledge of work-based learning and career and technical student organizations. Those who draw on their experiences as an agricultural education student have much in the way of history and tradition as a resource. While history and tradition can provide a sense of belonging and purpose, sometimes we must examine the history behind the traditions to understand why we do what we do.

History and Tradition

Regarding FFA, what is the history behind the blue corduroy jacket? The first official uniform did not, in fact, include a jacket. "The delegates to the 1930 convention adopted an official dress uniform, consisting of a dark blue shirt, blue or white trousers, blue cap and yellow tie" (Tenney, 1977, p. 29). Then, as many FFA members know from their history lessons, the blue corduroy jacket was adopted as the official jacket in 1933. Interestingly, the jacket did not become popular among members until the late 1940s and 1950s (Tenney, 1977). Today, I think many assume that all FFA members were wearing a blue corduroy jacket at the 1933 national convention. The increased popularity of the jacket was likely due to the cheaper cost of corduroy material and the dual purpose the jacket provided as a fall and spring jacket, in addition to serving as part of the official FFA uniform.

Unfortunately, the history and traditions of work-based learning (SAE) in agricultural education is less widely documented. FFA members from the 1960s tell me that they were engaged in *farming programs*. Over time, the work-based learning component became known as a Supervised Occupational Experience Program and then Supervised Agricultural Experience. To me, a person who was engaged in SAE as a high school student, that phrase makes sense. To a person without experience in agricultural education, the phrase may be confusing. I purport that eating could be a supervised agricultural experience and I encourage my teacher candidates to use the phrase *work-based learning* when talking with administrators, parents, and community stakeholders. Work-based learning is the phrase used widely in Arizona Career and Technical Education (CTE) and so it makes sense that our teachers use this language with their local CTE administrators, who many times are not familiar with agricultural education or do not have CTE teaching experience.

SAE "Visits"

Sometimes with regard to our practice, including SAE, we do things because we think we are supposed to do them and do not necessarily consider why. For example, why was a home visit such a critical component to the work-based learning component of an agricultural education (then vocational agriculture) program? When the work-based learning component was termed farming program in the early years of vocational agriculture, a home visit was nearly unavoidable. The purpose of

Experiential learning opportunities have a wide range of opportunities. (Photo courtesy of Jason Davis)

the farming program, and vocational agriculture for that matter, was to prepare boys to establish their own farming operations. To supervise the farming program, a visit to the home place was necessary and served a dual purpose. The agriculture teacher was able to supervise, instruct, and advise with regard to the farming program, and develop and nurture a relationship with the student and his parents. Today, I distinguish between home visits and SAE visits, since some SAEs do not take place at home as we are preparing students to work in myriad agriculture careers; most jobs in agriculture are not in production agriculture or farming. If we can only pick one type of visit, home or SAE, which is more important?

When and Where

An aspect of SAE where there is disagreement is with regard to the notion that SAE should take place of out of class time or out of school time. While I recognize there is importance to transferring the classroom knowledge and skills to the community, I believe that a major reason for this requirement was because *it had to be*. Since we were preparing boys to work on farms, the work-based learning aspect had to be on a farm, not at a school. Today, agriculture teachers prepare students for careers in many aspects of agriculture, many not on farms, and in environments similar to what we find in schools. In 2014, if we can provide work-based learning experiences for students during class, why would we resist? After all, there is overlap in the three component model of agricultural education between classroom/laboratory instruction and SAE.

Philosophy and Competencies

Questioning these tenets of SAE may seem radical, and I do not propose that we eliminate home visits nor do I suggest that all of the work-based learning component take place during class time. But, when many within Team Ag Ed recognize that SAE may be the weakest component of our program, we need to look at what we are doing and why. Many of the answers can be found by looking to the history of the practices for better understanding and reexamination to drive future practice. And so, the members of the Teacher Education special interest group (SIG) of the American Association for Agricultural Education (AAAE) reexamined our beliefs and practices related to SAE as SAE Renewal became a priority of The National Council for Agricultural Education (The Council). The result of that process includes a *Philosophy on SAE Instruction in Agriculture Teacher Education* and *Competencies for Agriculture Teacher Preparation in SAE* (see back cover). As you examine these documents, consider how the philosophy statement and competencies align with your beliefs and your training. How well prepared are you as an agriculture teacher to execute the competencies? How will you use the ideals in the philosophy statement and the competencies to inform your practice with regard to supervising work-based learning programs? Members of AAAE involved in teacher education will continue to explore our role in the SAE Renewal effort, working together with Team Ag Ed stakeholders.

A Name Change?

Student organizations are not novel. While FFA is an important component of the agricultural education program, and is woven into the fabric of certain American cultures, there are many other organizations that serve a similar purpose for young people. The work-based learning component is key to our programming and is different from other educational opportunities in our schools. On the other hand, if FFA membership and agricultural education student enrollment is on the rise, why are we worried about SAE involvement? We must continue to ask tough questions in order to renew and advance work-based learning in agricultural education. I think that if we really want to move forward with renewing SAE, we need to change the name. Few people outside the agricultural education family know what SAE is or means. We have changed the phrase over time as agriculture and society changed. Now is the time to look at a change again. We need to better communicate to outside audiences what we do that makes us effective. What if the work-based learning component is called agricultural work experience? I am not one for catchy acronyms, but that phrase would be AWEsome.

Summary

Finally, think about this: When and how do you teach SAE as part of your classroom curriculum? I always taught FFA first, thinking that was the hook. As I mentioned earlier, students are used to being part of organizations. I think the hook might be work-based learning. What if we taught about work-based learning, in the context of our agriculture curriculum, first? Students learn about making money, learn about agriculture, and gain workplace readiness skills through a kinesthetic modality that can extend beyond the classroom.

Continue to ask unconventional questions and think differently. We are no longer operating with the federal funding and supervision of 1917 and the 1950s. More of our students will not have production agriculture backgrounds, and truly, we are no longer training farmers. We are preparing young people to work in agriculture and be informed consumers

and advocates for agriculture. We must align our model and practices with present day realities. Otherwise, we will continue to spin our wheels with regard to the work-based learning component of agricultural education, become another class with a club, and may not be part of Career and Technical Education.

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Get in the Wheelbarrow! *(continued from page 10)*

local agriculture teacher should have the final determination in the matter of defining a student SAE.

Identify and Neutralize Obstacles/ Barriers to Student Participation

It is an exciting time to be involved in agriculture. The demands of feeding a growing global population have placed an increased emphasis on agriculture and agriculturally related careers. To-date this excitement has not translated into increased engagement with SAE. Why? Clearly there are barriers that affect student participation in experiential learning:

- Labor laws that restrict under-age students in many work experiences.
- Narrow definitions of SAE in terms of experiential learning.
- Narrow definitions of agricultural. What qualifies as an agricultural emphasis? Where do you draw the line?
- Teacher's ability to visit students, and availability of sufficient travel funds, time, and resources.
- FFA award and degree requirements that eliminate some programs.

But with difficulties also come opportunities. Agriculture teachers by their nature are resourceful and adaptive. Perhaps the first stage of overcoming these barriers is sharing creative examples and programs by teachers for teachers.

Reinforce Integral Nature of SAE within the Agricultural Education Curriculum

Within the interacting components of FFA, SAE, and classroom/ lab experiences, synergy is developed and the real "magic" of agricultural education happens that we can equate to student success. The best agricultural education experience requires all three components. All involved in agricultural education need to make a renewed commitment to the SAE component of the three circle model. That renewed commitment likely involves curriculum in SAE. Within the profession the bedrock of our work is the curriculum that is taught. As curriculum is designed, revamped, or implemented, the crosswalk of relevant national and state standards should be linked to SAE.

Lead Professional Development in SAE

A hallmark of agricultural education has been our ability to provide relevant and constant in-service opportunities to our teachers. As state leaders we work with business and industry leaders, educational programs, and teacher professional organizations to determine where to focus professional development opportunities. The committee recommends that as state leaders we use teacher in-service opportunities to focus on strategies and programs that will enhance and increase the size and scope of SAE in our respective states.

Summary

NASAE is ready to jump into the wheelbarrow with teachers and teacher educators to once again make experiential learning in agricultural education and SAE a hallmark of school-based agricultural education.

SAE in the Context of Agribusiness and Policy-Making

by Matt Lohr

My presentation at the National Agricultural Education Summit presented the opportunity to reflect back on almost 25 years to when I was a young FFA member in high school. The agricultural education program, complete with instruction, FFA competitions, and Supervised Agricultural Experience (SAE), truly prepared me for so many of the various careers I have been afforded over the years. After serving as a national FFA officer and graduating from Virginia Tech, I took on various positions as a middle school agricscience instructor, farmer, professional speaker, and state legislator, as well as Virginia's Commissioner of Agriculture and Consumer Services. Earlier this year, I left state government and embarked on a new role as Director of the Knowledge Center for Farm Credit of the Virginias. In this unique position I have been allowed to share and facilitate knowledge and resources for the betterment of all farmers. I have also been able to continue my passion for educating others on the importance of our nation's most important industry, agriculture.

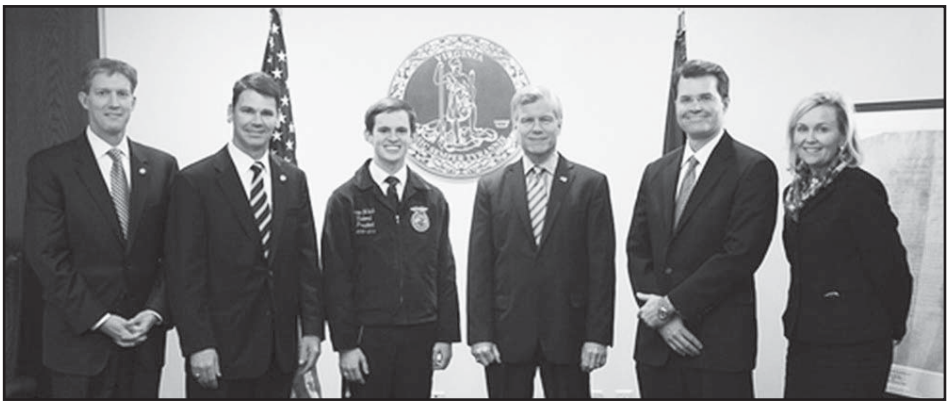
Building Relationships

Perhaps one of the greatest lessons I have learned in the last 25 years is that it is critical for leaders in agricultural education to be engaged in developing and building relationships, especially with elected officials, policy makers, partners, stakeholders and the general public. A friend of mine once said that a relationship matters more than a resume. There is some good truth to that statement; once you have established a relationship with someone, it is amazing to see what results can follow.

I witnessed this powerful lesson first hand last November when Virginia's national FFA officer candidate, Brian Walsh, was elected to the position of National President. I was serving as the Commissioner of Agriculture and Consumer Services at the time and our state FFA staff reached out to me to arrange a photo with Brian and then-Governor Bob McDonnell. The governor had been a huge supporter of our industry and proposed numerous agricultural initiatives throughout his entire term in office. He was very happy to pose for a picture as was his Chief of Staff, Martin Kent. Mr. Kent had served as a chapter FFA president and naturally wanted to take part in the event.

The agricultural education community had spent much time getting to know Chief of Staff Kent, and had invited him to be a keynote speaker at the state FFA convention in 2013. Secretary of Agriculture and Forestry, Todd Haymore, was also eager to meet with Brian due to the immense focus his job as Secretary had placed on the importance of agricultural education and FFA. Laura Fornash, Secretary of Education, wanted to participate in the photo, as she too had become a big supporter of agricultural education over time due to efforts of educating her on the benefits of our programs. Of course I was honored to meet with Brian, especially since it had been nearly 35 years since Virginia last had a national FFA President.

As I looked at the resulting picture, it brought back to memory many hours of hard work by our agricultural education community, reaching out and forging relationships with leaders at the highest levels in Virginia. It was not easy and it did not happen overnight, but in time lasting friendships and true advocates had been formed. The bottom line is that building relationships and getting engaged in the process is perhaps the most important thing we as the agricultural education community can do to ensure our own success.



National FFA President Brian Walsh (third from left) meeting with Todd Haymore, Secretary of Agriculture and Forestry; Matt Lohr, Commissioner of Agriculture and Consumer Services; Governor Bob McDonnell; Martin Kent,Chief of Staff; and Laura Fornash, Secretary of Education. (Note: Positions listed were effective December 1, 2013, the day the photograph was taken.)

Times are Changing

So why has it become so important for all of us to be engaged in building relationships? Well, in the words of the great Bob Dylan, "*The Times They Are A-Changin*." All across America, our urban areas are growing in population and controlling much more of the political clout. This is especially true in Virginia. The small stretch of interstate from Washington, DC to Richmond and then over to Virginia Beach now includes more than 75% of our state's population. These densely populated pockets show few signs of agricultural production. And worse yet, these urban areas also make up more than 75% of the voting bloc of the Virginia House of Delegates. Many times it is not that urban legislators are out to hurt agriculture but rather that they fail to understand it. With so many interest groups volleying to have their ear on important topics, if it is not those of us in agricultural education, it will be someone else.

As the world population grows from seven billion today to an estimated nine billion by 2050, the job of producing food is even more vital. With 96% of our world's population living outside the borders of the United States, we have a very tall task before us; the only way we can meet this task is by having vibrant and ever-changing agricultural education programs to train and prepare students for success. The skills learned from SAE programs, curricula focused on Science, Technology, Engineering and Math (STEM), and hands on experiential learning will help guide us to this success coupled with being engaged and connected with our elected and policy leaders.

Making Connections

In my nine years of working in government there are some invaluable connections I have identified that can help us in our efforts. Begin at the highest levels of state government. Get to know your Governor and Chief of Staff—never underestimate the importance of a Chief of Staff or a legislative aid; they can truly help or hurt our cause faster than most people realize. Engage your state's Secretary/Commissioner/Director of Agriculture. In almost every case, that position can be one of your best allies moving forward. Forge relationships with your state's Secretary of Education and Superintendent of Public Instruction. In some cases, they may be more difficult to connect with, but you can rely on other partners to help make those connections. Remember to highlight those student leaders in the blue and gold jackets at public events; they are our future and will really make a lasting impression on these leaders.

Other key contacts include the deans of the colleges of agriculture at your colleges and universities, the directors of the cooperative extension service, and the many agricultural stakeholders like the Farm Bureau, commodity groups, and the agribusiness council. These natural partners can boost your efforts and many times help you develop key contacts and relationships. Perhaps the big takeaway is that we must be engaged and looking for those potential sharing opportunities.

Making a Difference

These are three specific examples I wanted to share of what can be accomplished when key relationships are established. The agricultural education leaders and industry stakeholders in Virginia have been diligent in both making connections and developing ideas and proposals to ensure their success. Here are three ideas that were proposed to make a lasting difference for generations to come. Hopefully other states can implement similar proposals that will have the same positive results.

1. Conduct a Strategic Review of Agricultural Education

Over the past several years, discussions have taken place regarding agricultural education students being at a distinct disadvantage in gaining admissions into major colleges and universities. As the average GPA increases for incoming freshmen, there is more pressure for students to take weighted, advanced placement courses in high school. This can often discourage many students from enrolling in agricultural education classes as well as other career and technical education offerings. Compounding the issue is the ever increasing graduation requirements, which also make it much more difficult for college bound students to fit four years of agriculture into their rigorous class schedules.

As a result of these issues, leaders in both the agricultural industry and the agricultural education community brought forth a proposal to conduct a strategic review of agricultural education in Virginia. The study was co-chaired by the state superintendent of public instruction and me as the commissioner of agriculture and consumer services. The year-long project included several days of work sessions attended by a variety of stakeholders from the agricultural and education communities. At the end of the process, a 44-page document was created to help guide the future of agriculture education for years to come.

A few of the most beneficial findings of the study included the need to keep curriculum current, focusing on science, business, management and marketing. The report suggested a strong need to rely on clusters and se-

quence courses, preferably establishing them in middle school or the beginning high school years. The study also stressed the need to focus on the transition to post-secondary education, including dual enrollments and STEM. Finally, it showed the importance of students having a work based learning experience, such as a Supervised Agricultural Experience (SAE) program.

This year long project came about as a result of agricultural education leaders partnering with stakeholders, engaging policy makers, building relationships and participating in the process. This four pronged approach created a document that will help to guide future administrations on the importance of agricultural education.

2. Create New Regional FFA Staff Opportunities

When I was a state FFA officer in 1990, Virginia was fortunate to have several regional employees serving on the state agricultural education staff. These staff members played a vital role of mentoring, teaching, and even coaching local agriculture teachers, especially those early in their careers. They assisted with classroom management, lesson plans, SAE visits, and running their FFA chapters. It was an invaluable resource that was provided to assist and encourage those teachers throughout Virginia.

Unfortunately those regional positions were eliminated in the early 1990's due to drastic cuts in state government spending. Last year, the agricultural education community began brainstorming ways to get these positions reinstated. Knowing it was a very difficult task to create new positions, they leaned hard on those relationships that had developed over time. It truly was a group approach. After researching what other states were doing, they decided to replicate a model used in North Carolina where state staff positions are funded through the cooperative extension service.

State agricultural education and FFA leaders began reaching out to key stakeholders. Once their industry allies were on board, they shared the idea with interested state legislators who also supported the concept. Next they worked with the state director of the cooperative extension service who also backed the concept. They lobbied the Dean of the College of Agriculture and Life Sciences at Virginia Tech, who bought into the idea. From there, the Secretary of Education supported the idea and agreed to incorporate funding in her budget proposal to the Governor. Finally, the Governor and his Chief of Staff saw the great benefit of this proposal and included funding for two positions in the budget that was delivered to the legislature last December. The final result of this initiative will not be known for several more weeks, as the legislature is still in session. Regardless of the final outcome, many positive lessons can be learned from this experience. A key need was determined, and through partnering with stakeholders, engaging policy makers, building relationships and participating in the process, a viable solution was created. This was truly an exercise and example of how problems can be solved.

3. Establish a Community Viability Workforce Development Project

The final project I would like to highlight came as a result of the Strategic Review of Agricultural Education. One of the main recommendations was the need for an updated and current curriculum focused on science and technology. While I served as the agriculture commissioner, our agency was able to assist certain projects through the Rural Rehabilitation Trust Fund. This fund, created decades ago, provides an opportunity for certain qualifying innovative ideas to become a reality.

In this instance, Virginia Tech entered into a Memorandum of Understanding that created a fund to develop eight model programs for workforce development. The funds our agency provided were matched with local dollars to create innovative laboratories for learning. Each curriculum will create a model that is aligned with the Virginia standards for STEM. Once a curriculum is developed, it can be replicated in other schools throughout Virginia. This small project has the potential to blossom into a statewide initiative that can benefit all of our local agricultural education programs. It will also provide for new and innovative opportunities for students to gain experience and knowledge of the SAE program through hands-on experiential learning.

Again the philosophy of partnering, engaging, building and participating has proven to be very beneficial for the agricultural education community. If previous steps of building key relationships had never been established, this project would have never happened. Since the initial groundwork had been done years in advance, the project could move

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SAEs for a Suburban Agriscience Program

by Craig Kohn

Waterford Agricultural Sciences of Waterford Union High School (a high school of just over 1000 students southwest of Milwaukee) is a contemporary agricultural education program that has adapted well to rapidly changing circumstances that have occurred in recent years. Though once a distinct farming town, Waterford now resembles a bedroom community for commuters to Racine and Milwaukee. Furthermore, the high school has been named as a *US News and World Report* Top 1000 school and often resembles a private academy as much as a public school, offering 18 AP courses as part of nearly 200 courses available to a student body with an exceptional academic focus.

Because many students who are now a part of agricultural sciences do not come from a farm background or have any direct connection to production agriculture, there have been significant challenges in overcoming barriers that prevent students from starting a career experience. Furthermore, the intense academic focus coupled with strong extracurricular involvement largely reduces the willingness of students to embark on a career experience on their own. While a substantial percentage do still partake in traditional FFA activities, particularly through animal exhibition at the Racine County Fair, most FFA members do not have easy access to activities such as these. This lack of access coupled with an excessive demand on their time and energy due to advanced courses and extracurricular activities significantly diminished student participation in career-based experiential learning.

To overcome these barriers, SAE opportunities were created on the WUHS campus through the development of paid managerial, internship, and research experiences. In 2010, the Summer Research Scholars program was created at WUHS Agricultural Sciences, offering $5000 per participant in stipends and scholarships for students who conducted self-designed, summer-long research that had the potential to have a positive, permanent impact on the Waterford community. The funding was provided by a local corporation that had an interest in better preparing local students for potential future careers in the firm as well as having a direct connection to environmental stewardship (the most common theme for student projects in this program). Students now also receive course credit for taking part in this opportunity.

> We are preparing young people to work in agriculture and be informed consumers and advocates

Paid managerial positions were created within the FFA for the Fruit Sale, Research Field, and Greenhouse activities. If managers meet the stipulations of their position contract, they receive a percentage of the gross profits of their product's sales. Given the WUHS Fruit Sale raises about $30,000 per year, their pay can be substantial. Finally, assistance was sought for positions that would not contribute to the funds of the FFA chapter but had value as career preparatory programs and to the overall agricultural program. This year, four internship positions were created in the fields of animal science, forestry and sustainability, marketing and communications, and business management. Students who are hired as interns receive $100 per quarter plus a $100 bonus for submitting a record of their experiences. Funding comes from the same local corporation that funds the Summer Research Scholars. Eight additional positions are planned once the pilot program has been completed.

The presence of these opportunities on the school campus reduces the barrier that resulted when students had to seek out a stranger at an unfamiliar location to have a career experience. The pay, while sometimes meager, ensures that there is enough of an incentive to participate that students set aside extra time to complete the expectations of their position. If a student does not meet all expectations, their pay can be reduced or even eliminated. It also ensures that each student keeps and submits a record of the experience and connects the experience to career skills. Students who complete a structured experience such as these get a taste of what the working world will demand from them in exchange for pay and understand that their academic success is only a small part of the repertoire that they will need to be successful in their future careers.

Helping Students Identify Potential SAEs

Students in the introductory agriscience class complete career and college profiles based on the career information on the National FFA website. At the start of the second semester, they complete a profile of experiences they have already had related to that career, create personal, career, and educational goals related to that career, and then describe ideal experiences that would then help them obtain that career. During FFA Week, a day is set aside to connect students to the career and preparatory experiences they already have had; opportunities available to students are discussed at length so that students are aware of the opportunities available to them.

These opportunities are again reintroduced to students at FFA chapter meetings prior to the due date for each kind of application for various opportunities, and emails and text messages are sent to both students and parents with this same information.

Minimum Requirements for SAEs

When students register to enroll in agricultural sciences and join Waterford FFA, they are asked to either describe their existing SAE or describe the SAE experiences they would like to have. Every student must have some kind of career-preparatory experience, but we leave it open-ended to ensure maximum participation. If a student wishes to use the SAE for an award application, the expectations are much higher. However, if a student is a new FFA member and has no experience, we will be very open on what is acceptable with the expectation that the experience will grow into a "quality" opportunity for career preparation.

Techniques in supervising SAEs in Various Settings

Traditional SAEs (such as fair projects) are visited on-site in a traditional manner familiar to most agriculture education instructors during the summer months prior to the county fair. The more contemporary SAE projects (such as the internships or managerial positions) occur on-site at school, making supervision simple and straightforward.

I hope to take advantage of 'remote' SAE visits in the future by having students present their SAE using a virtual 'video tour' created using a cell phone or other device. This would put the onus of responsibility on the student while still providing the same supervisory experiences for the instructor. Should a situation arise in which a student's safety is in question, personal visits would still occur to ensure that the project can be completed safely without constant instructor supervision.

Summary

Finding the right match between student and a suitable SAE is not always easy. A key to success is keeping in mind that SAEs can be as diverse as the students who conduct them. And our requirements and expectations need to keep up with the evolving communities we serve.

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SAE in the Context of Agribusiness *(continued from page 16)*

forward at a rapid pace. This is one more positive example of what can be accomplished when everyone is working together for a common goal.

Summary

I began this article by explaining just how vital building relationships can be. Although it can sometimes take years, it is one of the most beneficial things leaders in the agricultural education community can do. It begins with listening and taking an interest in the concerns of our policy makers and elected officials. We need to get to know them as individuals and hear what their views are. In return, we need to show the key benefits of agricultural education and the skill development opportunities it provides for our youth as well as its necessity for our nation and our ever changing world. It is our responsibility to provide examples, stories, and illustrations on why we need them as partners to advocate for these causes.

The workforce and the agricultural industry are constantly evolving and adapting. If we are to stay relevant and purposeful in the future, we must be ready to change. Being engaged in the process and advocating for those issues most important to us are our most important steps. If we can all make this a priority, we can rest well, knowing we are meeting the demands and challenges of an ever-changing world.

Influential Factors during the Development and Implementation Processes of Exemplary SAEs

by Eric D. Rubenstein and Andrew C. Thoron

Across the country, school-based agricultural education (SBAE) students are entering an agricultural education classroom with a lack of previous agriculture experiences (Barrick et al., 2011). These vast experiences have assisted in supervised agricultural experiences (SAE) programs being considered a hardship by many agriculture teachers. For several years, agricultural education researchers have informed the profession that concepts related to SAE must be broadened to meet the needs of a changing demographic of agriculture students (Rayfield & Croom, 2010; Roberts & Harlin, 2007; Wilson & Moore, 2007). In order to meet this need agriculture teachers, state staff, and agriculture teacher educators have come together to rejuvenate the utilization of SAE in school-based agricultural education (SBAE) programs (Barrick et al., 2011). In order to adequately engage every agriculture student in a SAE program, teachers must begin to examine the process in which they utilize to assist students in the development and implementation of a SAE program.

Factors in Exemplary Programs

In a recent study of teachers and program partners who were engaged in exemplary SAE programs, Rubenstein (2014) identified 20 factors to be considered by the agriculture teacher during the development and implementation of SAE programs (see Figure 1). The factors have been found to assist agriculture teachers in the development and implementation of individual SAE programs for every student enrolled in an agricultural education course. Enabling students to engage in SAE programs requires a dedicated and motivated agriculture teacher.

Recommendations for Developing and Implementing SAE Programs

The Classroom

SAE continues to be a vital component of a total agriculture education program in which every student should be required to participate. When preparing students to develop and implement an SAE program, classroom instruction in SAE is necessary. When instructing students in SAE programs, teachers should consider providing SAE classroom instruction during the first month of school. The instructional unit can include foundational information such as: purpose of SAE, types of SAE, potential SAE topics, and available SAE resources. In addition, agriculture teachers should provide students with concrete examples of previous students' SAE programs to motivate increased participation in SAE.

Throughout classroom instruction in SAE, teachers should provide students with an environment that is supportive and encouraging of their participation in SAE. Student participation in SAE can also be increased if SAE programs are developed based upon the student's interests in agriculture as opposed to the student's available resources. Teachers should provide students with different career finder assessments and other materials to assist in identifying potential areas of interest within the agriculture industry. Once an agricultural interest is identified, students should be required to establish personal goals for learning through their SAE instead of a four-year plan based on size and scope. Classroom instruction can include guest speakers to discuss opportunities within the agriculture industry, such as business and industry representatives, local farmers, former students, college recruiters, and extension agents. Furthermore, teachers should identify resources that are available at the school and in the local community to assist students in conducting an SAE program that is based on their personal agriculture interests.

Identified SAE Development and Implementation Factors

Career/Student Interest Focus	Prior Sibling/Family Involvement In SAE
Classroom Supervision	Program Goals
Community Member Support	Required SAE Programs
Concrete Examples	SAE Grade
Development of a Culture for SAE	School Resources
Early Introduction of SAE	Specialized Program for Each Student
FFA Influence	Student Learning
Involved Teachers	Supportive Parents
On-site Supervision	Supportive Administration
Parental Knowledge of SAE	Team Approach to SAE Development

Figure 1. SAE Development and Implementation Factors

Students should be given an opportunity to showcase their SAE program to their peers. Each student should be required to complete a short 5-minute explanation of their SAE program and the goals that were achieved. This should be completed at the end of an agricultural education course to allow students to display their accomplishments for their peers, teacher, parents, community members, and administration to view. The teacher should then provide students with assistance in expanding their SAE program for the future.

Supervision and Evaluation

For many years, discussion has been held regarding when and where SAE supervision should occur. Teachers should feel comfortable to conduct both on-site and classroom supervision of students' SAE programs. While on-site supervision is still the preferred supervision method by many teachers, it is recognized that providing adequate on-site supervision for an increasing agriculture student population is difficult. Therefore, teachers should identify programs that would benefit from on-site supervision.

Parents and community members who are engaged in assisting students with their SAE program can provide students with needed on-site supervision. Therefore, parents and community members who provide student SAE supervision should receive appropriate training that is provided by the agriculture teacher. The training should include information on supervisory practices and the purpose of SAE in SBAE. The utilization of parents and community members as SAE supervisors assists teachers in providing adequate supervision while protecting the teacher's resources and time. Further, teacher educators should begin providing professional development for agriculture teachers on training volunteers to supervise and evaluate student SAE programs.

Beyond on-site supervision, agriculture teachers should provide every student with supervision that occurs during classroom instructional time or during the school day. SAE is a foundational component of SBAE, in fact SAE is what makes SBAE unique; therefore classroom instructional time should be utilized to reflect on the experience and allow for supervision, mentorship, and entering of records. This provides teachers with the opportunity to gather information regarding the students' SAE programs. These information gathering sessions can assist the teacher in identifying students who may need on-site supervision by the teacher to have a successful SAE program.

Agriculture teachers are also responsible for evaluating student progress and learning. When assisting students in the SAE development and implementation processes, teachers should ensure that student learning is present in the student's SAE program goals. Students should be required to develop, at minimum, two to three program and personal goals that can assist agriculture teachers in determining the students' learning in their SAE program. Therefore, teachers should evaluate SAE programs based upon students' completion of SAE program assignments and the students' knowledge and personal development through SAE participation.

When evaluating SAE programs, teachers should provide students with grading rubrics that describe the teacher's expectations. To reflect the individual experiences, it is recommended that teachers evaluate student learning in a subjective manner based upon the student's growth during their SAE program and the achievement of the SAE goals.

SAE Culture

To assist in increasing student SAE participation, agriculture teachers should work to develop a culture for SAE within their school and community. In the study teachers noted that through dedication and perseverance a SAE culture can be developed. To help develop a SAE culture, all students must be required to conduct a SAE program and to engage in their SAE for a defined number of hours. A portion of the course grade should be tied to the completion of SAE activities and learning through engagement in the SAE program. In order to increase school support for SAE, the agriculture teacher should consider inviting school administrators to observe SAE-based lessons and activities. Administrators should also be invited to observe students showcasing their SAE programs at the end of a course.

When developing a SAE culture, parental knowledge and support of SAE can assist in motivating students to participate. Teachers should provide printed materials and presentations to parents. These printed materials and presentations should include general information regarding the purpose of SAE and a parent's role in the SAE program. Presentations can be conducted during assigned time or during "Meet the Teacher" events at the beginning of each school year. Printed materials can be provided at the beginning of the school year with the course syllabus and other important materials that are signed by parents.

Factors to Consider During SAE Development and Implementation

1. The agriculture teacher should support and encourage student participation in SAE.
2. When instructing students about SAE, the agriculture teacher

should utilize concrete examples of student SAE programs.

3. Instruction in SAE and SAE record keeping should occur in the first month of classroom instruction.
4. The agriculture teacher should evaluate the SAE based upon the students' development during their engagement in their SAE.
5. Agriculture teachers should continue to utilize SAE in a total SBAE program.
6. Agriculture teachers should integrate student SAE programs into classroom instruction.
7. Agriculture teachers should conduct a SAE showcase at the end of a semester for students to showcase their work.
8. Students should receive a grade for their SAE programs
9. SAE participation should be required of all students.
10. Agriculture teachers should assist students in the development of SAE programs that incorporate the student's interests.
11. Agriculture teachers should assist student in ensuring that learning is present in a SAE.
12. Agriculture teachers should identify school resources that can be utilized by students when conducting a SAE.
13. Parents should receive information through presentations and printed materials to increase their knowledge of SAE.
14. Agriculture teachers should identify capable parents and community members to serve as SAE supervisors.
15. Community members should receive training when assisting in the supervision of a student SAE.
16. Agriculture teachers should have students develop goals for their SAE programs.
17. Agriculture teachers should engage in the development of a culture for SAE.
18. Agriculture teachers should invite school administration to observe SAE-based lessons and activities.
19. Agriculture teachers should utilize both on-site and classroom supervision.

Summary

The future of SAE is currently at a crucial point, due to a lack of student participation. However, within the agricultural education profession SAE is recognized as pillar of a total SBAE program and that SAE is additional work beyond classroom instruction and FFA. Further, building a culture and incorporating SAE in a manner in which it should be developed, as an integral component of the SBAE curriculum, does take time. Therefore, classroom instructional time and school resources should be utilized to engage students and assist the agriculture teacher in developing a culture for student engagement in SAE. By adopting the factors that were identified and discussed in this article, agriculture teachers can assist all of their students in the development and implementation of exemplary SAE programs.

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Preparing Students for a Successful Future: Experiential Learning and the 21st Century Student

by Katrina A. Swinehart

Multiple times each day I get the question, "Miss Swinehart, are we doing something today?" Initially, I was frustrated by the exchange; however, I have come to find out my students equate doing something other than an interactive, hands-on activity with doing "nothing" during my class. I have learned my students thrive on learning experiences when they are able to use their hands in conjunction with their knowledge to master a concept. When selecting classes for next year, students specifically select lab and hands-on activity courses. Considering the current changes in curriculum and the modern education emphasis on critical thinking and inquiry-based learning, shouldn't agricultural education be celebrating the fact that we have been practicing this in our classrooms and programs for years?

Suggestions from Literature

Many pieces of literature over the years (Bloom, 1974; Carroll, 1989; Darling-Hammond & Falk, 1997; Glaser, 1963) have recommended this pedagogy for improving student achievement and the teaching and learning exercised in many agricultural education classrooms. Swinehart (2013) found that the strongest reason students enrolled in agricultural education courses initially was the opportunity for experiential learning. Roberts & Ball (2009) suggested that educators can use this experiential learning to teach more than just agricultural lessons; the lessons could expand into teaching our students various life lessons. Cano (2005) stated that the field of experiential learning is vast and includes many different types of learning activities, assessments, and ways for the students to develop their knowledge. "Problem based learning, which has been embraced in the career and technical education field, is also directly related to experiential learning" (Clark, Threeton & Ewing, 2010).

Application to the Agricultural Education Model

Experiential learning can easily be infused into your plans, regardless of the part of the agricultural education model that you are hoping to address. Here are some suggestions and success stories from infusing experiential learning into the classroom, SAE, and FFA activities. Students today are used to being entertained, so finding ways to help them enjoy school is becoming more difficult. However, if you are creative enough and willing to think "outside the box," engaging students is not a problem.

Hands-on Labs in Classrooms

My students especially enjoy doing hands-on labs. They love to bring the information from their notes to life. I am CASE certified in the AFNR course, and I am excited to be participating the Food Science and Safety course in 2014. I am adding the second CASE course at my students' request. They want to do more activities like this. My students enjoy seeing the real-life example of the information, they like being able to question the activity, and the entire time they are using critical thinking skills. I have been impressed with the outcome of using CASE in my classroom. Additionally, I have utilized similar labs and activities in my classroom, and the students are always surprised when the bell rings and they look forward to the next activity. Jeremy Ryan, instructor at West Muskingum High School in Zanesville, Ohio involves his students in a multitude of hands-on activities. He states that he utilizes Lab-Aids activities at times to bring concepts to life for students. Additionally, Jeremy expanded on another hands-on, real-life activity students participate in during his greenhouse and nursery management course.

"The students run a business within the class. They hold job interviews within the company, and 2-3 days per week the kids are in charge of running the business in our greenhouse. The students create a business plan, play in the different roles within the business, and experience all the highs and lows of being in an entrepreneur."

Hands-on activities within the classroom require students to connect information happening in the activity to the prior knowledge obtained from their notes. This is a great opportunity to help students sharpen their critical thinking skills, hone in on making logical inferences, and begin to identify relationships based on information given. Hands-on learning is a great place to begin inquiry-based learning, which can help enhance student learning.

The nature of supervised agricultural experience is experiential learning. Students are experiencing a project in the community where they are expanding their knowledge of agriculture. To ensure that they are

sharpening their 21st century learning skills, help them keep admirable records, help them think deeply about their experiences, and encourage them to broaden their horizons. I recently had a student switch her SAE from volunteering after school to her AgriScience Fair project. She was enjoying her project so much she decided she wants to complete one every year through high school. Help students identify their passions, connect them to what is going on at school, and help them apply their knowledge. You will see them flourish in ways that may seem unimaginable at first. A student in a project he or she cares little about or are unmotivated to complete will care little about what is being learned or feel any tie to completing it; little can be gleaned from that entire situation and the impact can last a long time.

SAE and Agriscience Fair

Gina Neff, instructor at Lancaster High School in Lancaster, Ohio involves her students heavily in Agriscience Fair projects, and she has found great success in connecting the classroom to student SAE projects in this way. She had the following to say about her experience.

"Probably the best example of the experiential learning is through the Agriscience Fair project that is incorporated into my class. All of my sophomores, juniors, and seniors have to complete an agriscience fair project by April. They can choose to exhibit at the State Agriscience Fair if they want, but they do not have to. To incorporate it in my classroom, it is a requirement of the course, but it also counts as an SAE. The reason I do this is most of my students do not have experiences that are agriculturally related for SAE's, so this allows them to have that experience."

SAE Programs allow students to select an interest and create a program outside of school, in most cases, where they can explore a career or area of knowledge by job shadowing, holding a position, owning a small business, or other project. The options for SAE programs is endless, and that is the beauty. Students enjoy learning from this because they have a lot of freedom, within reason, to choose something they are passionate about. The learning of 21st century skills here is "disguised" as fun, and that's what makes this an amazing opportunity for students.

CDE Involvement

FFA members have many opportunities to apply their knowledge to competitions, positions, and events, or they are able to gain additional information through experiential learning. Career development events are the most common way that FFA members utilize their knowledge in a hands-on, experiential learning method. Meredith Wolfe, instructor at Fairview High School in Sherwood, Ohio has had numerous successful career development event teams. She shared some of her strategies.

"I encourage students to participate in CDEs that they may be interested in. I also continually try to encourage students to participate in CDEs that they know nothing about but are interested in. I have also found CDEs a great way to involve my community in my program. I have utilized community members who have experience in the topic such as a past college livestock judge for livestock judging, we've visited greenhouses and florists for floriculture, or a horse trainer for equine. This seems to help the kids a lot and motivate them once they see the coach's enthusiasm and excitement for the topic. CDEs are also a way for students to explore topics that are not in the classes they are enrolled in or careers they may be interested in."

To enhance 21st century skills, FFA members can participate in the multitude of opportunities to apply knowledge learned in the classroom to CDEs, leadership activities, trips, and other events. FFA is a fun way for students to meet others while enhancing skills that have, for a long time, been attributed to making a meaningful difference in the lives of previous students.

Conclusion

Experiential learning should not be considered an option but as a requirement for all agricultural education programs across the country. Experiential learning will help develop students for their futures and improve their achievement in all academic areas. It may be possible that your class is the only one where experiential learning is even presented to them as an opportunity; therefore, embrace it, see the potential that it has for your students, and witness the change it could have for your program in many different ways. The challenge at hand is not to focus on the content of the lesson, but rather the method in which we are sharing the information.

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Experiential Learning in the 21st Century: The Role, Purpose and Value of Work-Based Learning

by James R. Stone III

Power of Experiential Learning Experiential learning or learning by doing has a long history in the United States. Colonial apprenticeship programs such as those that shaped our nation's leaders like Benjamin Franklin were certainly one form of what we now call experiential learning. In the mid-19th century, experiential learning as an accepted form of pedagogy began to appear on college campuses, especially in the professional schools (Lewis & Williams, 1994). By the early part of the 20th century, scholars like John Dewey began to challenge the traditional approaches to teaching and learning that held sway in public education. His most noted articulation of his perspectives came in *Democracy and Education* (Dewey, 1916). Later he laid out experiential learning as a powerful pedagogy in *Experience in Education* (Dewey, 1938). It is interesting if not ironic that Dewey was no fan of the vocational education of his day with its focus, narrow in his view, on skills training. He was however a proponent of learning through work or experiential education.

Experiential education is not a pedagogy unique to career-technical education (CTE) classes. Science teachers can engage students in experiments testing water quality in their community; social studies teachers can have students write oral histories of their families; English teachers can have students write books for elementary school children working with graphic arts students to illustrate the text, and so forth. The inclusion of senior projects, one approach to experiential learning, has become common across the United States. Service learning, another manifestation of experiential learning, has gained support in states and school districts as well.

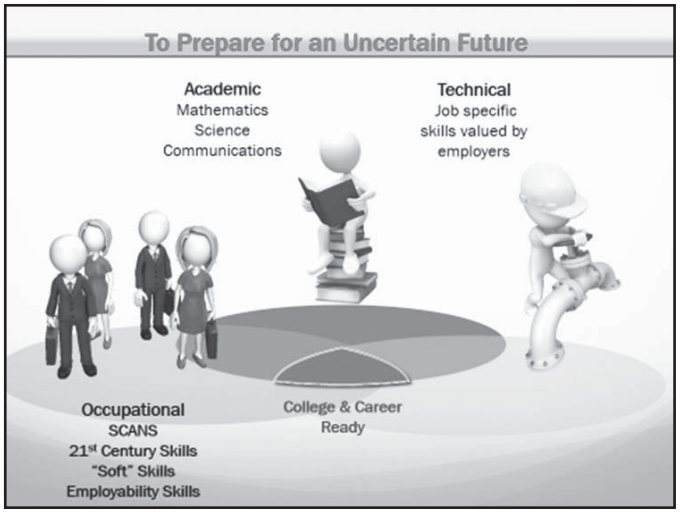
Agricultural education, too, has a long history of experiential education through supervised agricultural education (SAE). However, few families and students live on farms in the 21st century, limiting traditional approaches to SAE. Perhaps in recognition of this, Phipps & Osborne (1988) defined experiential learning in agricultural education as encompassing all practical agricultural activities of educational value conducted by students outside of class and lab instruction time or on school-released time for which systematic instruction and supervision are provided by teacher, parents, employers and others. Clark, Threeton and Ewing (2010) provide a comprehensive introduction to the possibilities of experiential learning in CTE.

CTE and especially agricultural education has the advantage of access to authentic workplaces where the curriculum can play out Dewey's notion of learning through occupations (Dewey, 1938). As one form of experiential learning, work-based learning (WBL) offers a unique opportunity to more than engage learners; it is a necessary component of college and career readiness.

College and Career Readiness

College and career readiness (CCR) has become the new buzz word to define education reform. From President Obama to most governors to all manner of public interest advocacy organizations there is a recognition that public education has to be about more than just moving students on to the next level of education, i.e. college.

Stone and Lewis (2012) provide a framework for more clearly defining what college and career readiness means. To be college and career ready, they argue that a high school graduate must have mastery of three kinds of skills. ***Academic knowledge*** is the most obvious, especially the occupational expression of academics; the ability use academic knowledge to solve authentic problems. The second skill set includes two kinds of ***employability skills***, often called 'soft skills.' These skills range from a basic understanding of how to act in an adult environment (e.g., work in teams, interact with supervisors) to good oral and written communication skills to more complex



behavioral attributes like persistence and diligence. Finally, career readiness requires ***technical skills***. These are unique to specific occupational pathways and are usually certified through an industry recognized credential (certificate, diploma, degree).

The Power of WBL

Work-based learning as a pedagogy has the potential to build the kinds of skills and behaviors that research is increasingly showing are critical to success in many fields of human endeavor including the workplace and college. It is quite clear that learning within a community of professional practice provides students with unparalleled opportunity to learn adult behaviors necessary to prosper in today's work place. The SCANS report (1992) identified five key competency areas necessary in all workplaces – competencies not easily developed in typical high school classrooms. These include the productive use of resources including time, money, material, space and staff. Interpersonal skills include more than the usual teamwork. The SCANS list of interpersonal skills includes negotiation, leadership, and teaching skills as well as working in a multicultural environment. The ability to acquire and evaluate data and interpret those data represents another skill set. Understand social, organizational and technological system and knowing how to trouble shoot systems is the fourth set of skills. And finally, the SCANS report identified knowledge of and skill in using technology appropriate to the workplace as the fifth set of skills required to be a productive worker in the today's workplace. Duckworth (2013) has popularized the notion of "grit" or non-cognitive skills and behaviors as crucial to success. In her research, she identified persistence, diligence, consistency and the ability to deal with setbacks as critical to success in the workplace. As with the SCANS skills, grit is not easily developed in classroom settings, but more easily learned through carefully crafted, experiential, or work-based learning.

That WBL matters, one only has to look at international comparisons. We know our students do not do well in international comparisons of academic performance, but what is less well known is how intensive CTE which includes WBL positively affects key measures of school performance including attendance rates, secondary graduation rates, and college attendance (Bishop & Mane, 2004; OECD, 2010). In addition, Stone and Lewis (2012) summarized numerous studies that showed evidence that students who participate in high school WBL:

- show improved reading scores;
- enroll in postsecondary education at levels on par with similar students; and
- showed improved postsecondary achievement.

Work-Based Learning Opportunities

Today's high schools have several WBL pedagogies they could employ, with a variety of features. Stone and Lewis (2012) summarized these as:

Job shadowing is a career exploration activity for middle school and early high school students. Students follow an employee in a work setting for one or more days to learn about a particular occupation or industry.

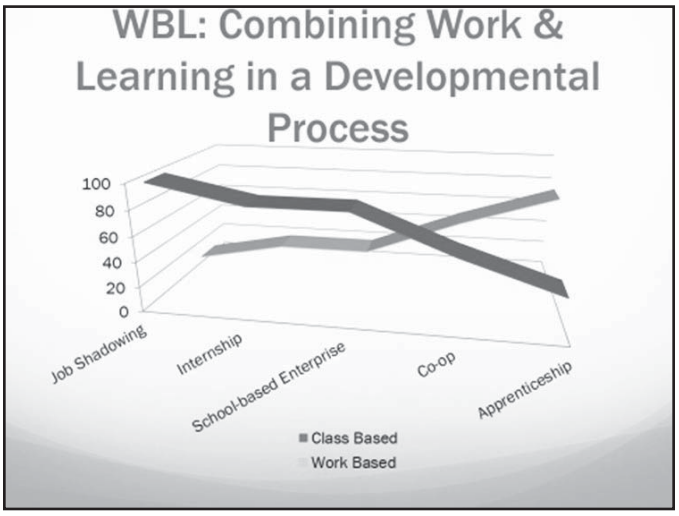
School-based enterprises are enterprises in which goods or services are produced by students as part of their school program. Stern, Stone, Hopkins, McMillion, and Crain (1994) refined this definition by focusing on production of goods and services for sale to or use by people other than the students involved.

Internships are situations where students work for a specified period of time for an employer to learn about a particular industry or occupation. Workplace activities may include sample tasks across different business units or may focus on special projects or on a single occupation. Internships may or may not include financial compensation.

Cooperative education is a structured method of instruction whereby students alternate or coordinate their high school or postsecondary studies with a job in a field related to their academic or occupational objectives. Written training and evaluation plans guide the instruction, and students receive course credit for both their work and classroom experiences.

Apprenticeships. Registered apprenticeships are contracts between an employer and employee during which the paid worker, or apprentice, learns an occupation in a structured program. Many apprenticeships are jointly sponsored by employers and labor unions. The contract specifies increasing wage levels as the apprentice learns additional skills. *Youth apprenticeships* are typically multiyear combinations of school- and work-based learning in a specific occupational cluster designed to lead directly into either a related postsecondary program or a registered apprenticeship. Unlike registered apprenticeships, youth apprenticeships may or may not include financial compensation.

Each of these WBL methodologies varies in the mix of school-based and work-based time. As well, each offers a different mix of skill development. All do offer, however, the



benefit of experiential learning when done well.

The Pedagogy of WBL

A well-structured WBL experience follows the process outlined by Kolb (1984) with the concrete experience or authentic work becoming the beginning of the process. As noted earlier, Clark and colleagues provide a well-developed discussion of the application of experiential learning theory to CTE.

WBL must be well conceptualized with the focus on learning and less a focus just on the work. Well-crafted learning plans should structure this experience, ensuring students are exposed to communities of practice and rotate among positions and tasks. There are many ways agricultural teachers can guide reflection, theory building, experimentation and linking back to a renewed understanding of the workplace.

Effective WBL is built on close relationships between the agricultural instructor and the business partner. This means both should contribute to the assessment of the student-learner and these should be guided by industry standards.

WBL should begin early in the high school student's career. Following a developmental approach with introductions to the workplace through experiences like job shadowing; bringing business and industry mentors into the classroom to discuss careers. By the senior year, students could be spending substantial periods of time learning in the workplace as part of a transition to careers and college.

Of the several approaches to WBL, three stand out as the most viable: internships, school-based enterprises, and cooperative education.

Internships.

University of Georgia provides, paid internships for talented high school students to work with agricultural researchers. Students are paired with a mentor-scientist, working in a field of the student's interest. With the mentor's help, each student develops a science project to work on over the summer. At the end of the program, students present reports on their projects and essays detailing their summer internship experience. Similar programs are offered at many universities across the country.

A study by the National Center for Research in Vocational Education led by U.C. Berkley examined internships at the Chicago High School for Agricultural Sciences in the mid-1990s. Among the more intriguing internships was one with the Chicago Mercantile Exchange where a student interned in the agricultural commodities products division.

With the rise in biotech employment, it would be easy to imagine internships in occupations ranging from bioinformatics specialist to forensic DNA analysis to more traditional careers such as greenhouse or field technicians.

School Based Enterprise

School-based enterprises (SBE) engage students in school-based activities that produce goods or services for sale or use to people other than the students involved. In high schools and two-year colleges, these activities range from mini-enterprises where students build houses, operate restaurants, manage retail stores, repair and sell cars, raise crops and livestock, staff child care centers, publish books and periodicals, conduct studies of environmental quality or energy conservation, reconstruct local historical landmarks, and engage in small-scale manufacturing (Stern, Stone, Hopkins, McMillion, & Crain, 1994). Agricultural education programs could sponsor any number of SBEs. A vibrant example of a crop-based agricultural SBE is in Polk County, Florida.

Cooperative Education

Supervised agricultural experience has been the mainstay of traditional agricultural programs. The requirements and standards for these kinds of experiences are well documented (*Program Planning Handbook, 2013*: Chapter 8). This model has served agricultural education well for more than a century but as noted in the introduction, few youth grow up on farms. But many more grow up in cities.

Urban agriculture is expanding cities in cities like Detroit where swaths of vacant lots have blossomed into community gardens where residents can 'pick their own' for free; where bees are raised commercially; and community farms sell produce to

local restaurants. It doesn't take much imagination to build an SAE program linked to one of these where students can apply the classroom based learning and develop the habits of a productive adult.

There are many other cooperative education opportunities in agricultural related businesses from nurseries, to landscaping businesses, to the Chicago Mercantile Exchange.

Final Thoughts

There has been a convergence in understanding of the importance of engaging all students in meaningful experiences in a workplace setting. Less about specific technical skill development, WBL provides an opportunity to develop the habits of mind necessary to be a productive adult. Well-structured WBL can develop the non-cognitive skills, often called soft-skills, that are difficult to develop in traditional classroom settings. As our European and Asian economic competitors know, engaging youth in meaningful, sustained WBL contributes to the student's individual development and in the long run, contributes to economic development.

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Philosophy on SAE Instruction in Agriculture Teacher Education

Adopted by AAAE, May 2013

Supervised Agricultural Experience (SAE) is a planned and supervised program of experience-based learning activities that extend school-based instruction and enhance knowledge, skills, and awareness in agriculture and natural resources. SAE is recognized as one of the cornerstones of a quality agricultural education program, complementing classroom and laboratory instruction and leadership and personal development. Agricultural teacher educators are committed to providing the instruction to teacher candidates on how to successfully implement SAE in the total agricultural education program.

Agricultural teacher educators should provide instruction on SAE as part of pre-service education and in-service education, and continue to assist in the creation of materials that assist in delivery of SAE supervision. Teacher candidates should exit the program with the philosophy that SAE is a program for ALL students enrolled in agricultural education courses and is not a single project. The SAE program is documented to show student development and success through recordkeeping that contributes to a student portfolio and can be adapted to fit the needs of individual students with consideration of contextual variables. Teacher candidates should be well-versed in the theory of experiential learning to assist in their interpretation and implementation of SAE.

SAE is a unique component of the curriculum in public school; therefore, teacher candidates should be prepared to engage key stakeholders such as local school administrators, parents, and advisory committees throughout the year. This engagement should include educating partners about the positive academic impact that individual SAE programs have on students including financial literacy and entrepreneurial dispositions. In addition, this could include engaging partners in placement, supervision, and evaluation.

A key aspect of SAE is ***supervision,*** which is best facilitated by a certified secondary agricultural instructor. Teacher candidates should be well-versed in supervision techniques and working with others in supporting student SAE programs. The supervision can include home and work place visits involving key strategic partners such as family, employers, other teachers, and other mentors. Teacher candidates should be prepared to guide the development of a plan that addresses growth toward the student's career interest.

Teacher educators should prepare teacher candidates to ***instruct*** and deliver SAE as an integral part of the curriculum; an extension of classroom and laboratory instruction; and conducted outside of the individual student's scheduled class time. As part of the curriculum, ***planning*** for SAE is necessitated to ensure the effectiveness of this type of differentiated instruction, and should include learning objectives and agreements among involved parties. Additionally, teacher candidates should be able to provide instruction regarding how SAE contributes to the improvement of financial literacy and the entrepreneurship capacity of students.

Teacher candidates should be prepared to effectively ***evaluate*** the SAE program as part of the instructional program, making SAE program involvement part of the course grade for students in agricultural education. Beyond academic assessment, students should also be recognized for their time and energy invested in learning through recognition programs provided through FFA at the local, state, and national levels.