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The Role of Community Resources in the Agricultural Education Curriculum

Agricultural Education and the Sense of Community

By Robert A. Martin

During the nearly five years I taught agriculture and biology in a secondary school in Nigeria, West Africa, I had many opportunities to visit the villages and homes of several students. The "feeling of community" became very clear to me in each of these "visits" while talking with my student's parents, uncles, aunts, cousins and grandparents as well as neighbors and village leaders. People helping people to grow and develop. The community had a focus that provided security, independence and many opportunities for experience-based learning.

Later, while teaching agriculture in a high school in Indiana, the sense of community was very similar. Although these communities were outwardly very different, the "sense of community" was exactly the same. Community-based support for and active involvement in providing a "learning environment" seems to be the foundation or formula for a meaningful education in agriculture.

The lesson learned in these two experiences was that the community is a key to success in teaching agriculture regardless of where one teaches. The community is a goldmine of opportunity.

A sense of community in support of agricultural education is at the heart of the basic principle that says the community is a resource-rich component of the agricultural education program. A successful agricultural education program will have a close relationship with the community in which it is located. To develop this close relationship with the school community requires attention to a few critical activities. These activities form the basis for developing a sense of community.

The ten steps to developing a sense of community in agricultural education are as follows:

1. Actively engage an advisory committee representing the diversity of agricultural opportunities and resources in the community.
2. Survey the community regarding career opportunities.
3. Survey student interests and build a curriculum around these interests.
4. Identify instructional resources available in the community.
5. Use the FFA Alumni Chapter as a people resource; capitalize on the energy of this group.
6. Identify and use subject matter specialists in the community.
7. Publish information about the agricultural education program in the community newspaper and other publications.
8. Promote and facilitate student presentations in the community.
9. Recognize and honor employers of students and/or internship sties.
10. Account for and document teacher time and activities beyond the regular class room time.

There can be no doubt that a sense of community is critical to agricultural education programs that have a positive impact and any chance for sustainability. A study of successful programs confirms this fact over and over. Show me an agricultural education program that actively engages the community and I'll show you a program that is a success.

Authors in this issue of The Magazine emphasize the role of the community and the positive influence of using community resources in teaching agriculture. These authors are committed to using community resources to make agricultural education successful. Thanks goes to all authors who shared their thoughts, ideas and practical advice and experience in this issue. A special note of appreciation goes to Dr. Lloyd Bell for his work as Theme Editor. Enjoy this issue of The Magazine.

With this issue, we begin the 75th year of The Agricultural Education Magazine. This is a great opportunity to celebrate the resilance of agricultural education and the sustanability of The Magzine. Let us hear from you. Become an author in The Magazine this year and celebrate!!

Robert A. Martin is Editor of The Agricultural Education Magazine. He serves as Professor and Department Head of Agricultural Education and Studies at Iowa State University.

Theme: The Role of Community Resources in the Agricultural Education Curriculum

Authors writing for the July-August issue of The Agricultural Education Magazine discuss the role of community resources in the agricultural education curriculum.

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What Difference does Community Make in Learning?

By Lloyd C. Bell

Piaget (as cited in Glover & Bruning, 1987, p.115) suggested that four general factors influence the development of thought among humans: (1) biological maturation, (2) experience with the physical environment, (3) experience with the social environment, and (4) equilibration. Biological maturation refers to the growth and change of biological structures within the individual allowing them more sophisticated experiences with their environment. Humans are born with a "clean slate" for idea potential. It is through interactions with their environment that they equilibrate mental conceptions of intelligence.

Equilibration may be thought of as a connection between what is already known and the acceptance of new information. Until an individual can achieve this connection, there is disequilibration. In such case, individuals motivated to do so, search physical and social opportunities to "make sense" of (assimilate) the new information. Through their own actions or those of mentors, they find the connections and are able to accommodate the new information. Accordingly, a state of cognitive equilibration is achieved, and learning has occurred.

The "actual fulfillment of intellectual capabilities is very powerfully influenced by learner interactions with their environment" (Glover & Bruning, 1987, p.116). From this evidence, it can be assumed that "community" is potentially a very powerful influence on learning. To unleash the learning potential of community, it is helpful to ponder the meaning of community. The on-line version of the Merriam-Webster Collegiate Dictionary (2002) lists seven definitions as the word applies to the individual. Beginning with the most restrictive, "people with common interests living in a particular area," progressing to the broader interpretation of "a body of persons of common and especially professional interests scattered through a larger society". The shared inference is that of people having a common interest.

Community is a changing presence defined by the persons involved. In the program of agricultural education, we have witnessed a gradual yet dramatic change in the communities from which our students originate. Their experiences are much different and heterogenous than the experiences of previous students coming from a more homogenous background. Today, only 27 % of all FFA members live in rural, farm areas. Of the remaining members, 39 % live in rural, non-farm areas, and 34% in either urban or suburban homes (FFA Key Statistics, 2002). These students create a community within the classroom that requires a broader array of experiences both within and out of the classroom to accommodate their interests in agriculture. Are we providing students the necessary experiences within available community resources? Are we limiting students by the extent of our familiarity and comfort with community resources?

Figure 1 portrays a limited view of the possible community resources available to students and family for independent learning experiences, as well as curricular planning by agricultural educators for their learning. Within each of these communities exists a variety of resources. For instance, within a neighborhood there are parks, other families, diversity (age, ethnicity, and race), businesses, care centers (both child and elderly), churches, etc. The exposure to these resources can be as broad or narrow as one's imagination allows. Within this specific example, there are opportunities for: plant identification, interviews on aspects of leadership, job shadowing experiences, and service learning experiences. Not all of these experiences need to be outside of the classroom. Many can be integrated into the classroom.

In Piaget's list of four factors, it is the interaction with the physical and social environment that provides for the extension of theory into a variety of applied examples. Student ability to extract deeper appreciation for the abstract application of theory can be accomplished. Without this interaction, learning amounts to memorized definitions, lists, and contrived examples, with the perceived use being solely to pass tests and achieve a course grade. The ability to transfer knowledge from the specific to the general in less familiar environments will be limited.

Recently, the agricultural education profession has encouraged the integration of agricultural examples into traditional science, math, and social science instruction. The use of applied community examples will provide for the successful knowledge transfer across these disciplines for student learning. The social environment afforded through community resources will provide a rich clarity to terminology, variety of perspectives, and emotion associated with the content learning. It provides the learner authentic representations within their thoughts to assimilate and accommodate new knowledge, or knowledge used within a different context.

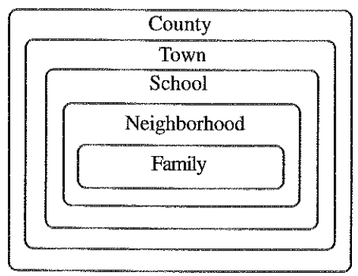

Figure 1: A limited portrayal of communities and their dimensions available to students for experiences in both their physical and social environment.

A necessary first step is to determine the type of agricultural education program you intend to deliver, and develop the appropriate instructional goals. A well designed program that is followed will prove to be the most effective time management strategy in which you can invest. Designing coherent instruction becomes the point at which you plan and integrate community resources to enhance and authenticate student learning. A Guide to Local Program Success (2002) is an excellent point at which to begin.

A sequential instructional plan sets the stage for effective learning (Glover & Bruning, 1987, p. 439). If instruction is premised on what students already know, then the presentation of new knowledge is more readily accommodated, and the use of community resources can make a rich contribution to the teachable moment. The documentation of community resource activities, in relation to their point of use in the instructional program, will allow for more effective time management. Knowing approximately where and when an activity is planned in the curriculum will allow for efficient scheduling. Being able to present and discuss preceding and succeeding information to a resource provider will enhance the quality of integration, and the credibility of your program.

Figure 1 illustrates how communities contribute to learning. The figure applies equally to the instructor and the student. The inventory from which an instructor draws to identify community resources for their instructional program is in direct correlation to the diversity of experiences and people they have encountered. If an instructor maintains a narrow focus of only their program and the school in which it resides, opportunities for the use of authentic learning through community resources is proportionally limited. An efficient and enjoyable way to expand community contacts is to become a part of the community on a personal level.

The Local Program of Success guide (2001, p. 1.9) identifies the following suggestions as ways to become community engaged: join local civic clubs, attend community receptions, volunteer for community service projects, make the community your home, be a role model in your community, and contribute to community development when possible. Through these activities, you will develop connections and networks that will complement your professional as well as personal endeavors. The people with which you connect will develop trust in your judgment, and will more likely be interested and support efforts in which you are involved.

Another excellent way to increase the inventory of community resources is to be involved in professional organizations. Participation in professional teacher organizations beyond the local or district level is a way to obtain new teaching ideas, and techniques for increasing active learning within the instructional program. It has been the author's experience of noticing a dramatic increase in the professional confidence of agricultural education instructors who have become officers in their state agricultural education association and then extended that participation to the National Association of Agricultural Educators. Confidence contributes to self-perception and the personal ability to extend learning eeyond previous boundaries.

It is hard to imagine the achievement of affective learning without the constant involvement of community resources. Community resources are not limited by city boundaries or even related to municipalities. Community resources can be distance education techniques, Internet sites, newspapers, as well as local quest speakers, field trips, etc. The importance of involving community resources is to provide learners the opportunity for authentic representations within their thoughts to assimilate and accommodate new knowledge and its use in multiple contexts. The challenge to you as an educator is to build your self-confidence and inventory of experiences to adequately plan an instructional program to do so.

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Celebrating the Character Building Aspects of Agricultural Education in School and Community

By Todd Strom

Throughout my career in education, I have observed a large growth in the need for character education across the school curriculum. Agricultural Education is a great vehicle for helping young people realize and develop positive character traits. These traits may be exhibited not only in school, but in the community and home. Agricultural Education is one of the strongholds in our school where character education flourishes.

It is our job, as school and community leaders, to not only recognize the education that is occurring in the curriculum, but to celebrate student successes that occur. Administration, faculty, students and community members all play a vital role in this process.

In Crofton Jr.-Sr. High School, a deliberate effort is made by faculty and administration to honor Agricultural Education and other elective course student accomplishments. A community pep rally was held this spring in the high school gym. Classes were dismissed for one hour and the student body assembled in the stands as the band played the school song.

The purpose of the rally was to give students involved in agricultural education competitions and other academic contests a stage upon which to be cheered. The school board president, principal and activities director applauded the efforts of students with words of praise. Each sponsor of an activity was able to announce accomplishments for the year, bring attention to individual and team performances and notify the student body of upcoming activities to attend in support. Students, faculty and community members in attendance expressed how important it was that we honored students in this type of setting.

Peer recognition is a large part of a student's self-esteem. It was evident that the students appreciated being able to step in front of the whole student body to be honored for achievements in their programs of choice. This type of assembly is common practice for athletics in schools. Why not use it as a motivational tool for academic pursuits and positive character recognition also?

Community support can be and is provided or voiced through other outlets including: local coverage of agricultural education awards by newspapers and radio, school newsletter articles, announcements of honors and upcoming events at athletic activities, donation of supplies and services for projects by local businesses, tours and speaking appearances provided by successful agricultural people in the community and collaborative efforts between community and school in career field experiences.

These efforts compliment the agricultural education curriculum by recognizing and awarding those attributes of character that enable student success.

Character can be defined as a composite of the attributes, attitudes and behavioral patterns that combine to constitute a person's identity and distinguish individuals from one another. Each individual develops a unique character, demonstrated by a unique combination of attributes and behavioral patterns.

"Character education refers to that area of the education system which is concerned with the development of student attributes and behaviors that will promote higher level personal and academic functioning, positive interpersonal relationships, a school environment conducive to learning and academic achievement, success in adult roles and a civil society"(Marrazo 1997).

Research shows that student learning across the curriculum increases as a result of character education. "During the golden age of Greece, citizens considered character development one of the most important parts of education. Ethos, or ethic, refers to character and the way you show up in your attitudes and interactions with others" (Hart, 1983). The vision and mission of our schools can only be reached if educators and community work together as one to ensure the development of the whole child.

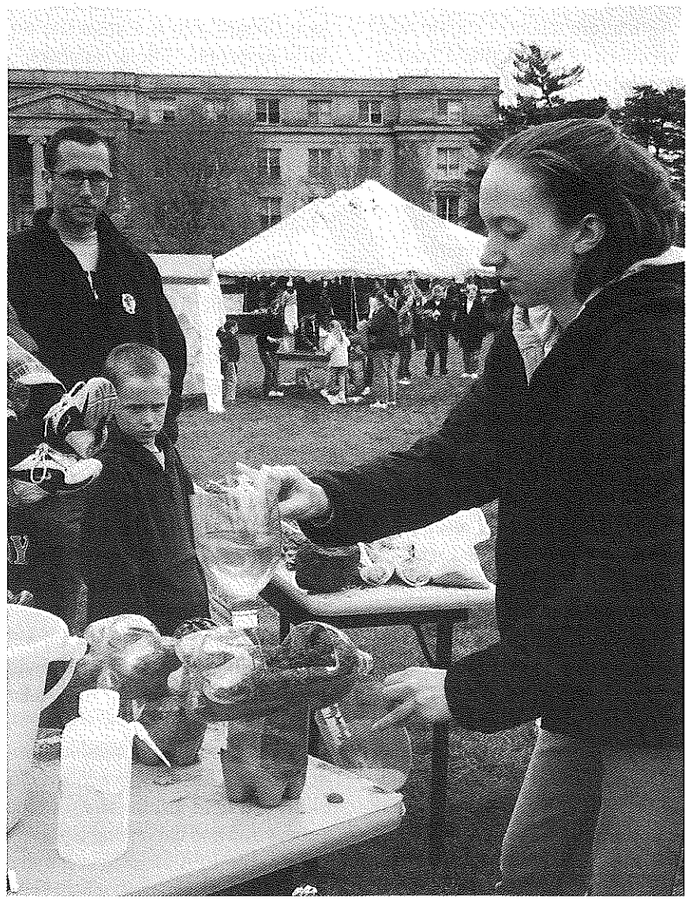
Agricultural Education curriculum and the FFA in Nebraska and other states are focused on developing character so that one may be a lifelong learner and productive part of society. Much of the rationale driving our state and local curricula is focused solely on measurable academic outcomes. Character education may be in peril of becoming a fragmented add-on to the academic curriculum. This is one reason agricultural educators and community members need to make a concerted effort to bring character education to life.

As a product of agricultural education and now as an administrator of a secondary school, I am aware of the impact that curriculum and competent teachers can have in the life of a student. Agricultural education and the FFA experience can enable teachers to call attention to the values in daily experiences and encourage student learning. Improving character-based decisions will positively drive student learning.

One of the common goals shared by many agricultural education curriculums is to develop a personal understanding of values and how they affect life choices and behaviors. In good agricultural education programs, values become cornerstones upon which responsible people base sound decision making. The challenge and responsibility of educators, community members and educators lies in helping students understand how their attitudes and behaviors are affecting their learning and academic success.

Leadership by example, modeling, is a must. "Adolescents asked if they are leaders, usually say "no". Ask them what they did last weekend and how they decided to do it and you can get them to talk about the role they play among their friends in making decisions. You can show them how they influence and lead others. This is when they become aware of the qualities focused on values, good choices and how to positively influence others" (Fertman & Van Linden 1999). Agricultural education establishes a common language among teachers, students and community members which enables people to look at traits built through agricultural education as a set of learned skills and attitudes practiced constantly.

I am convinced that community support is vital in our agricultural education program. School and community leaders must continue to support agricultural education and build links of success. Celebration of those successes is important. Students need to learn to transfer skills and habits of character as teenagers in supportive environments. With the diversity of societal standards and individual character, as students mature they will be exposed to environments that do not support them. It is in those situations that the current teachings of school and community will hopefully prevail.



Strom encourages instructors to provide students an opportunity to celebrate their successes. Here, a student displays her agricultural knowledge for community members. (Photo courtesy of Iowa State University, College of Agriculture.)

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Todd Strom is the Secondary School Principal at Crofton Community Schools in Crofton, Nebraska.

The Steps to Effectively Utilizing Community Resources in an Agriscience Program

By Todd Brashears, James H. Smith, and Doug Malone

I was completely out of my comfort zone. I was a small-town ranch kid from West Texas living and teaching in a large consolidated school outside of Lincoln, Nebraska. I was in the same situation that many new teachers find themselves…a new location with few contacts or acquaintances. One advantage I had, however, was an experienced teacher already in the department who was able to point out those important community relationships, as well as introduce me to a successful method for seeking out and building additional community resources. For an agricultural science teacher, these community contacts are not only important to the success of the program, oftentimes they are expected by school administrators, parents, alumni and constituents.

The Local Program Success for Agricultural Education (LPS) lists several benefits of developing contacts within the community including enabling your program to accomplish more, increasing the impact of your program, and building credibility with administrators, legislators and business people. Other benefits include allowing your students to make valuable contacts, exposing your students to non-traditional agricultural industries and providing "real-world" experience to complement classroom teaching.

The LPS is a valuable resource for developing a plan to find and utilize the unique resources of your community. It provides a five-step plan. 1) Identify potential partners, 2) Identify benefits of involvement for partners, 3) Present benefits to potential partner, 4) Establish a plan for involving core partners, and 5) Reward partners by recognizing their contributions and support. This is the method that has been used at Norris High School in Firth, Nebraska, for several years with a great deal of success. It takes a fair amount of planning, but the benefits to the students and the community are immeasurable.

Identifying Potential Partners

Agriculture teachers should take the approach of conducting a market analysis when trying to identify resources in the community. Above all else, partnerships should be based on the need of the agriculture department and should be directly tied to the curriculum that is being taught. In almost every community there will be at least one person who is considered an expert in every area of the curriculum. All too often, young agricultural science teachers think they have to be the expert in everything, when in fact; a good teacher is one who can admit that others are more knowledgeable in certain areas and root-out those people. Where is the best place to start looking? Your alumni.

Unfortunately, alumni are the forgotten element of the FFA chapter. Students move away, go off to college, and tend to lose touch over time. Don't let this happen! These are the primary people who will be willing to provide money and resources for your program when they are in their 30's, 40's and 50's. They are employed by large and small companies. They are business owners, landowners and farmers. They are also the parents of many of your students. How do you reach this group? Technology is the only way to go.

Norris FFA recently sent letters to many former FFA members from the past 20 years asking for support of the department's new greenhouse. While good records of these people were not available, the school's yearbooks were. Names were taken out of the yearbooks FFA page and entered into a database. Students identified as many as possible and then turned to the Internet. The site http://www.switchboard.com is a great site for locating people. Phone numbers, addresses and even e-mail addresses can be found by providing the name of the person and the general area. Accurate mailing addresses were obtained for over 80% of the chapter's former members.

Identifying Benefits of Involvement for Partners

Many individuals and organizations will be honored to help the local chapter without concern for their own personal benefits; however, there are several things that the FFA can contribute back to these people. The Firth Co-op is a major supporter of the Norris FFA Chapter and the agricultural science department. Each year they provide the funding, materials, equipment and labor to plant and harvest the chapter's 6 ½ acre test plot. This not only provides hands-on experience for the students in production agriculture, it also provides a location to conduct agriscience experiments, practice GPS skills and field test the newest crop production and harvesting equipment. The FFA chapter keeps the proceeds from the plot, which is 100% profit because of the donated time and materials.

In return, the FFA chapter provides publicity for the local co-op in the form of highway signs, newspaper advertisements, and recognition as the primary sponsor at the annual field day. The FFA also provides labor at the annual co-op members' banquet free of charge. FFA members prepare the room, serve the meal and clean up after the meeting that generally hosts 400 members and their families.

Present Benefits to Potential Partner

Using personal appeal is one of the most effective ways to influence others. Have your students initiate contact or follow up on contacts made by others. It is very easy for a potential partner to say "no" to an adult, but it is more difficult when students are involved. Just think about how many times you have bought fundraiser products that you really didn't need just because a student asked you.

Establish a Plan for Involving Core Partners

One of the major community service projects of the past two years has been a water quality testing project operated in conjunction with the Lancaster County Health Department and the Lancaster County Extension Service. FFA members have developed a systematic approach to test each well in the school district. Students make periodic appearances before the Lancaster County Commissioners to describe their efforts and present progress reports.

This provides two benefits. First, the students gain the experience of speaking in a professional setting to a group of concerned citizens. Secondly, the ownership of the project displayed by the students' presentation sends a signal to the stakeholders of the project that their money is being well spent, not only by obtaining the water quality data, but also to educate the members of the FFA chapter.

Establish a Plan for Involving Core Partners

One of the most important keys to developing community resources is to avoid the temptation to use your best resource over and over during the course of the year. Find one thing that each resource can provide and turn it into an annual event. Like many chapters, Norris has a holiday fruit sale as a major fundraiser. Instead of using a fruit cooperative of a fundraising company to provide the apples, oranges, pears and grapefruits, they have an arrangement with the local grocery store.

In a very generous effort to support the community, the managers of the store provide the fruit near cost to the FFA chapter. This enables the chapter to maximize profits and spend their money in the community. While there are many opportunities for the FFA chapter to ask the grocery store for help (can food drive, banquet food, snacks for meetings), they look other places for these resources.

Every single person, company or organization that provides resources to the program should be recognized in some manner. Each should receive an invitation to the chapter banquet at the end of the year and should receive a certificate of appreciation for their support. If this means adding a section to the banquet, then so be it. Having many to recognize is a great problem to have. Also, every benefactor to the program should get an individualized letter from one of the FFA officers expressing appreciation for the support. Other ways to recognize resource providers include letters to the editor, advertisements in local papers or calls to other media outlets such as television or radio stations. The method is less important than the actual act. Failing to recognize program partners will eventually lead to a lack of partners to recognize.

Conclusion

The first year for new agricultural education teachers will be a roller coaster of emotional highs and lows. However, finding and utilizing community resources does not have to add to the day-to-day obstacles that the new teacher must overcome. By developing a systematic plan for developing and maintaining new resources and using the students to make contacts, the teacher can ease his/her workload while at the same time increase the quality of education that they are providing for their students. Find those resources in the community that can contribute to your program and avoid the temptation to overuse them.

I had an excellent teacher who taught me the importance of using the community, but many new teachers find themselves in single teacher departments. It is easy in this situation to withdraw into the classroom and rely only on your knowledge. Refer to the LPS. It has great ideas for identifying valuable resources in your community and using them to your students' advantage.

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Dr. James Smith is an Assistant Professor at Texas Tech University.

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Inviting Community Ownership of the Local Program

By David Barnard

Some of the sweetest sounds a busy agriculture educator can hear are, "How can I help?," or "Tell me what needs to be done!," or "Just let me know if there is anything I can do!." Bringing individuals, agencies and businesses into our educational plans and endeavors allows the community to take ownership of programs.

Volunteerism within our communities is the thread that weaves all the pieces and components together. When there is a need or "tear" in this community fabric oftentimes it is volunteers that mend it back together. Agricultural educators have incorporated volunteerism into their Program of Activities (P.O.A.). We are ahead of the rest of the school system in bringing the community into our classrooms and laboratories. Teaching and observing volunteerism strengthens our communities. We model volunteerism by reaching out in our own lives for our students. Stop and count the civic, church and community organizations in which you are involved.

The school system in the rural communities I am familiar with is the common source of pride to which everyone points. The community wants their school to be the best and their childrens' experiences to be better than their own. The patrons of the community support it with their tax dollars and leadership through local boards of education and various school committees. The community realizes that this is not enough however, and that strong schools and strong departments require their time commitment.

One of the bits of wisdom I have learned in twenty-four years of teaching at Superior Public Schools, is to ask for help. I realize quality programs require the input and assistance of the community. I try to pass this on to the University of Nebraska student teachers I supervise. The sooner they realize this, the better the chances are they will not become overwhelmed as their teaching career begins. Asking for help does not have to mean relinquishing control or admitting to a deficiency. For the busy Ag Educator, it means I want to make a good

Barnard encourages instructors to incorporate volunteers into the agricultural education program. "Bringing individuals, agencies, and businesses into our educational plans and endeavors allows the community to take ownership of programs," he said. The Story County, Iowa Pork Producers are pictured assisting with Cary Trexler's agricultural literacy program..

program better and provide my students with more enriching experiences. Part of teaching is coordinating community resources.

I would suggest five steps to involve your community in your program.

1. **Identify the "movers and shakers" in your community.** This may take some leg work but the time spent will be worth it. Sources will depend on the area you need help with or the area you want to strengthen. Read your local papers for ideas. Talk to your local chamber of commerce. Speak to local commodity boards. Seek out agricultural governmental agencies. These people have ideas, youth grants, professional talents, manpower, funding and equipment. Involve your Young Farmer/ Rancher members. Talk to your students. They know what is going on in the community.

2. **Organize or rejuvenate your local Advisory Board with key people from those identified.** Your state vocational education department personnel can provide guidelines. People just need to be asked. Everyone wants to share their thoughts. Who are they doing it for? The answer must be the agriculture students-our children.

3. **Publicize the community volunteer efforts.** An article in the newspaper or a report on the radio goes a long way to say thank you. Take the time to write a note of thanks or better yet have your students do this. The annual Recognition or Parent/Member Banquet is a perfect time to award a plaque or certificates to these busy people.

4. **Include the school administration in community backed efforts.** The principals or superintendents want and need to know. Many times their approval is a must. They want to be in the decision making process. Who are guest speakers or lab presenters in your department this week? What cooperative applications for awards or grants are you working on? Who owns the equipment parked by the agriculture department? Who are the individuals attending the Ag Advisory Committee meetings? Why will students be away from school visiting community businesses and studying agricultural practices?

5. **Be ready to give up some control.** You are working with adults now. They are professionals in their fields. Their expertise will probably be greater than yours. Let them take the ownership of this facet of your program.

In 2000, I decided that the time was right for me and the Superior Agricultural Education program to expand the horticulture curriculum. This decision was based on community need, career opportunities and student interest. The goal was to construct a greenhouse for the department. I used the five guidelines as outlined above.

At the spring Recognition Banquet, our FFA Chapter conducts a survey. The greenhouse idea came up often. I approached the existing Ag Advisory Committee that a University of Nebraska Lincoln student teacher was working with. They grasped the idea and we took road trips to two neighboring departments with greenhouses. They wrote and called companies. They visited with the school superintendent. The committee representatives visited with the Board of Education Building and Grounds Committee and finally the entire school board. The decision was made to finance the 22' x 48' greenhouse project if the community would construct the project.

The "Movers and Shakers" took over. A company was decided upon and the design was approved. Volunteers moved yards of earth, poured concrete and erected the structure. The Advisory Committee called businesses for labor and equipment. These are busy rural people and they are proud of this project and saw it through to completion. The FFA Chapter identified the key people and businesses with recognition plaques. Their efforts have been featured in local and regional newspapers. The administration loves the community support. It has been a real "feel good" experience for the agriculture department and the students.

I hope your program is hearing these sweet sounds. Perhaps you just need to orchestrate them a little. Let your community be a part of your program and enjoy these new relationships.

David Barnard is an Agricultural Education Instructor at Superior High School in Superior, NE.

Community Resources in the Agricultural Education Curriculum

By Madelyn Holmes

If only there were a Shelburne Farms in every community in the country, then everyone could become agriculturally literate. This 1,400-acre working farm and national historic site in northern Vermont considers agricultural education to be its reason for being. The mission of Shelburne Farms is to cultivate a conservation ethic by teaching and demonstrating the stewardship of natural and agricultural resources.

The original estate, purchased in 1886 by William Seward and Lila Vanderbilt Webb, and developed by 1902 into a model farm exhibiting the most up-to-date agricultural practices, was transformed into an independent nonprofit organization in 1972 by family descendants. The farm continues to practice what it teaches by operating a grass-based dairy with a registered herd of Brown Swiss cows that graze seasonally on pastures grown without the use of herbicides or pesticides.

Shelburne Farms has been actively involved with local schools since the late 1970s and produced its first school curricula in 1986. Providing opportunities for the professional development of teachers is central to everything that Shelburne Farms tries to accomplish in the realm of agricultural education. Elementary school teachers in training at the University of Vermont helped to initiate the programs for teachers, and since the early 1980s alumni pools of teachers have disseminated far and wide their knowledge and teaching experiences learned from Shelburne Farms.

One of these alumni, Megan Camp, Director of Programs and Vice President at Shelburne Farms, described the creation of one such learning experience for teachers; The Project Seasons Summer Workshop, as follows: "Because elementary teachers for generations have been structuring their curricula around the four seasons of the year, when educators at Shelburne Farms thought about putting together a teacher's guide of activities for agricultural education, it seemed self-evident to call it Project Seasons. The first version of the book of seasonal teaching ideas K-6 came out in 1986 and was updated and reissued in 1995, with learning objectives clearly outlined for each lesson and a thematic bibliography included in an appendix. The resource guidebook with 147 classroom-tested activities is still being sold and is undergoing a third revision that will incorporate issues that future farmers will face."

Project Seasons serves as the focus for an annual week-long summer workshop for kindergarten through sixth grade educators. Every July approximately twenty teachers come together to familiarize themselves with and, to personalize, and expand upon the book's teaching tools for use in their own classrooms. All the facilities and staff of Shelburne Farms are made available to the teacher workshops: the cheesemaking plant, the milking parlor and calving barn, the "Green Certified" managed forest, sugarhouse, children's farmyard and organic garden, where much of the fresh produce for the Inn's restaurant is produced. Students themselves, at the beginning of the week, determine the content for that particular year's workshop. Last summer, for instance, the participants were mainly agriculture graduate students from Ohio State University for whom the workings of the farm were common knowledge. What they wanted to gain from their week at Shelburne Farms were ideas about how to transfer farm talk into the heads of eight-year-olds, They asked for assistance with the practicalities of teaching and tips on how to interact with local farmers.

Last year's group chose several real-life activities from the latest version of Project Seasons, such as "sheep to sweater," "natural dyeing," making felt balls, and creating a farm product to develop. Still Monday morning's schedule started off with the old favorite lesson "Dress Up a Cow," with instructions for draping a student in props to represent the udder, tail, hooves, tongue, stomach, horns and ears of a cow. This activity was followed by "From Grass to Milk," an activity that demonstrates the nine parts of the cow involved in the transformation of green grass into milk.

And then, just before eating the first lunch, the group took part in a relay race "Run for the Sun," to illustrate the workings of a food chain. With buckets filled with water to represent sunlight energy, two lines of students carried buckets to food producers and primary consumers, vegetarians who eat tofu hamburgers made from soybeans, and to secondary consumers who get their hamburger from the meat of a cow.

During the rest of the week participants in the workshop tried out a host of other activities on forestry, sugaring, plants, and soil all taken out of Project Seasons. The extensive library at Shelburne Farms offered additional ideas and other agricultural education curriculum resources which educators drew on for creating and presenting their own lessons to the workshop.

Throughout the school year, Shelburne Farms welcomes classes on school field trips and has developed differentiated programs that cater to grades kindergarten to three and grades four to eight. The school visits are so popular that they are booked one year in advance and chosen through a lottery. Young children in the fall learn how plants and animals become everyday items that we use by following the process of turning wheat berries into bread and making fiber from sheep fleece. In March they tap a maple tree and visit the working sugarhouse; in April they examine soil, earthworms and plant vegetable seeds; and in May school groups explore the workings of the dairy by milking a cow and interacting with calves and heifers. For older children, educators at Shelburne Farms work to develop an understanding of what farmers do by inviting students to participate in real-life farming activities. If they visit during lambing season, they have a chance to card, spin, felt and weave with wool. Programs in May and June instruct students about managing sheep, dairy or vegetable farms, and pre- and post-trip activities give them opportunities to develop and market farm products.

All the staff at Shelburne Farms who teach in the school programs are serious educators. They are knowledgeable about national and state standards, assessment requirements and disciplinary strategies. Incoming school classes are divided into small groups of between 8 and 10 students. This allows each child the opportunity to explore, investigate, discuss and reflect both individually and with others the pure joy of natural wonder.

A typical field trip lasts for four hours and includes both inside and outdoor activities. During the soil field trip, for instance, third graders collect soil samples from the driveway, garden and forest and then examine and compare the texture, compaction and percolation of the samples using techniques which give them the opportunity to act like scientists. They also observe the life stages of earthworms as they dig through piles of soil on trays carefully prepared for them. Outside they turn over logs in the forest to study how soil is created, and visit with baby lambs to appreciate how animal manure enrichs the soil with valuable organic material. Throughout the visit the children are taught by one Shelburne Farms' educator who addresses each student by his or her first name and asks penetrating questions about the science of soil that are connected to the students' personal experiences and level of understanding.

"Agriculture is a part of everyone's life; it is tragic when we say that agriculture is off the curriculum."

~ Megan Camp

Shelburne Farms offers other agricultural education opportunities for both schools and teachers. Staff will travel to schools to present outreach programs and teachers can come to the farm for one-day educator workshops on a variety of topics that connect their classroom work with gaining knowledge in agricultural and natural resources. In addition Shelburne Farms hosts conferences with other organizations such as Vermont Agriculture in the Classroom and participates in an ongoing collaboration called FEED (Food Education Every Day) with the Northeast Organic Farming Association of Vermont and Food Works. Together they work to connect elementary school classrooms with the school cafeteria, school gardens, their local communities and farms.

Teaching children about agriculture is central to everything that happens at Shelburne Farms. In the words of Megan Camp, "Agriculture is a part of everyone's life; it is tragic when we say that agriculture is off the curriculum." At Shelburne Farms in Shelburne, Vermont, agricultural education is at the very heart of the curriculum.

For more information about Shelburne Farms and its mission, log on to http://www.shelburnefarms.org/about/index.shtm

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What Happened to the Ag Trip? Reintroducing Field Trips in the Agricultural Curriculum

By Chad S. Davis and James H. Smith

As a professional who hesitantly left the fields of agricultural education and youth development to pursue graduate studies, I vowed to build upon my personal experiences, as well as my colleagues' experiences in the field, to enhance the opportunities for youth in agriculture education. My first job as a professional was teaching agricultural sciences at a small high school in rural west Texas. In preparation for the upcoming school year, I planned field trips to local production farms, processing and storage sites, and other support businesses. Surprisingly, the local agriculturalists expressed a concern for a recent lack of school district interest in the agricultural community. They noted that most elementary field trips were being conducted to larger towns a short distance away. Implementation of science and technology based curriculum into agricultural sciences, along with time constraints put on highly diversified FFA chapters, have hindered the interaction between the local agricultural industry and local agricultural science programs.

In order to understand our current status of secondary agricultural science programs, we must obtain a historical perspective. Youth vocational agricultural education has experienced many changes since its beginning in 1917 with the passage of the Smith-Hughes act. In the past century, the scope of agriculture has been transformed from that of the family farm to a multi-leveled industry dominated by science and technology. In order to mirror the advances in agriculture, vocational agriculture has been forced to modify the curriculum, and in many cases, restructure entire state programs.

With this needed change in curriculum and structure of agricultural science programs comes a wide range of new topics for instructors of agricultural sciences to teach. The new curriculum didn't necessarily push the original "production agriculture" topics to the side, it made available new and exciting opportunities for agricultural science teachers to expand their programs. Material is now available to attract "non-traditional agriculture students" previously trained in business and science, into the agricultural science program. A surge of new and relevant leadership development and career development events appeared to support this new era of agriculture as well.

The embracement of this new technology and the new scope of agriculture have opened new doors for vocational agriculture, as well as many facets of the industry. Because agricultural education is now focusing on the incorporation of science-based topics, such as biotechnology and food safety, many students are not learning production agriculture as students did in former years. Production agriculture is still the foundation of American agriculture. We realize that larger farmers, partnerships, and corporations are pushing out small, individual family farming practices, but that does not mean that we should ignore our local agriculture production in rural communities.

The transformation of rural agriculture has brought about change in small schools as well. Rural education is experiencing major difficulties as America becomes more and more urban. There are benefits to a rural or small school education, but these benefits come with sacrifices as well. Small schools have difficulty running as efficiently as larger schools. A majority of the financial resources are often spent on teacher and support staff salaries, limiting many opportunities for youth enrolled in rural and small schools. Facilities in these schools are often outdated, uncomfortable, and limited in technology capabilities.

Remember, the basics of production agriculture will be as relevant and timely as the advances in technology to our children. We can touch upon both aspects by simply using our community resources wisely.

As many of our agricultural science and FFA programs move into urban settings, funding is more easily secured to build on-site laboratories that can serve these urban programs in a more timely and efficient manner. The success of the "school farm" has spread to even the rural schools. An agricultural science teacher can now take the class to one convenient and central location to cover many aspects of agriculture.

For these reasons, I believe that the traditional "Ag Trip" has disappeared from our rural agricultural education courses. If time is to be spent away from the school facilities, it is usually in an urban setting touring a large processing plant, agricultural service business, or technology and machinery production unit. Agricultural science teachers now feel that the production agriculture scope of our programs can be served in the curriculum, local laboratory settings, or through supervised agricultural experience programs rather than by viewing onsite production.

Most rural communities are still hanging on to the thread of production agriculture for their survival; therefore, production agriculture tour opportunities are plentiful for rural agricultural science programs. The resource is local and available, therefore, local field trips can easily be scheduled. Because of the diversification and consolidation of production agriculture, a greater opportunity has emerged for teachers to successfully set up a worthwhile experience for their students.

The benefits of experiential learning, through SAE in agricultural sciences, have long been the highlight and strong point of our program. Field trips and other methods of visual learning are a second choice in cognitive value. We, who in earlier years had the chance to visit a working farm, can all vividly remember some aspect of those field trips. Students today are missing out on the tremendous educational benefits of participating in a field experience trip. Also, children today, even in our most rural communities, are far removed from the farm. Agricultural illiteracy does exist in small town USA. "Back to the basics" production agriculture is something everyone could use.

A benefit often overlooked is simple community relations. Expressing interest in a local community member's operation can spur greater support for your program. Put yourself in the producer's or local businessperson's shoes. It may seem awkward to them if the agricultural science program expresses no interest in the local economy. Remember, most of these individuals experienced secondary vocational agriculture a few years ago. They may not realize the change or understand the new direction of curriculum. Although many rural agriculturalists obviously see the change of the agricultural scope, they may not appreciate it because of the current effects on them.

Often times, we use our community resources for monetary solicitations only. Money is needed to insure successful programs; however, an imbalance is created when we ask these individuals for monetary assistance, but show no interest in their production farm. Because most community members of a rural community are so agriculturally inclined, assistance on career and leadership development events, guest lecturing, and simple advice are all good examples of using community resources in a rural community. The main rural community resource we suggest should be to use local producers, agriculture sales and service vendors, and processors for tours when dealing with production topics.

After experiencing the benefits of local field trips in my introductory class, I implemented them into my other classes. Certainly, students are fortunate to have scientific based resources. We can consider ourselves fortunate to have production agriculture to show our students as well.

The decline in use of "Ag Trips" is as apparent as the benefits. We must continue to not only reflect upon production agriculture, but also embrace it, especially in our rural communities and small schools. Remember, the basics of production agriculture will be as relevant and timely as the advances in technology to our children. We can touch upon both aspects by simply using our community resources wisely.

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Career Development Events: An Example of Authentic Learning

By Brandy Beekley and Linda Moody

Within the FFA, students have many opportunities to extend their classroom knowledge. One opportunity of which students can take advantage is Career Development Events (CDE). From these events, students are able to use their knowledge and gain a further understanding of the agriculture curriculum, with the extrinsic motivation of winning awards. To some students, receiving awards is the only reason to compete in a CDE. To other students, if they win they win. But why do we as agricultural education instructors promote contests in our programs?

John Dewey had a pragmatic view of education in which all students had the opportunity to participate in educational programs, were engaged experientially, were challenged to think and reflect, and interacted with a variety of environments (Smith, 2001). This contextual view of instruction promotes the use of authentic tasks in real world settings, a key principle of the modern day constructivism learning theory.

Authentic learning's foundation is steeped in the belief that meaning is created or refined from experience. Students learn best when concepts are presented in the context of the real world, and support to do so (scaffolding) is present in the form of experts who can guide, answer questions, and provide support, and teachers who provide structure and support reflection (Marra, n.d.). A authentic learning definition supported by Marra (n.d.) states that "knowledge (whether it be moral knowledge or informational knowledge) is based on consciousness, experience, and reflection." In addition to activity and concept, Brown, Collins, & Duguid, (n.d.) offer culture as a necessary third ingredient to authenticity each being interdependent on the other. They further propose that the "most effective way to learn is through cognitive apprenticeships". Therefore, "the culture of learning should match the culture of experts" (Marra, n.d.).

Recent research in the area of constructivism and subsequently authentic learning suggests that learning is enculturated in the community (Brown, Collins, & Duguid, n.d.). The way the world appears to them is determined by their community's cultural understanding of the world and the concepts. It is not possible to use a concept appropriately without first understanding the community or the culture in which it is used. Student perceptions and experiences are shaded by the community's values. Until the concepts being taught are placed in this context, meaningful learning will not take place. In order for authentic learning to be effective, students need to be actively engaged in the community or have the community actively involved in curriculum delivery. CDEs provide a venue for community curricular involvement. Community expertise has access to authentic situations and materials to extend the learning environment.

There are a variety of ways agricultural education instructors prepare their students for CDEs. Some incorporate CDE concepts into their curriculum, prepare students after, before school, and/or on the weekends, while others prefer to use class time (Beekley & Moody, 2002). Other teachers attribute 'luck' to winning contests. While the time used to prepare students will differ greatly among agricultural education programs, one thing remains the same; use your available resources!

Some teachers use their curriculum to prepare students for FFA contests. For example, if an animal science class is studying livestock evaluation, the teacher would not only cover content of local significance, but extend the content into a broader community created through a livestock selection event. By including this information into the curriculum, learning relevancy is validated, contest participation serves as an extrinsic source for learner motivation, and instructional time and effort is most efficiently utilized.

A helpful method for students who are on a block schedule is preparing for contests after school, before school or on weekends. Some students may have already completed the animal science class a previous semester, but need a quick refresher to recall the material. This plan also works well for a semesterized agriculture program, or one that rotates the years that classes are taught.

Finally, another common method is to use concentrated class time to prepare for contests. In this method, instructors allot one or two weeks of concentrated time for student preparation. The philosophy behind this method is that it requires students to learn about a subject matter they may not have any or little knowledge. In this method, students are organized into cooperative learning groups, given all of the essential material needed for the contest, and the teacher facilitates learning activities, materials and outside-of-the-classroom experiences.

Beekley & Moody (2002) found Nebraska teachers rely on a variety of resources to prepare for CDEs including old contest exams, field trips, internet sites, extension publications, textbooks, course content, members of the community, and other agricultural education teachers.

Some teachers rely heavily on FFA Alumni and community support for contest preparation. If an FFA Alumni member is an expert on dairy cattle, his/her expertise is utilized in student preparation for the dairy cattle judging contest. This authenticates the curriculum being taught by the use of the community as a resource. Community members are able to be involved with the local agriculture program and students are able to gain knowledge firsthand from an expert. This also helps the teacher learn and become more familiar with the area; increasing their professional confidence.

First year teachers can be at a disadvantage due to lack of technical knowledge, industry experience, and unfamiliarity with the community. Because of these challenges, first year teachers are encouraged to use other teachers in their district/area to provide direction and assistance. Advice or resources from experienced teachers is valuable. Other resources, such as written publications, textbooks, and internet sites can be great to have students study for supplemental material, but the most valuable information comes from fieldtrips, guest speakers, and classroom activities.

You might have heard that "no two snowflakes are alike." This statement is also true for agriculture education programs. Every secondary agricultural education teacher has his/her own special talents and expertise. A record analysis of ten years of Nebraska state agricultural education career development event results concluded that regardless of year or event, the same schools were represented in the top ten. Outside of the community and school, the common predictor for agricultural education programs was the agricultural education instructor. If the same school ranked in the top ten statewide in the Meats CDE, more than likely the teacher valued the concepts applied in the event, had an aptitude to teach the concepts through prior experience and knowledge, and possessed the confidence to tap into the community's resources.

Beekley and Moody (2002) found most teachers gain expertise from their teaching experiences. As teachers become more experienced and knowledgeable with the subject matter and community resources, they are better able to prepare their students accordingly. Some teachers also found that they gained knowledge and experience from business and industry employment. Others found that knowledge was gained from CDE in-service programs, technical coursework, and workshops. As teachers continue in the profession, they gain their knowledge from planning local and district contests, contest preparation workouts, and by participating in contests themselves.

Students gain knowledge from a variety of areas which are influenced by the agricultural education curriculum. Students gain knowledge through actual course work, SAE experiences, contests, and school workouts. A few students gain knowledge from 4-H. While all of these experiences and knowledge bases are helpful to students, teachers stated that any student can succeed in any CDE as long as he/she is willing to learn and have the proper resources available (Beekley & Moody, 2002).

In summary, FFA is only one component to the complete agriculture education program. By involving students in Career Development Events, they are able to be immersed in a variety of communities (local, district/regional, state, and national) and career related industries, while being rewarded for their efforts. The key to having your students succeed is to determine what resources are readily available in your community or area and engage your students with these business and industry representatives. If you have expertise in a subject area, teach it to the students, remembering that the success of your students will be determined by how well you understand and can apply community culture to the curriculum. Student experiences and knowledge bases are a reflection of their culture.

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Sharing Our Roots with the Community

By Michael D. Woods

On a trip up the coast of California, I learned a valuable lesson about mutual support from the majestic redwood trees thriving in that region of the country. Redwoods are inclusive beings – as they grow they incorporate into their basic structural objects around them, including rocks and other trees. Although they have shallow roots, they are noted for their strength and longevity because they share their roots with others. Each individual tree is invited into the whole and helps support the entire group. This adaptation appears to have worked, for redwoods are among the oldest living species on earth.

Much like the majestic redwood, many of today's leaders in education are coming to realize the need to link with other elements in the community in preparing our youth for productive adulthood. These leaders are ready to try new approaches that link learning activities in classrooms with a full range of learning experiences available in our communities.

The National and Community Service Act of 1990 (amended in 1993) defined service-learning as a method of teaching and learning: 1) by which young people learn and develop through active participation in thoughtfully organized service experiences that meet community needs and are coordinated with the school and community; 2) that is integrated into the academic curriculum or provides structured time for a young person to think, talk, or write about what he/she did and saw during the service activity; 3) that provides young people with opportunities to use newly acquired academic skills and knowledge in real-life situations in their own communities; and 4) that enhances what is taught in the school by extending student learning beyond the classroom and into the community and helps to foster the development of a sense of caring for others (Alliance for Service-Learning in Education Reform, 1993, p. 971).

Service-learning represents an opportunity for agricultural education programs to work with communities and young people to provide meaningful opportunities for community service combined with the academic and technical skills that employers require. For agricultural education students, it offers exposure to the world of work and community and provides a context for building academic and work readiness skills. Furthermore, it offers valuable explorations into and experiences with real world needs which can be addressed through action and initiative while further solidifying their work readiness, academic and technical skills. Moreover, service learning represents a holistic approach to youth development and the building of multiple competencies often promoted by numerous FFA activities and agricultural education initiatives.

While community-based service learning involves the philosophy outlined above, most service-learning educators agree that it is the learning strategies that are the most critical aspect of community-based service learning. At the National Conference on Service-Learning, School Reform, and Higher Education in 1994, participants agreed that:

> The focus is changing and must change from teaching to learning; from outer-directed, "expert"-driven curriculum and methodologies to more learner-centered, experience-based, connected ways of acquiring the knowledge, skills, and attitudes required for life in the world in which we now live and the rapidly changing world in which our young people will live and work (Poulsen 1994, p. 2).

Collins, Brown and Newman (1989) identified characteristics of an ideal learning environment as being: 1) content, 2) methods, 3) sequence, and 4) sociology. The building blocks provide a foundation for community-based learning. Teachers need to give serious considerations to these components.

Content involves the 1) domain knowledge such as animal science or agribusiness; 2) tricks of the trade used by experts in solving problems; 3) cognitive management strategies such as thinking and planning skills; and 4) learning strategies such as those needed in exploring a new domain. *Teaching methods* are used to help students observe, engage in, invent, or discover expert strategies in context. They include modeling, coaching, scaffolding , articulation to get students to identify the knowledge and problem-solving strategies they use, reflection to compare one's problem-solving strategies with those of experts, and exploration to solve problems and raise new questions. *Sequencing* allows learning to be staged and involves increasing complexity of tasks and concepts needed, increasing diversity of strategies or skills used, and developing an overview before attending to details. The *sociology* of learning involves reproducing the real-world environment for learning. It involves active communication with expert practitioners, intrinsic motivation for learning, cooperative learning, and competitive learning to compare the processes developed by various learners to create a product.

Frequently, a few of the above processes are used in individual community-based service learning projects but seldom—if ever—are all of them systematically used in planning and carrying out learning. However, if they were to be used by more agricultural educators, the likelihood of more positive and consistent outcomes would increase within the agricultural education curriculum and FFA programming. From this effort, we are more likely to cover the full range of knowledge, skills, behaviors, and attitudes needed to be an effective citizen, worker and lifelong learner. Conrad and Hedin (1989) suggest three major outcome areas of service learning: 1) personal growth and development; 2) intellectual development and academic learning; and 3) social growth and development. It is clear the school community has a role in promoting these learning outcomes.

With all that we know about the benefits of community-based service learning, why has it affected relatively few agricultural educators and students, rather than becoming a mainstay of America's agricultural education reform?

From an ideological perspective, many agricultural educators still maintain an older paradigm of education, in which its purpose is to impart to students the content knowledge possessed by the teacher. The teacher maintains control in directing education and students are tested to determine the extent to which they have remembered what was delivered. Under a paradigm of community-based service learning, teachers need to function more in the role of coach and mentor.

A second ideological barrier is the perception of many school and community people that the subject matter content they learned in school should serve as the driving force in what is taught today. Failing to recognize or acknowledge the importance of applying knowledge to real-world issues, they see community-based learning as drawing students' time and attention away from the traditional curriculum content.

From a practical perspective, community-based service learning requires commitment from the administration as well as from dedicated teachers. Community-based service learning requires time, effort, and expense. Orientation of both educators and community mentors is also essential.

It is necessary to spend time in creating awareness among students, parents, educators, and community members of the purposes of community-based service learning so that they don't see it as simply releasing students into the community without clear expectations of what is to occur. A final problem is the difficulty of effectively evaluating what is learned from student experiences in community-based service learning. This assessment is complicated by the fact that different students may be at the same learning site for different purposes, and that some community-based service learning outcomes are difficult to measure.

Historically, agricultural education has been naturally inclusive and in order to survive and flourish much like the majestic redwood trees, we too, need to continue sharing our roots with the community. Yet, if community-based service learning is to contribute its full potential to agricultural education, the following four changes appear needed:

- ❖ Agricultural educators need to collaborate and develop a unified message on community based learning.
- ❖ Agricultural educators need to conduct more research on contextual learning.
- ❖ Researchers need to study learning outcomes from a community-based perspective.
- ❖ Preservice and inservice training is needed to focus on the best practices for using community-based learning.

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Identification Slides? My Students Love Them!

By Chris Morgan

Describing a plant or animal is not nearly as effective as having the actual specimen for the student to view. Unfortunately, having the actual specimen is sometimes impractical, if not impossible. Using photos and slides to teach identification is an effective method to use for teaching students species of plants and animals.

My first high school teaching assignment allowed me to teach a horticulture class, which I thoroughly enjoyed. I was so excited to teach these students about the plethora of plants that existed in their front yards, and I knew they'd be excited about learning these plants too…. Or so I thought. To my chagrin, they were not nearly as enthusiastic about learning the names and photos of eighty plants as I had hoped they would be. But how could I make such useful information palatable for grades 9-12 high school students?

To make eighty identification slides of landscape plants easier to learn, I broke the pool of plants into small blocks, learning one block each week. It worked great, and the kids *enjoyed* learning to identify these plants. Here's why: *It allowed them the opportunity for success, and to realize their success immediately.* The same technique was used with equal success for wildlife identification slides. This technique can be used with any identification set, whether it is horticulture plants, range plants, livestock breeds, or wildlife animals.

Here is how I did it. I broke the plants into units of no more than 10 plants. For wildlife, up to twenty slides were used weekly.

The first day, usually Monday, we spent 20 to 30 minutes going over the slides. I presented all the names of the slides on the overhead and had the students copy the names onto their own paper. I found that having them write the names reinforced the plant or animal name in their mind. Common names were required, scientific names were provided for extra credit. I'll explain more about the extra credit later.

The slides were then presented in the order in which the names were copied and each slide was explained. In the case of plants, the habitat of the plant was given, the scientific name, how the plant is typically used in the landscape, heat/cold tolerance, mature size, etc. Similar information was provided for wildlife slides, such as mature size, unique characteristics, range, habitat requirements, etc.

It allowed them the opportunity for success, and to realize their success immediately.

After all the slides were explained, they were repeated in the reverse order from which they were originally shown, with the students stating the names in unison aloud as each slide was shown on the screen.

The next three days the slides were reviewed during the first ten minutes of class. The slides were displayed at random, and, as they were displayed, the students stated the name of each slide. The slides were reviewed three to five times in that first 10 minutes of class. By the end of the first day, 75% of the class was successfully stating the names of the slides aloud, finding that learning is fun and attainable. By the second day, 90% of the class was stating the correct names for each slide. This technique increased the students' self-esteem by giving them a high rate of success, and provided them skills they could immediately walk outside of the classroom and use!

On Friday, the test was given. No review was presented, although, if the students wanted to review the slides themselves prior to the beginning of class, they were allowed. The slides were presented at random. All ten plant slides were used, and ten slides were selected from the 15-20 wildlife slides that were used. The students wrote the common name of each slide in the left hand column of their own paper, and for extra credit the scientific name was written in the right hand column. Spelling counts! I took off one point for each word misspelled. Each correct common name was worth 10 points, and each scientific name was worth five additional points. That's a lot for extra credit, but it was a good incentive for the students to learn the scientific names, and it provides a "no-excuses" policy for passing the identification test.

These tests were a hit! The students were able to utilize the information as soon as each class ended, they could then identify plants and animals at their own home. They came in weekly with stories of how they could now tell their parents what

Morgan encourages instructors to utilize identification slides as an instructional tool. He found the slides especially useful in helping students learn plant names.

their plants were around the house, or could now identify the birds in their neighborhood. It was a great self-esteem builder for the students and the teacher. What truly amazed the students occurred at the end of the semester. After eight weeks of identification, I went back to the slides we used the first week of the semester, and began going through them. One slide after another, the entire class stated the name of each slide that was presented. They were amazed that they retained so much information, and how they could correctly identify so many slides after so many weeks. They were successful in learning the slides, but more importantly, they were pleased to find that they could learn and recite vast quantities of information in such a short amount of time.

If you have not already incorporated some form of identification into your classes, I encourage you to give it a try. If your students have a difficult time retaining the identification slides presented, try breaking up the slide presentations into smaller units that are easier for the students to learn and retain. I used some form of identification in every class where it was possible, and saw mediocre students blossom with success, and good students spouting off scientific names like a professor. Make identification a part of your curriculum and find success in your students!

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The Latest Trends in Teaching Agricultural Education.

What trends are helping shape the curriculum and how we teach and help students learn? Where are we going? How will we know when we get there?

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Lessons from a Student Teacher Laptop Program

By Julie Harlin, Tim Murphy, and Kim Dooley

In agricultural education, teachers are expected to be ever more familiar with the technologies that can be used to enhance learning and teaching. To meet this growing expectation, many teacher education programs in agricultural education are including instruction in the technological and methodological use of these instructional technologies.

In the 1997-98 school year, the Department of Agricultural Education at Texas A&M University spent nearly $75,000 to purchase 25 Pentium 133 Mhz laptop computers. Each laptop was packaged in a carrying case with a portable color printer, a scan converter, and a cordless remote mouse. These expenditures were designed to equip each of the student teachers with an instructional technology package enabling them to provide state-of-the-art educational experiences for the secondary school students in "their" classes.

These student teachers went out to their cooperating teacher sites with this new equipment. As they soon learned, having state-of-the-art technology is one thing, using it effectively to improve instruction in a secondary agriscience program is another.

With the infusion of any new technology, there is usually a "culprit" behind the scenes, acting as a change agent and a motivator. At Navasota High School, this person was a student teacher, equipped with a new laptop in her novice hands, marching into a school almost deplete of any technology.

This student teacher, Shelley Elizalde, had taken one computer course in college, but she had the drive to teach herself about computers. During her student teaching block, she spent additional time with her new equipment, discovering more advanced features of programs, such as PowerPoint. She enthusiastically accepted the challenge of teaching through technology.

Although Shelley had a laptop package provided by the University, she was initially unable to show her carefully created PowerPoint presentations because the TV monitors were not equipped with a video input. But that didn't stop Shelley. She discovered she could hook the laptop to a VCR and then connect the VCR to the antiquated TV to make it work. And once it worked, other teachers and administrators took notice. Students began to comment that lectures and note taking were not so boring and other teachers wanted to try PowerPoint presentations in their classes.

The cooperating teacher, Mr. Pierce Key, was also impressed. He felt that this project was instrumental in the further diffusion and implementation of technology at Navasota High School, and his revitalization as a teacher! Mr. Key contacted the Technology Coordinator and explained the dilemma with viewing the laptop presentations and posed a solution of purchasing scan converters for each of the agriculture classrooms. Also, the district and federal funds helped to purchase 10 desktop computers available in the classrooms and another in the agricultural department office area. Other peripherals, like networking capabilities, a laser printer, and a digital camera soon followed. Now the Agriculture Department at Navasota High School uses more technology than any other department on campus.

Technology by itself cannot improve an agriculture program, but in the hands of dedicated agriscience teachers technology can benefit students. Navasota High School is now ranked 7th in the state. The students are not merely passive recipients of computer-based presentations, but empowered users of the computers for many aspects of their learning. Students initiate their own research on the Internet for class projects and create portfolios that are digitally enhanced and accessed; teachers are sharing resources and lesson plans effortlessly; and the local newspaper receives news releases with digital pictures as e-mail attachments. The students are learning agricultural content as they are honing their communication and technology skills. This helps them to build a skill set that is more professional and marketable.

According to both Mr. Key and Ms. Elizalde, using technology in the classroom initially takes more effort on the part of the teachers and students. But once materials are created, it actually improves the quality and reduces preparation efforts. The technology has also shifted the instructor role to one of facilitator rather than information-giver. The students are using higher-order thinking and project-based learning approaches, thus increasing motivation and retention of the agricultural principles. Many of these students do not have access to computers at home and use the agriculture program computers for other course projects. And it all started with a student teacher and a laptop computer.

The administration at Navasota High School was open to the idea of increasing the use of technology in the agriscience program, and change happened there faster than in many of the cooperating teacher sites, but very positive results and impacts were reported from all the cooperating teacher sites. The laptop program has proven both popular and successful. In the 2000-2001 school year, a second round of funding, totaling about $62,500, was used to purchase 25 new Pentium III laptops.

The benefits of having access to this type of technology are immense. The expectations for the quality of curriculum materials used by the student teachers goes up a notch given that every student teacher has equal access to software and equipment. Additionally, student teachers are able to treat the equipment as their own, taking it on trips, over the weekend, or wherever they travel. The fact that each student teacher is given identical equipment allows them to rely on each other for training and technical support.

While classroom management and presentation tools, like Word for notes and letters, Excel for grading, and PowerPoint, are the most frequently used tools, communication tools are also heavily utilized as students share files and correspondence with one another and their supervising teacher via email or Internet postings. The ability to browse the WWW for up-to-date information and curriculum materials was also found to be important. The Texas Agricultural Science Curriculum includes over 40 courses. Both student teachers and secondary students prized the ability to access timely and focused information via the Internet. For many, this equipment has changed the way they work and live.

The biggest challenge facing this project is reliable and consistent Internet access. In a perfect world, all secondary classrooms would have Internet access and all student teachers and cooperating teachers would be able to access the Internet from their home and school. In reality, many secondary classrooms are simply not "wired". Even among schools having access, the differences are tremendous. Some use dial-up connections and others use school-wide dedicated networks. Some schools incur hourly charges for Internet use and others are "always on." In the perfect world, access to email could also occur at any terminal on the secondary school campus, but as we have found, many schools block access to free email accounts such as Hotmail and Yahoo as part of their network security. Others have rigidly applied firewalls that deny access to worthwhile resources in an attempt to block inappropriate materials—in effect throwing the baby out with the bathwater.

To cope with this challenge, several solutions have been discussed. The university could provide student teachers a 1-800 dial-up connection. This initially appeared to be a logical solution. However, overcoming the expense is a challenge. Though the university does provide a dial-up connection for students, students, or their cooperating programs incur long distance charges when connecting from outside the local area. Since most of our student teachers are placed outside our local calling area, alternatives must be found.

As Texas A&M student teachers enter the workforce after student teaching, they often shed a tear at the loss of the equipment that must be passed on to the next group of student teachers. However, for many of these new teachers it does not stop there. Having used the equipment for a full semester, most graduates either purchase their own equipment or work with their new employer to make similar equipment available. The diffusion of these technologies continues to spread.

When we started the laptop program, we knew that statewide agriscience programs change at a pace that can best be compared to the weathering of bedrock. Having just finished our fourth year, and distributing our second set of laptops, we can see some thin patches of topsoil spreading across the bedrock. We remain convinced that agriscience teachers will make use of technology to change the way they accomplish their learning objectives in the classroom. We believe that these technologies will take root, and that the agriscience classroom will become an environment for student-directed investigation and discovery. We know that agriscience teachers will help their students master these new technologies in the classroom, just as they always have in the mechanics laboratory and greenhouse.

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An Open Letter to Educators: Service Learning in Education

By Jim Patterson

I am excited about Service Learning (SL) and you should be, too! As agricultural professionals, we should seek out and offer the best learning experiences we can provide. Cooper (1995) urges educators to consider SL as not being a new program, rather a perspective shift on existing resources.

Integrating curricula goals with community needs is a sure way to motivate our students to excel in their SL activities, which will produce positive lasting results; even enriching results that can be integrated into other activities. For example, students who participate in SL will broaden their educational horizons by the nature of the SL activity. This experience will be useful as students enter the job market, enriching their resumes, and their academic careers. SL activities are an ideal tool for enriching personal essays, which are required for college and university admissions.

As a federal manager, I have always encouraged my employees to seek out community service projects where they can put their agricultural experience to work for a worthwhile cause, domestically or internationally.

Whether at the secondary or post-secondary level, SL needs to be on our agenda for several important reasons, as outlined by Cooper (1995): First, to allow life experiences to inform one's learning; Second, to apply academic knowledge in real-life situations; Third, to broaden one's understanding of various realities; Fourth, to encourage reflection, including the examination of one's assumptions and values; and Fifth, to recognize one's connection and responsibility to the local community and larger society.

Critics frequently charge that instructors teach by the textbook or for the classroom and that students are not qualified for "real world" experiences. SL activities, properly designed and managed, will defuse that criticism.

My own experiences with SL activities, at the university and beyond, have been personally enriching and professionally rewarding. During my undergraduate years at Auburn University, I was a member of the Poultry Science Club, which undertook a SL activity to construct and supply a broiler house for a community home for homeless children.

The construction was done over several weeks with the guidance of a poultry science professor. When completed, the poultry facility housed 10,000 broilers, which were processed and sold by the club with the proceeds benefiting the children's home. The project was a success for the poultry club and for the needy children. Club members took great pride in the activity.

In fact, this experience with broilers helped me to land a summer internship with a large commercial broiler company in California, which further enriched my career. After the internship, I made several presentations to agricultural groups on campus comparing the broiler market in California with that in the southeast.

Often times, the spirit of a SL activity will encourage participants to look for volunteer opportunities at other stages of their careers. For example, as an agricultural economist with the U.S. Department of Agriculture, I was involved in a volunteer activity that supported a federal directive for volunteerism.

In the early 1990s, the first Bush Administration encouraged government employees to volunteer in community projects. This motivated me to volunteer, during the evenings and on Saturdays, at a Washington-based food bank, which salvaged damaged food products for distribution to needy organizations and individuals.

My colleagues were impressed with my volunteer spirit and nominated me for a National Point of Light award. At the award ceremony, former Secretary of Agriculture Clayton Yeutter mentioned my volunteer work in his remarks. I might never have gotten involved in this work had it not been for my SL project at the university.

Faculty should not be wary of promoting SL projects. When done successfully it is a win for our students, a win for the client(s), and a win for agricultural educators. That is three wins, enough for everybody.

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