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DEVELOPING STUDENTS FOR CAREERS

Graduate Employability: What Employers Really Want

By Jamie Cano

One of Agricultural Education's most visible outcome is the employability skills of our graduates. Yes, as teachers of agriculture, we have spent sometimes up to four or five years developing each individual student for a career. The measurement of that development is the ultimate employment of the graduate. I would agree that this is a very "vocational" mentality, and a mentality that I do not agree with in its entirety, however it is reality. It is how success is "measured" in Career and Technical Education.

The practice within Agricultural Education has been to embed skills development within the curriculum and to prepare and promote the employability of our students to ensure career success. In fact, part of the FFA mission statement includes the words "career success."

One of the key findings from most of the research on career development, is that there is a considerable alignment between the employability skills and good student learning. Therefore, it is important to stress that much that has taken place in high school agricultural programs over the years has supported the promotion of employability and career success – and that will be a continuing feature of the Agricultural Education landscape.

It is clear that in Agricultural Education, students are offered many opportunities to develop their employability skills alongside their subject knowledge. Examples of this would be the use of oral communication skills developed through most of the FFA related events, the growing use of group and project work where team working and problem solving skills are developed, the use of learning journals and reflective work, particularly in relation to placement, and allowing students to identify personal qualities and experiences which may contribute to their understanding of what career options they want to pursue after graduation.

It is critical that teachers of agriculture, at all levels of the curriculum (middle and high school and post-secondary), provide a framework for students to attain the skills they will need to use to support their academic learning, as well as developing employability skills. Good communication skills, the ability to work with others, problem solving, integrated technology skills, and the ability to manage their own learning are equally important to academic success as they are to career success. Making it clear to students early in their academic program how and why they will need these skills is important for career success.

Strategies for career success and employability skills development within the curriculum have also been enhanced by the development and use of subject benchmark statements and program specifications. Often times we call these benchmarks competencies. Program specifications allow students to gain an overall understanding of the range of skills and knowledge they will develop throughout their academic program, and as such, they are important in providing a guiding framework for the development of the employability curriculum, as well as that for the agricultural discipline being studied.

Despite all the information provided for students, it is still true to say that students find it difficult to identify and articulate the generic or transferable skills they have developed through their academic program. Students need to hear, repeatedly, what it is intended that they learn; to understand what that means; to know ways of judging what they achieved; and to see how to improve.

Program specifications, learning outcomes, assessment, and teaching strategy information all help to make explicit to students what and how they are learning, in the employability context, as well as in their agricultural discipline. However, further reference to the skills being developed in the course of mainstream academic activities such as other classes and laboratory sessions, sends a strong message to students of the value placed on the development of the skills both in terms of their importance to success in education and career success.

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Theme: Developing Students for Careers

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Facilitating a Career Development Process In Agricultural Education

By Levon T. Esters

"So, what do you want to be when you grow up?" How many times do you think you've heard this question in your lifetime? Personally, I would estimate that it's probably been several hundred times. I'd also venture to guess that the most frequent response from most youngsters would sound something like, "I want to be a fireman…I want to be a police officer…I want to be a lawyer. Some of you might be saying, "Hey, why don't students mention being an agricultural economist, environmental lawyer, food scientist, or agriculture teacher?" Now don't get me wrong, I'm a tried and true "aggie" but because agriculture isn't taught within most public schools, the odds that 'Johnny' or 'Mary' will aspire to a career in agriculture without some type of exposure to the field of agriculture isn't very realistic.

We all know that the mission of agricultural education is to "prepare and support individuals for careers…" and that most of us do a great job of this. However, I would argue that "preparing students for careers" is not the same as "facilitating career development." Webster (1999) defines preparation as "to make ready" or "training." That said, you could say that the mission of agricultural education is to actually make students ready or to train them for careers in agriculture. Sounds noble, but is this really what we want?

Many times students do not have the necessary information or assistance to help them make decisions that would engender success in their educational and career paths (Arrington, 2000). So, perhaps a more important question should be, "What are we doing to facilitate the career development process of our students?" Career development refers to the lifelong psychological and behavioral processes as well as contextual influences shaping one's career over the lifespan (Niles & Harris-Bowlsbey, 2002).

Careers unfold and develop throughout the life course. Hughey and Hughey (1999) state that, "one goal of career development activities is to facilitate career decision-making and help students learn the process of making career decisions" (p. 209). To ignore the process of career development occurring in childhood is similar to a gardener disregarding the quality of soil in which a garden will be planted (Niles & Harris-Bowlsbey, 2002).

As theme editor of this issue on "Developing Students for Careers", I have chosen nine articles that I believe make interesting and innovative contributions to support comprehensive career development experiences in agricultural education. Articles contained in this issue of *The Magazine* focus on aspects of career development for professionals across all levels of education including middle school, high school, and higher education.

In summary, as career development becomes an increasingly important component of educational systems (Schmidli, 2001), it is my contention is that we need to make career development a priority in agricultural education and move beyond simply "preparing students for careers" and move closer to facilitating the career development process.

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Ten Steps to Career Development Education Success: Using Community Resources

By Robert A. Martin

It is frustrating when parents, community leaders and other people suggest that there is no future in agriculture. We seem to hear these comments more often from people who may not realize the depth and breadth of the agriculture enterprise. Some educators and agriculture advocates often wonder if we are doing as much as we can to promote the numerous career opportunities there are in the broad fields of agriculture.

One of the best sources of information regarding careers in agriculture may be the school community.

Career education used to be a major focus in agricultural education. Our recent emphasis on the science of agriculture, regardless of its merits, may have caused us to lose sight of the importance of career development components of agricultural education programs.

One of the best sources of information regarding careers in agriculture may be the school community. Why not use your community as a resource for career education? There might be at least one or more ideas listed here that could jumpstart your program's career development efforts. Better yet, these 10 steps might be exactly what you need to put your students on the pathway to careers in agriculture.

1. Seek advisory committee input. Get advice from your advisory committee regarding resources in the community. If you do not have one, get one.

2. Engage entrepreneurs in the community. Help students learn how to start their own businesses.

3. Confer with agri-businessmen and women. Provide an opportunity for students to discuss careers with successful businesspersons in the community.

4. Encourage career-focused supervised agricultural experiences (SAEs). Help your students explore career opportunities through their SAE programs.

5. Communicate career options with parents. Inform parents of the many career options in agriculture and how these careers are explored in the curriculum.

6. Develop a community-based agriculture career day. Provide time for representatives from every career

July - August 2006 Issue
Theme: Enhancing Diversity

This issue will look at the question of diversity in a global perspective. Why does agricultural education need to diversify its programs? Is the concept of urbanizing agricultural education programs now at the forefront of the profession? What different ways of knowing related to culture, gender, and place of residence? How does one build a sense of belonging in students?

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pathway in agriculture to present a program and display an exhibit about careers in agriculture.

7. Engage former graduates who are in agriculture careers. Bring back former students and have them speak to your students about their career experiences.

8. Use professional career counselors and search agencies in agriculture. Use professionals to explain the career opportunities to students.

9. Conduct field trips to business and industry locations. Use the community as a classroom on career education in agriculture. On-site visits provide real-life evidence of success.

10. Study career pathways of agriculture leaders. Have your students search information and interview leaders regarding their career pathways.

Teachers may ask where they are to start with a career development emphasis in their programs. How about starting with the community resources available just outside your classroom door. The local community is just the beginning. The community of agriculturalists has continued to grow and now includes far more than traditional agriculture. The variety of career pathways in agriculture allows for every interest area a student may have. Get started with career development education in your community and see where it leads you and your students.

There is a future in agriculture. Career development education will take you there.

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Ten Steps to Career Development Education Success

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Career Preparation Through Communication

By Jennifer Hoyer

All agriculture careers require communication—with customers, supervisors, clients, business partners, community leaders, or the media. During interviews, in position descriptions, and at career fairs, agricultural employers often emphasize the importance of possessing strong communication skills.

But, can these skills be developed in an agriculture classroom? Is it possible to incorporate communication without neglecting important agricultural content? Can agri-science instructors "teach" communication without developing a formal agricultural communication course? Can learning communication skills actually be fun? The answer to all these questions is, "Yes." Here's how.

First, recognize the difference between *learning to communicate* and *communicating to learn*. Students learn to communicate when they study grammar, punctuation, presentation structure, or visual design principles. Students communicate to learn when they use their communication skills to convey information to an audience, review and reflect on what they've studied, or explore new concepts.

Next, remember that practicing communication in the context of technical subject matter is helpful. This ensures relevant learning and provides opportunities for students to experience situations similar to those they may encounter in a future career.

Finally, review successful models or programs. One such example is the Iowa State University (ISU) College of Agriculture's AgComm program. This communication-across-the-curriculum program began in 1991 as a collaboration between the College of Agriculture and the English department. AgComm offers professional development workshops, a periodic newsletter, and faculty assistance for integrating communication in technical courses. Recently, AgComm served as a model for ISUComm, a similar, university-wide initiative. Learn more at www.iastate.edu/~isucomm/

To help you start incorporating communication skill development in your classes, this article provides brief descriptions of agriculture-related communication activities that can be adapted to meet your specific classroom needs. Focus on reviewing information in the current unit or previewing an upcoming topic. Activities are divided into three categories based on which primary type of communication skill—visual (Table 1), written (Table 2), or oral (Table 3)—is emphasized. Several activities can be adapted to provide electronic communication experience, and most also require students to use and practice other career-related skills such as teamwork, critical thinking, problem solving, and organization.

Can agri-science instructors "teach" communication?

Many of these activities incorporate skills that I have needed to develop as part of my career development process—first during my undergraduate internships and now as a graduate assistant. Others reflect communication proficiencies and competencies perceived as important by educators and professional communicators (Akers, Vaughn, & Haygood, 2003; Sitton, Cartmell, & Sargent, 2005), and some are adapted from suggestions shared by ISU College of Agriculture faculty and staff through AgComm workshops and newsletters.

To be successful in any career, students must develop the ability to communicate effectively through various formats to diverse audiences. There are numerous ways—beyond simply giving a speech or writing a report—to incorporate relevant, career-focused communication activities into agriculture coursework. Start today.

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Table 1
Suggested Activities for Designing Effective Visuals

Activity	Directions
Poster or flyer	Develop a poster or flyer for an upcoming event. Discuss what makes a visual layout appealing. Start by developing three small sketches, then select and create a final version.
Photos or visuals	Provide a title, caption, and labels for visuals related to the unit (e.g., photos, charts, graphs). Create a graphic from a paragraph of complex text or data.
Brochure	Create a brochure for your FFA chapter or one of its activities. Discuss when using a brochure is appropriate and when a different promotional tool might work better.
Newspaper	Design the front page layout of a newspaper for a major agriculture event (e.g., World Pork Expo). Use mainly filler text, but compose headlines and the first line of each article.
Product label	Create a label or package for a new product (e.g., seed, meat, herbicide). Make sure all required information is included (e.g. ingredients, instructions, safety precautions).
Web site	Plan and sketch two different looks for an agriculture business or FFA chapter home page. Discuss effective Web site design and how to organize information online.
Advertisement	Design a magazine ad for a product related to the current unit.

Table 2
Suggested Activities for Writing Clearly and Concisely

Activity	Directions
New product guide	Create a one-page promotional flyer for a new product (e.g. vegetable cultivar, lawn mower, fungicide). Include a written description and photos or illustrations.
Press release	Write a one-page press release about an upcoming FFA service project or FFA award winners.
Newsletter/Bulletin	Write a short (1-2 page) newsletter or Extension-type bulletin about a unit topic. Use text and visuals in a pleasing layout. Describe the target audience and purpose of the publication.
Commercial	Draft a broadcast commercial script for a product related to the current unit.
Critique	Select and analyze an article from an agriculture or popular press publication. Describe the target audience, purpose, and effectiveness of the article. What could the author have done better?
Letter or e-mail	In pairs, act as a customer and a business owner. Exchange a brief letter or e-mail about a conflict or concern. Respond appropriately.
Reflective writing	As a way of reviewing units, field trips, or activities, have students evaluate their learning by writing a short (1 paragraph to 1 page) reflection paper. Ask them to focus on how successes, setbacks, or experiences made them think or feel, rather than write about what they did or observed.
Thank you notes	Compose a note to a volunteer, guest speaker, FFA advisory board member, or classmate thanking them for their assistance with a recent project.

Table 3
Suggested Activities for Speaking and Presenting Orally

Activity	Directions
PSA	Develop a 15 or 30 second radio public service announcement for an upcoming event, such as National Pork Month or Arbor Day.
Poem or music	Summarize main points in a unit using a poem or song. Create a jingle for a commercial. Analyze the music used in commercials for agricultural products.
News broadcast	Work in teams to plan, prepare, and deliver a 2-minute agriculture related story on the television "news." Role play the anchor, reporter, and interviewee. Videotape the broadcast to review and critique.
Different audiences	Develop two short presentations about a topic in the current unit. Design one for elementary students and the other for indtustry professionals.
Town hall meeting	Select an issue related to a current or upcoming unit that is controversial or has a local connection. Assign students to represent various stakeholder groups, and have them research the needs and concerns of that group. Host a mock town hall or city council meeting where the issue will be discussed and debated and a decision will be made. Discuss how communication among the various groups occurred.
Press conference	Have small groups of students host a press conference for the rest of the class. They could introduce a new product, respond to a news event, or announce someone's candidacy for the state secretary of agriculture. Ask them to begin with a brief statement and then respond to questions from the class, who can act as reporters or audience members.
Crisis Communication	Develop a brief description of an agriculture-related "crisis" (e.g., outbreak of foodborne illness, grain elevator fire, unexpected cancellation of the local farmers' market). Have students work in groups to develop a plan for communicating with the public and the media throughout the crisis. Discuss who should be involved and what messages should be sent.

Insights for Recruiting Underrepresented Individuals into Careers in Agriculture, Food, and Natural Resources

By James C. Anderson II

I recently received an email from one of my former students at the Chicago High School for Agricultural Sciences. The email expressed her gratitude for having the opportunity to participate in a summer research internship sponsored by the college of agriculture at a land-grant university. She wrote of how excited she was about completing her senior year and beginning a new stage in her life majoring in agricultural business. What impacted me the most about this email was when Bueana, an African-American female from inner city Chicago, described her experience as "a complete spiritual and educational breakthrough." The passion in which she reflected on this internship became the catalyst for me to explore methods for increasing career selection and success within the agriculture, food, and natural resources industry for underrepresented individuals, particularly minority and urban students.

As a former high school agriculture instructor of predominately minority urban students, I have personally witnessed a trend that has become so prevalent in schools across the country. Today educators are seeing a decline in the academic motivation and achievement of their students. It has been noted that adolescents today are less respectful of authority, have a low attention span, and have more of a propensity to drop out of school (Modell & Elder, 2002). Some scholars have stated this is more intense in minority students (Rumberger, 1987) than in their majority group counterpart. This assertion is very troublesome when, according to the US Census bureau 2005 population projections, minority groups will make up 50% of the population by 2050. If this trend continues and projections are correct, then a substantial portion of the future U.S. workforce will be ill-prepared to compete in the global market, due to an inadequate education.

Having the opportunity to witness the positive impact this intervention had on Bueana's educational and career aspirations was encouraging and gives insight into what methods can possibly be successful at reversing this trend of academically disengaged students and combating the potential problem with our country's workforce, particularly as it relates to careers in agriculture, food, and natural resources.

Insight 1: Students Must Be Connected with their Educational Environment

According to Patricia Gándara, professor of education at the University of California-Davis, there is extensive evidence that underrepresented minority students, including many academically well-prepared individuals, tend to earn lower grades, on average, at historically white colleges and universities than do majority students with similar academic backgrounds (1999). Some scholars believe this is due to cultural differences between the individual and the institution. Underrepresented minorities tend to struggle to find instructors, classmates, and programs with which they feel a connection. It is believed that this lack of a connection is a major reason for a student's disengagement which leads to weaker academic performance.

Recruiting underrepresented individuals into agricultural education will be a method for addressing this lack of a connection within ethnic minorities and urban students. It is believed that an increase in the presence of minorities and individuals from urban areas into roles of leadership on the secondary and post-secondary levels will encourage an increase in enrollment of minorities and urban students.

Insight 2: Family and Community Support is the Key to Academic Achievement

A recent study conducted to determine the role of perceived barriers and relational support in the educational and vocational lives of urban high school students found that both family support and the perception of barriers were predictive of school engagement and career aspirations (Kenny, Blustein, Chaves, Grossman & Gallagher, 2003). Building on these findings, in a second study Kenny et. al. (2003) sought to extend and deepen their understanding of the educational and vocational development of urban high school students. They discovered students who perceived higher levels of support from family, as well as others within their environment, maintained more positive attitudes about the value of school and their role in the school environment. These students self-reported that they were more behaviorally and emotionally engaged and reported work as important in their lives, aspired to leadership in their field,

and expected that their future career planning would lead to success and satisfaction in their future careers.

Encouraging family and community involvement is a method for increasing academic achievement of underrepresented students. The findings indicate that adolescents' perceived support has a strong contribution to their attitude toward school and work, and helps them feel more engaged in their educational and vocational lives (Kenny et al., 2003). Students surrounded by family and community that support their decision to study agriculture, food, and natural resources will see the agricultural curriculum as relevant to future career aspirations. This support can be achieved by making family and community an active part of the learning process.

Insight 3: Students Become Active Learners When the Experience is Meaningful

During the course of Dr. Gándara's research on programs geared toward providing a support system for improving academic outcomes for underrepresented minority students, she found that few of the numerous programs have undergone extensive external evaluation and therefore few have been explicitly concerned with helping increase the number of high academic achievers (1999). However, Dr. Gándara encountered considerable evidence that, when well implemented, some student support programs help underrepresented minority students reach their academic potential, and many students achieve at high levels (1999).

Providing meaningful experiences in agriculture, food and natural resources for secondary and post secondary students that incorporate not only agriculturally related content, but strategies for academic, social, and career success is a method for increasing selection of agriculture, food, and natural resources as an area of study. These meaningful experiences should not be limited to just formal classroom instruction. Implementing experiential learning such as field trips, internships, and job shadowing will enhance the learning experience.

Insight 4: Students Will Select Careers They Believe are Most Relevant to Their Future Success

Research documents that an individual's career aspiration usually affects curriculum choice and in turn career choice (Herr & Cramer, 1996). Factors that influence career aspirations are gender, race, parental support, academic achievement, socioeconomic status, and self-esteem (Esters & Bowen, 2005). For many minorities and urban students, major factors that determine their career selection, which

Insights for Educational and Career Success

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3. Students become active learners when the experience is meaningful.
4. Students will select careers they believe are most relevant to their future success.

in turn determines their field of study is: 1) What does my family think about this career option?; 2) Are there others like me in this career?; 3) Can I be successful in this career and have room for growth?; 4) Will I make money in this career?; 5) Will I have to move from the comforts and conveniences of a life I am use to?

Focusing on careers that are relevant to ethnic minorities and urban students that also address these concerns is a method of insuring selection of and ultimately success in careers in the agriculture, food, and natural resources. Certain careers are more culturally acceptable to underrepresented individuals and their families. Although each individual has different interests and aspirations, there are some common trends in agricultural career selection. Some careers I believe will be most relevant to minority and urban students are agricultural careers in communications, education, food sciences, horticulture, veterinary medicine (small animals), engineering, and business.

In closing, I would like to leave you with a segment from a report commissioned by the College Board's National Task Force on Minority High achievement, which was given the charge to develop recommendations for increasing the number of underrepresented individuals matriculating in institutions of higher education. It states the following:

African-American, Latino, and Native American students remain extremely underrepresented among individuals who earn bachelor's, master's, doctoral, and professional degrees in the United States. They also have a limited presence at all levels of the educational system among top students as measured by such traditional indicators as grades and standardized test scores. As a result, these groups continue to have much less access to selective institutions of higher education and, subsequently, to career tracks in professions that offer promising avenues to leadership positions in many sectors.

Focuse on careers that are relevant to ethnic minorities and urban students.

Thus, until much higher percentages of students from underrepresented minority groups enjoy very high levels of educational success, it will be virtually impossible to integrate our society's institutions completely, especially at leadership levels. Without such progress, the United States also will continue to be unable to draw on the full range of talent in our population in an era in which the value of an educated citizenry has never been greater.

As we continue to discuss ways of improving agricultural education and preparing our students for success in their selected careers, it is important that we draw talent from a variety of groups within our population. We must continue to identify creative ways of assisting underrepresented individuals with developing a connection with agriculture, increasing academic involvement through family and community support, fostering a desire to become active learners, and effectively advising students with selecting relevant careers that will provide the greatest potential for future success.

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A Comprehensive Education: Making it Real!

By Michael S. Retallick

Ask any student what he or she wants to do when finished with school and inevitably during the conversation the individual will say that he or she wants a good job in a particular area of interest. Quality career opportunities just don't happen only because of a student's desire and his or her educational background. Leadership development, personal and professional development, and work experiences help to provide students with a comprehensive education. This comprehensive education better prepares them to compete in the workforce and meet their career objectives. This is especially the case when one considers the current trend of potential employers asking behavioral-based job interview questions. A comprehensive education, which includes club involvement and multiple internships, better prepares student to answer behavior-based questions because students will have an experience base from which to answer such questions.

The agricultural education profession is familiar with the Venn diagram, which has been used to articulate the comprehensiveness of secondary agricultural education programs. The same diagram can help teachers explain and students visualize the relationship and value of a complete academic experience at any level: high school, junior/community college, or university (Figure 1). The three components of a comprehensive academic experience are the academics, clubs/organizations, and work experiences/internships.

Academics

At any level, the primary goal of students is to obtain that next level of education. Students have their sights set on career opportunities that can only be obtained by earning a degree. The fulfillment of their educational goals places students on a new plateau with every other individual who has met the same goal (Figure 2). Unfortunately, having the degree in hand does not necessarily ensure that a student will obtain his or her career of choice. Graduates compete with all the other candidates who have accomplished the same level of education.

So what sets one graduate apart from another in any given career field? Research on how people learn has led the National Research Council to promote the broader community (e.g., family, clubs and organizations, business professionals and leaders) as a means of enhancing and improving learning. In addition, my experience and observation has led me to believe that student clubs and organizations as well as internships or other types of work experience are the two factors that influence potential employers the most. In reality, the degree only provides the students the *"license"* to consider a certain level of employment.

Clubs and Organizations

Active involvement in student clubs and organizations provides a tremendous opportunity for students to grow and develop academically, personally and professionally. Students get the opportunity to develop new skills as well as enhance and hone others. They are able to improve their leadership skills and learn more about group dynamics and teamwork; both skill sets highly sought by employers.

There are various levels of involvement in each organization. Stu-

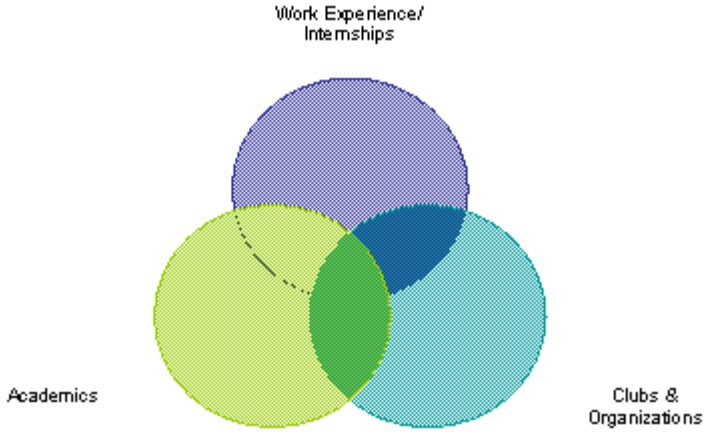

Figure 1: The Components of a Comprehensive Education

dents must be encouraged to take an *active* role in the group. They can start by serving on committees, chairing committees, and later serving as an officer on the organization's executive team.

In addition to skill development, relationship-building and networking are advantages of club involvement. It is through these experiences that students develop life-long friendships and contacts which prove to be beneficial in future years.

Internships/Work Experiences

Work experiences in a student's field of interest have a tremendous impact on career opportunities. Students have the opportunity to explore potential careers, apply what is learned in the classrooms and laboratories, further develop technical and professional skills, and network with professionals within business and industry. These experiences also allow both the employer and the student to "test drive" the relationship with no strings attached. Because most internships are for a specific term, either party can terminate the relationship at the end of the experience without any further commitment. However, in the majority of the situations, because both parties have had an excellent intern experience, many graduates receive offers of full-time employment.

Students should be encouraged to consider completing multiple internships while in school and cautioned not to complete all of their experience with one company. Initial experiences provide students the opportunity to explore various career fields of interest, which will allow them to determine early in their academic career whether a specific field is a fit for them. Additional experiences enable students to grow as individuals, be exposed to a diverse set of experiences, experience different corporate cultures, and set the stage for more advanced internships later in the student academic career.

The opportunity for further skill improvement through internships is vital. Students not only have the opportunity to make connections between the classroom and the world of work, but also are able to further develop current skills while they add to their "toolbox" of knowledge, skills, and abilities (KSAs). Skills such as problem-solving, communication (written, oral, visual, and electronic or "WOVE"), critical thinking, creativity, decision-making, teamwork, active listening, and initiative taking can all be enhanced through well-designed work experiences.

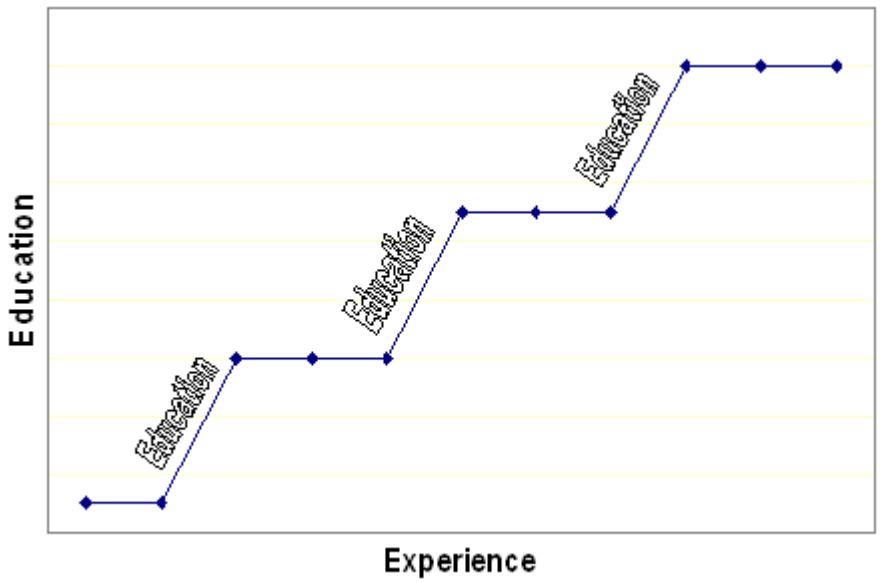

Figure 2: The Relationship Between Education and Experience

Summary

The comprehensive education model incorporates Fink's (2003) Taxonomy of Significant Learning. This model includes foundational knowledge, application, integration, human dimension, caring, and learning how to learn (Fink, 2003, p. 30). The model also provides students the opportunity to integrate theory, research, and practice as suggested by Mentkowski and Associates (2000). The experience received from each area of the model better prepares students for the world of work because the combination of activities engages students, promotes active learning, and provides a context for learning (Fink, 2003).

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Careers in Agriculture: Are There Any?

By Brian Hains &
B. Allen Talbert

This first sentence of the Agriculture Teacher's Creed struck a chord when contemplating the future careers of agricultural education students. Occupations within agriculture are currently changing at a rapid rate as is the demographic make-up of our students. No longer are most of our students from agricultural production backgrounds, whose career goals are to return to the family farm. We are now educating a high percentage of students from urban/suburban backgrounds; in addition, most of our rural students are from non-farm backgrounds (National FFA Organization, 2006).

Historically, agricultural education has provided vocational training for its students through state-designated and local-option curricula, supervised agriculture experiences (SAE), and the National FFA Organization. This model is successful for production-oriented students, but is it well-suited for the demographics and career opportunities of future agricultural education students? This question led us to examine the projected employment opportunities within agriculture over the next ten years.

What is the Career Outlook for Production Agriculture?

In 2002, the *Career Journal* identified the top 10 worst jobs of the year. Among the top four were lumberjack, fisherman, cowboy, and iron worker; while construction worker and farmer were ranked seventh and eighth respectively. In the same article a career as a biologist ranked number one as the best job of the year. We then looked at the projected careers in production agriculture and the picture is equally as grim. In their analysis of the *2002 Census of Agriculture*, Allen and Harris (2005) reported there were roughly 2 million farms and ranches in the United States continuing the rapid decrease in the number of farms seen during the past 40 years. Of these farms the average age of the primary operator was 55 with more than 1 in 4 aged 65 and older. However, only 9.1% had a plan for operator succession (under the criteria that the successor be listed as a farm operator). The average annual income was $19,032 *(excluding governmental subsidies)* (Bureau of Labor Statistics, 2005).

The Bureau of Labor Statistics (2005) projected the future demand of careers for the years 2004-2014. They projected weak demand for careers in farming and ranching as a result of the continuing consolidation of farms into fewer yet larger operations. The Bureau anticipates that the U.S. agriculture industry will continue to increase productivity primarily through use of multiple technologies. Within the next ten years projections show that careers associated with managing farming, fishing, and forestry operations will continue to decline, however labor positions within these fields will continue to increase.

What Agricultural Careers are Predicted to Grow in Demand?

So what agricultural careers will see an increase in workers needed? According to the Bureau of Labor Statistics (2005) these include positions associated with veterinary science, aquaculture, horticulture, and biotechnology. Veterinarian and veterinary technologist positions will be in demand as the number of graduates from veterinary schools can not keep up with the demand for veterinarian positions around the country. One explanation provided by the report for this increase in demand is that Americans increasingly view their pets as a member of the family, and as such they demand advanced veterinary medical care. In fact, a career as a veterinary technologist/technician is in the top ten best careers for 2004-2014.

Agricultural entrepreneurs who find a niche market to promote their products will see increasing demand (Bureau of Labor Statistics, 2005). These markets include organic foods, aquaculture and horticulture/landscaping (Bureau of Labor Statistics, 2005). The demand for organic food products was one of the fastest growing segments of U.S. agriculture during the past decade (Dimitri & Greene, 2002). With the recent increase in demand for fish and seafood many opportunities are opening up for aquaculture production. Urban, suburban, and even rural residences provide increasing markets for ornamental gardens, turf grass, landscaping, and other horticultural specialty crops.

Future careers associated with biotechnology look to be very promising (Bureau of Labor and Statistics, 2005). The report projects that biotechnological research and development will drive demand up for biological scientists and technicians. The report predicts that the areas of pharmaceuticals and agriculture will collaborate to form new career opportunities.

What Does This Mean for Agricul-

tural Education?

In our opinion, the basic trends associated with agricultural careers of the future focus highly in the areas of agriscience and technology. Among the promising careers within these areas is a profession that agriculture teachers generally overlook when providing career-related instruction. What is this profession? It is the honorable profession of agriculture teacher. An Associate Press article (Stafford, 2005) highlighted the demand for agriculture instructors and the growth of agricultural education students and programs nationwide. This is supported by the Bureau of Labor and Statistics report (2005) that stated the demand for teachers in 2004-2014 will range from good to excellent. The report highlighted the need for qualified career and technical education teachers at both the middle school and secondary school levels.

These findings create a very exciting environment for a career in agricultural education. How do agriculture teachers prepare students for a career in agricultural education? First, agriculture teachers need to remember the Ag Teacher's Creed partially quoted at the beginning of this article and project a positive attitude toward the profession.

Next, our students need to be prepared for the postsecondary education required to be an agriculture teacher. President Bush in his address to high school students in West Virginia stated ". . . The attitude has got to change from 1917. [A]s a part of the vocational training courses, there needs to be a rigorous focus on English and math and science. . . " (2004). With this political influence, many states are looking to include current agriscience coursework for science graduation credit and even college course credit. These efforts can serve to strengthen the science focus of agricultural education and could make the profession more attractive for students to consider as a career.

The agricultural education model provides agriculture teachers with several tools to emphasize agricultural education as a career. Beginning in 2006, an "agricultural education" proficiency award area will recognize students whose SAE is related to education. This can be used to encourage students interested in education to consider agricultural education as their profession. Partners in Active Learning Support (PALS) is another program that can be used to place students in situations where they become the teacher/mentor and allows them to explore teaching as a career. In addition, the new LifeKnowledge curriculum teaches skills that are important for a teacher to possess.

The Reinventing Agricultural Education for the Year 2020 (National Council for Agricultural Education, 2000) strategic plan envisions that all people will be agriculturally literate, which will require more agriculture teachers and programs than currently exist. This increase in demand will occur at the same time the baby boom generation of teachers is retiring. What a great time to actively encourage your students to consider agricultural education as a career!

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Developing the Renaissance Agriculturalist: Preparing Agricultural Students for Careers

By Chastity Warren & Antoine J. Alston

Every since the beginning of time, mankind has had a constant need to seek knowledge, and discover the unknown. During no other period was this truer than during the Renaissance period of history. The Renaissance period, meaning "rebirth", which took place in Europe from the fourteenth century to the middle of the seventeenth century, refers to a time of renewed interest in learning and the study of classical antiquity (Brooklyn College, 2000). The great minds of this time, individuals such as Leonardo da Vinci, were known as "**Renaissance Men"**, which is defined as "an outstandingly versatile, well-rounded person, who performs brilliantly in many different fields" (The New Dictionary of Cultural Literacy Online, 2002).

We have long emphasized that we prepare students not only with sound technical knowledge, but with character and leadership skills. If this is the case, then are we not preparing "**Renaissance Agriculturalists",** which could be defined as well rounded, multitalented individuals, prepared to take on leadership roles in the highly competitive global agribusiness field? What are the career areas most in demand? In today's ever changing educational environment, predicated by high stakes testing and standards, how do we prepare **"Renaissance Agriculturalists"** for agricultural careers? How can the community become interwoven in the development of the **"Renaissance Agriculturalists"?**

United States Agricultural Employment Overview

Agriculture generates about "22 million jobs in the United States, and most are located off farms (American Farm Bureau, 2003). The new agricultural job environment requires a behavior and orientation toward work that go beyond systematic task performance. It expects workers at all levels to solve problems, create ways to improve the methods they use, and engage effectively with their coworkers (Bailey, 1997). Workers who demonstrate this highly skilled, adaptive blend of technical and human relations skills are highly sought.

Agricultural Careers: What Are The Areas In Demand?

According to Goecker, Gilmore, Smith, & Smith (2004) four major factors will define the market for agricultural graduates between 2005 – 2010: consumers and their preferences, evolving business structure in the U.S. food system, new developments in science and technology, and public policy choices/food systems security. The management/business sector of the agricultural industry will encompass 46% of new jobs, followed by scientific/engineering (25%), agriculture/forestry production (16%), and education/communication/governmental services (13%). Annually their will be more than 52,000 job openings for new graduates between 2005 – 2010, with some 49,300 qualified graduates available each year.

Strategies for Developing Renaissance Agriculturalist

The National Strategic Plan and Action Agenda for Agricultural Education: Reinventing Agricultural Education for the Year 2020 stated as the millennium approaches, agricultural education will develop and implement programs to achieve a two-part mission. The mission focuses on preparing students for career success and creating lifetime awareness of the global agriculture, food, fiber, and natural resources systems.

Agricultural education teachers will have to incorporate various strategies to better prepare their students to become Renaissance Agriculturalists. Upon a careful review of the current literature concerning student success in their chosen careers, the areas of globalization, diversity, and creating gold-collar workers is prevalent. Globalization refers to the increasing integration of economies around the world, particularly through trade and financial flows (Hankin, 2005). To increase students' awareness of globalization, teachers can incorporate the following strategies into their classrooms: group discussions on how students' daily lives are impacted by globalization, guest speakers that can explain to students how their companies are being impacted by globalization, have students to keep up with the stock market to increase their understanding of stocks and the world market.

According to Hankin (2005), diversity is a direct result of globalization that our students should be aware of and prepared for. The following strategies can be incorporated to increase students' awareness of diversity: have students provide information about their race, language, and culture and provide time each week to let the

students share this information with the class. This will increase a more understanding environment for the students in the classroom when they understand each other a little better. Next, utilize guest speakers of various ethnic groups or nationalities to come into one's classroom once a month. Students will be exposed to different ethnicities and cultures by utilizing this strategy.

We have long emphasized that we prepare students not only with sound technical knowledge, but with character and leadership skills.

Today's agricultural student will have to be trained to become gold-collar workers. Roe (2001) defined the gold-collar worker as a "highly skilled multidisciplinarian who combines the mind of the white-collar worker with the hands of the blue-collar employee" (p. .32). One strategy that teachers can incorporate or maintain in the classroom includes continuing to teach and prepare students for their career development events, this allows students to develop their leadership skills, as well as their communication skills (soft skills), but still allowing them the opportunity to demonstrate their technical skills (hard skills).

Community Partnership in Developing Renaissance Agriculturalist

According to goal four of The National Strategic Plan and Action Agenda for Agricultural Education: Reinventing Agricultural Education for the Year 2020, partnerships and strategic alliances ensure a continuous presence of education in and about agriculture, food, fiber, and natural resources system. As agricultural educators we know the importance of building networks of partnership and advisory boards to ensure the success of our programs. These contacts and partnerships are strongly encouraged in implementing the aforementioned strategies to better prepare the Renaissance Agriculturalists.

Conclusion

In summary, the future career possibilities for our agricultural students are very promising. However, it is not enough for our students to only possess technical skills. In order to better compete in the 21st century workforce, our students will have to become Renaissance Agriculturalists. When our students are better prepared to understand globalization, diversity, and the benefits of being a gold-collar worker, then in essence, have we not done what we set out to do; which is to prepare students not only with sound technical knowledge, but with character and leadership skills, enabling them for employment in multiple settings.

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How Do We Teach the Future?

By Billye Foster

If I had a million dollars, would it make me happy? Ever ask yourself this? Whenever I have a lot of "windshield" time this is my favorite game—but when I play, it usually involves winning the lottery so I have more dream money to play with. I usually start out with a generous donation to church or charity (soothes my guilt complexes), then I buy all my family new vehicles and other toys; next I set up a generous dream retirement in a location of choice and ultimately end with an endowed faculty position for agricultural education. No, seriously, I do that. A position that would allow the holder to spend unlimited time, without the encumbrance of other academic responsibilities, solving questions like: *What should we teach in agricultural education? How should we prepare the next generation of teachers? What is the role of agricultural education in society?* Wow, imagine the possibilities.

Usually when I get to the part about the endowed position, I think "Why do I go to work everyday?" Most of us have ready reasons why we could use a few days off, but how many reasons do we have for remaining in the field we have chosen for our life's work? Steve Jobs, CEO of Apple Computer and Pixar Animation Studios, gave the Commencement address at Stanford University last June. In sharing his personal story, Jobs noted that the number one thing that pulled everything together for him was the fact that he *loved* what he does. David Myers, a psychology professor at Hope College in Michigan notes, "Happiness seems less a matter of getting what you want than of how you feel about what you have."

How do happiness and love tie into career preparation? I'm glad you asked! I believe that happiness is mostly a matter of choice. We make choices every day of our lives. We choose our partners, our schools, our jobs and our passions. We choose to keep our original choices or make changes along the way. In short, we choose to be happy or to be miserable—or to settle for something in-between. Complex, isn't it? So what do we do as educators to prepare our students to make the best choices for themselves?

How do happiness and love tie into career preparation?

What is Agricultural Education?

The National Council for Agricultural Education inspires us all with its basic vision statement. *"Agricultural education envisions a world where all people value and understand the vital role of agriculture, food, fiber and natural resources systems in advancing personal and global well-being."* Likewise the coordinating mission statement notes, *"Agricultural education prepares students for successful careers and a lifetime of informed choices in the global agriculture, food, fiber and natural resources systems."* At first glance, this could be quite a daunting charge, but bear with me as we uncover a few more pieces of this puzzle.

What is Society's view?

On January 4, 2006 Paul Harvey's on-line and on-the-air program, *The Voice of America*, noted the shortage of agricultural education teachers in America. I'm not sure where his figures came from, but they seemed to be in-line with information we have all seen. Harvey noted that in 2006-2007 schools projected a need of 1175 agricultural education teachers, but universities predicted a graduating contingent of only 693. He also noted that teachers often had more lucrative options available instead of teaching. He went on to note that Kansas was implementing a more vigorous recruitment campaign, attempting to recruit young people into agriculture the way they once recruited athletes. Harvey and others often tout the value of quality agricultural education. We are noted for providing strong education in leadership and life skills, as well as technical agricultural information. Interesting, is it not, that outside parties are beginning to voice concern over the future of our chosen profession?

What is the role of Career and Technology educators?

As educators in the broad spectrum of Career and Technology fields, we seem to feel our primary charge is to remain connected and on the cutting edge of our own careers—in this case, agriculture. We continually seek ways to provide our students the most relevant, up-to-date information on everything from GPS to hydroponic wonders. We bring in outstanding professionals in a variety of ag-related fields to share their stories with our students. Along with interesting part-time placement positions, we arrange for job shadowing opportunities for our students in a variety of industries. We connect academic growth with vocational understanding through research papers reflecting the many options when choosing agriculture as a career path. Why then, is there a shortage of agricultural education teachers? Why has the problem persisted over a decade, pervading the entire country? Let me tell you what I think. I think it is because we spend so much time touting everyone else's wonderful qualities, we forget to sell our own. My mother once told me, "If you aren't willing to promote yourself, no one else will." She was right. No one knows our business better than we do. Who better to recruit and prepare the next generation of educators than the current professionals?

As secondary level teachers, do you have students shadow you? Do you hire students to work in a pre-teacher role? When asked, "Should I teach?" do you encourage and mentor, or do you complain of low pay and long hours?

As teacher educators, do you have your student teachers present a lesson on "How to become an agricultural science teacher?" Do you encourage them to become ambassadors for our profession? Or, do you spend most of your time making sure they are prepared to teach the content they are assigned and maintain control of their classrooms?

Our primary charge is to remain connected and on the cutting edge of our own careers.

Finding What You Love

If you have been in this business for more than three years, I think it is a good bet that you enjoy what you do. You may even be comfortable telling others you love your work. Think back, how did you find this life's work? What are the things you love about it? I know I found this field quite by accident. I was coerced into seeking certification and applying for a position 32 years ago that I thought was an impossible effort. Since then I drifted in and out of education a few times, but I kept returning. Why? I could give you several pages of reasons I should have left the profession. I can give you one word on why I've stayed—students. I love working with students! I love seeing their eyes get that "*Oh, yeah—now I get it*!" look. The focus of my lessons and the style of my presentation have changed countless times over the years, but the thrill of that "look" has never waned. Every time I get so burned out, or have such a terrible week that I'm ready to throw in the towel, one of those "looks" brings me back. Loving what you do is a powerful motivator. I love what I do!

Bottom Line

How do we teach the future? How do we best prepare the next generation for their careers and remain true to the vision and mission of agricultural education? Simple. We introduce them to the wonders of global agriculture, food, fiber and natural resources systems. Along with that, we actually teach about the concepts of education and creating a quality career in that realm. Then we stand back and let them find the field and direction they can fall in love with. What we can do is provide them solid information on the options available and encourage them to tap into them.

If you had a million dollars, would it make you happy? Perhaps the best answer to this question is, YES, but only if you love what you do!

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Middle School Career Exploration

By Paula E. Faulkner, Annette Steward, & Connie Baggett

Middle school can be the best time to motivate students to learn. Super (1957) stated that "Adolescence is clearly, a period of exploration. It is a period in which boys and girls explore the society in which they live, the subculture into which they are about to move, the roles they may be called upon to play, and the opportunities to play roles which are congenial to their personalities, interests, and aptitudes" (p. 81).

During this time, middle school agriculture teachers should recognize and take advantage of a teachable moment. Flanders and Bell (2006) noted that, "Middle school students are at the appropriate age to learn about the important issues and vast career opportunities related to agriculture" (p. 5).

Career exploration gives students the opportunity to get an early start to learn about careers, develop an interest for agriculture, and receive guidance from teachers through related agricultural activities. Phipps and Osborne (1988) reinforced this principle by stating that "agricultural education provides career education through instructional activities related to agriculture" (p. 19). Within the agriculture education program, middle school teachers can provide students with career exploration through the agricultural education model of *Classroom and Laboratory Experiences; Supervised Agricultural Experience Program (SAEP), and the National FFA Organization (FFA).*

Before middle school students can begin to explore careers in agriculture, they need to be educated regarding the basic concepts of agriculture so they can identify areas of interest. By using classroom and laboratory experiences, middle school teachers can address the basic concepts of agriculture. Classroom and laboratory experiences provides students with "hands-on" agricultural learning activities and increase the possibility that skills learned in the classroom can be transferred to actual agricultural careers. Agricultural activities can take place inside or outside of the classroom. In a review of Piaget's work, Wadsworth (1996) states "children construct knowledge out of their exploratory actions on the environment" (p.149). Exploratory activities are valuable strategies for middle school teachers when providing an introduction and orientation to careers in agricultural and related sciences.

"Middle school students are at the appropriate age to learn about the important issues and vast career opportunities related to agriculture."

In an exploratory SAE Program, students learn about the "big picture" of agriculture and its related careers. As part of the SAE Program, students can observe someone working in agriculture, attend an agricultural career day at a university or complete hands-on projects that relate to career areas and share reactions with the agriculture teacher (National FFA Organization, 2003).

Middle school agriculture education teachers can provide students with leadership opportunities such as teamwork, character education, and career development through the FFA program. Middle school students are offered the opportunity to earn an FFA Discovery Degree, developed especially for middle school agricultural education students. In the FFA Student Handbook, one of the requirements for the FFA Discovery Degree is "knowledge of agriculture-related career, ownership and entrepreneur opportunities" (National FFA Organization, 2006, p. 92). Fulfilling this degree requirement can help youth advance through the FFA degree program as well as learn about careers in the agricultural industries.

Several states provide students the opportunity to enroll in middle school

Table 1
Georgia Middle School Agricultural Education Program

Grade Level	Courses	Time Frame	Expectations
Sixth	Introduction of Agriculture	9 to 18 weeks	Students are exposed to broad career areas and learn about the food, fiber, and environmental systems. Students are introduced to these career areas through selected lessons and hands-on activities related to those careers.
Seventh	Exploring Agriculture	9 to 18 weeks	
Eighth	Agriculture Careers Development	9 weeks to 1 year	Students receive more in-depth exploratory experiences in specific occupational fields. During the eighth grade, it is suggested that students be given the opportunity to expand their interest in agriculture by taking a course for one full year. This allows for more focused planning with the student's individual needs and career objectives.

agriculture education courses or career exploration programs through many different options. For example, some school districts may offer agricultural education or courses through career and technical education programs while others may offer general electives in a series of course rotations. Middle school agriculture education courses are offered through a curriculum that may range in length from several weeks to year long courses. The use of curriculum guides provides teachers with a roadmap for teaching courses in a developmental appropriate format and the time allocated to teach the course. For instance, we found several Department of Education websites that provide middle school agriculture education curriculum guides or standards. The Georgia Department of Education (GADOE), for example, offers agriculture education programs for students in grades six through eight. Middle school agriculture teachers are able to review courses, the time frame, and the expectations at each grade level (See Table 1).

Another state that provides courses for middle school agriculture education students is Florida. The Florida Department of Education provides agricultural education courses and standards for grades six through eight. According to the Florida Department of Education (2006), middle school ag-

riculture teachers are provided a curriculum framework that identifies program titles, length of time, course standards, and occupational areas to be taught. However, local school districts have the option of deciding the length and number of agriculture education courses to teach. Florida provides curriculum frameworks for three courses at the middle school level: Introduction to Agriscience, Orientation to Agriscience, and Exploration of Agriscience.

For those states mentioned, a common theme in the curriculum is career exploration. Middle school agriculture teachers are uniquely positioned to teach career exploration and skill development with the use of various learning activities, especially those that promote active learning.

Delaware offers middle school programming in agricultural education. The Delaware Department of Education (2006) provides middle school agriculture students the opportunity to explore careers while enrolled in "Exploring Agriscience Careers." Delaware has specific content and standards to be used. While every middle school in the state may not offer agricultural education, those that do, provide students the opportunity to enroll in a rotation program with other career and technical education areas. Additionally, some schools offer agricultural education as elective courses for eighth graders. For example, Delaware middle school agricultural education suggests the following career exploration activities: listing and describing categories or agriscience careers; using newspapers to identify agriscience careers; conducting in-class job interviews and preparing career profiles; discussing global needs in agriscience technology; discussing how agriscience occupations have changed in the last 100 years; and preparing plant or plant products for processing or retail sale (Delaware Department of Education, 2006).

> Children construct knowledge out of their exploratory actions.

In conclusion, the opportunity to provide career exploration during middle school agricultural education is beneficial for teachers, students, and parents. Students can get an early start to learn about careers in agriculture, as well as the importance of agriculture. Flanders and Bell (2005) stated, "In many instances, middle school students will enter a high school that does not have agriculture [agriculture education programs]. If middle school agriculture programs accomplish their purpose, students benefit whether or not they have a high school agriculture program in which to continue their study" (p.24). Thus, middle school agriculture teachers can help inform students and provide them the opportunity to explore careers in agriculture.

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Cultivating Career Development Experiences

By Rachel McCulloh

Now more than ever, educators are infusing career development experiences across all levels of education. This is primarily because most individuals lack the essential elements necessary to make the right career decision (Herr et al., 2004). Further, given that the workplace and the requirements for success in the workplace are changing, it is important that students become well prepared for the transitions they will make throughout their career (Hughey & Hughey, 1999). Hence, it is important that career development activities become a priority for schools in order to effectively prepare all students regardless of the educational level or career path they intend to pursue. By facilitating a student's career development, educators can help students learn more about their interests, values, aptitudes, and abilities.

Iowa State University has taken a step in helping to facilitate the career development process by creating Science With Practice (SWP). SWP is an education and work experience program linking learning opportunities and work experiences in selected research programs at various venues in the College of Agriculture (Retallick, Steiner, & Stull, 2005). Specifically, SWP is geared toward developing students' knowledge of the scientific process, while connecting it with coursework, potential opportunity for graduate education, and future careers. The learning outcomes of SWP include: 1) acquiring technical agriculture skills, 2) developing organizational and planning skills related to research and other experiences, 3) better understanding research and link it to higher level courses, and 4) developing an understanding of the linkages between science/research and practical, real-world situations/problems. Additionally, SWP provides students with the opportunity to develop interest in research as well as exposure to the a variety of employment opportunities in agriculture

While earning course credit, students have the opportunity to work closely with a mentor in their field of interest. Students are paired with a mentor to enhance their undergraduate learning experience by meeting five primary requirements: 1) participation and communication, 2) journaling of activities, 3) final report and reflection on their experience, 4) formal presentation, and 5) comprehensive portfolio (Retallick, Steiner, & Stull, 2005). A major aspect of SWP is the establishment of a learning agreement between the student and mentor outlining the purpose statement, goals, and expectations of the experience.

SWP is an example of an experientially-based program which helps promote a variety of career development experiences. In many respects, SWP can be considered a postsecondary SAE project. Similarly, by designing simple learning experiences, agriculture teachers can encourage students to recognize the value of career development while also gaining confidence in their abilities as they transition from school to the world of work. In particular, Supervised Agricultural Experience projects (SAE) provide opportunities for agriculture teachers to incorporate comprehensive career development experiences into the curriculum. Because SAE projects, by nature, are designed to encourage hands-on experiences and build knowledge of various career opportunities in agriculture, they present the perfect opportunity facilitate a student's career development. After reflecting on my SWP experience, I discovered three areas that agriculture teachers can use to help facilitate their students' career development, these include: 1) promoting student goal setting, 2) capitalizing on student's interests, and 3) encouraging reflective thinking. These three areas were extremely valuable to my SWP learning experience and can be applied in a similar fashion for students enrolled in secondary agricultural education programs.

Promote Student Goal Setting

On the first day of class most students are given a syllabus outlining the instructor's goals and intentions for the semester. But how often in an educational setting do students get the opportunity to establish their own learning goals? A major aspect of SWP is the development of a plan of action by the student with the assistance of the faculty mentor which allows students to learn about research and related practices. The plan of action includes a purpose and clearly articulated goals that will guide the students experience throughout the semester while he/she completes a series of learning and work experiences that contribute to the faculty members' research program. I learned that developing a plan of action with attainable goals and specific expectations helped me to focus my time and attention on the learning experience that I was involved in. Agriculture students can be challenged by their SAE if goal setting is recognized and integrated into the project. In addition, the responsibility of establishing clearly articulated goals can teach students to recognize that there is an expected level of accountability associ-

ated with learning.

Finally, as the student's instructor, it is important that you also recognize the value in setting goals. I found it very beneficial when my mentor asked three important questions: 1) Can the goals be accomplished with the intended expectations? 2) Are the goals in the best interest of the student or are they focused on just "getting the work done?" and, 3) Will the learning experience be beneficial to the student and to their career development? A good approach to helping your students set and achieve their goals is to encourage them to start out with short term goals that are attainable and then gradually work toward developing longer term goals related to their career interests.

Capitalize on Student's Interests

Students are often told to identify an area of study they enjoy and then work towards a obtaining a "career" in that particular area of interest. Even more, we as educators are often faced with the decision to teach particular courses while at the same time ignoring the interests of our students. However, if one of the educational goals our programs are to provide quality career development experiences, the students' interest should be the primary focus. The type of SAE project chosen should be of interest to the student…not the instructor. Making sure that the students' interests serve as the primary motivation in choosing an SAE project will better allow for optimal career development. For example, encouraging students to participate in an SAE placement project based in their area of interest is a great opportunity of getting students to engage in a real-life work setting. Additionally, placement SAE's provide opportunities for students to learn about themselves, to learn about the world of work, to learn to make and implement career decision, and to develop and implement action plans based on the decisions made (Hughey & Hughey, 1999).

Encourage Reflective Thinking

Students are often presented with the opportunity to increase their understanding of a subject by reflecting on their abilities and discovering ways to enhance them. An important aspect of the career maturation process for students depends on their ability to integrate reflective thinking into their learning and work experiences. The SWP program directors assigned weekly reflective (journal) writing assignments. I focused my writing on what was accomplished during the previous week, but more importantly, how I felt about the accomplishments and struggles of each day's work. I had to discuss the dynamics of the working relationship that I was developing with my mentor and my thoughts on how he was guiding my learning experience. I also took the time to reflect on my learning agreement (i.e., Was I working towards my goals and accomplishing my expectations?)

The reflective (journal) entries were invaluable and helped me to better understand the impact of the SWP learning experience on my career goals. As agriculture teachers, you can facilitate a reflective experience with your students by having them record their thoughts and ideas about their SAE work experience and how it relates to their career goals. Encourage your students to discuss the changes and transitions they experience while developing various career life skills. The reflection component can be extremely useful to your students as they submit award applications and talk to others about their learning experience.

Conclusion

Learning by doing is a hallmark educational philosophy embedded within the fabric of agricultural education. Developing a comprehensive SAE project can effectively shape the career development needs of all students. This is critical considering that students must be encouraged to discover both a personal and a [career] identity that can subsequently be related to the world of work (Herr, Cramer, & Niles, 2004). Challenge your students to develop their career life skills by engaging them in personal goal setting, capitalizing on their interests, and encouraging reflective thinking to help them connect with their learning.

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ReSolutions for Action: Preparing Students for Careers

By Christa D. Dal Molin

The mission of agricultural education is to "prepare and support individuals for careers, build awareness and develop leadership for the food, fiber, and natural resource systems." Agricultural educators must use many different approaches and methods in order to successfully prepare students for careers.

It is the goal of *ReSolutions for Action* (RFA) to highlight current research in agricultural education and inform action. Brief summaries are shared in hopes of informing people about new ways of fulfilling the mission of agricultural education by preparing and supporting individuals for careers in agriculture.

RFA #1: Reinvent Career Education and How it is Marketed in Local Programs

Because of misconceptions, agriculture teachers need to find ways of showing students the breadth of the agricultural industry. This can be done in many ways. Conroy (2000) found that "the challenge (to agriculture teachers) then becomes one of 'reinventing' the agricultural education program at the local level and how it is marketed to provide useful and valuable career path information for students." Conroy concluded that the agriculture industry can be explained to students as being composed of six major career areas: production, manufacturing and processing, marketing and distribution, retail/food service, other sales and service, and public education. Agriculture teachers can use these areas as a guide for teaching agricultural careers and 'reinventing' the way that careers are marketed to students. In addition to the six areas there are also technical and administrative support positions as well as areas like conservation, environmental science, sustainable agriculture, and natural resources on which the entire industry depends. As agricultural educators, we can modify our way of marketing agricultural careers to students in order to increase their interest in agricultural careers.

RFA #2: Begin Career Education with Middle School Students

Teaching agriculture to middle school students is an excellent way to increase awareness of agricultural careers. Regardless of whether there is a middle school program in your area, middle school students should be introduced to the breadth of agriculture. The adolescent years serve as a time for students to explore many aspects of life and future career opportunities.

Fritz and Moody (1997) found that exposure to career opportunities in agriculture is one of the major opportunities associated with middle school programs. Providing early introduction to careers during the adolescent years allows for more career exploration. One of the strong points Fritz and Moody make is that even if students do not pursue careers in agriculture, they will have a working knowledge of the important role of agriculture in our society as the future policy and decision makers of the nation.

RFA #3: Educate Educators and Parents About Agriculture

Guidance counselors, teachers and parents are excellent resource people to aid agricultural educators in promoting agricultural careers. According to an article written by Heather Sweeney of the Cornell Cooperative Extension service, "agriculture educators …need to increase guidance counselor familiarity and support for agriculture." (Sweeney, 2002). In another study, Osborne and Dyer (2000) suggest that agricultural educators should increase their efforts to inform parents and others about the career opportunities in agriculture.

Take Home Message

Preparing students for careers in agriculture is such a major component of agricultural education that it guides the Agricultural Education mission statement. Career Development Events, SAE's, internships and utilizing the community are excellent means of teaching our students about careers and developing qualities in students that they need in order for them to be productive citizens and employees.

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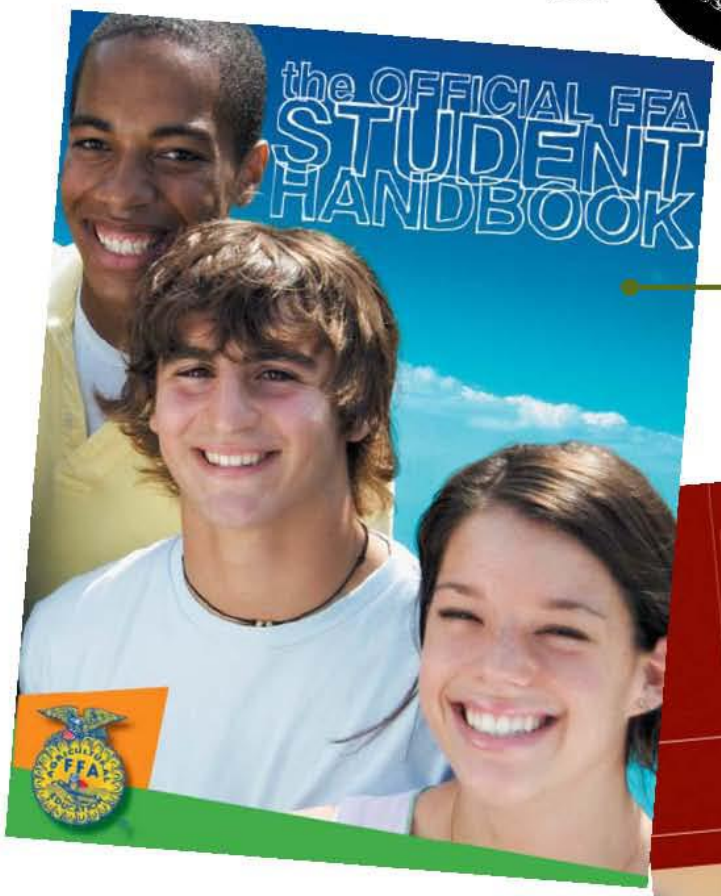

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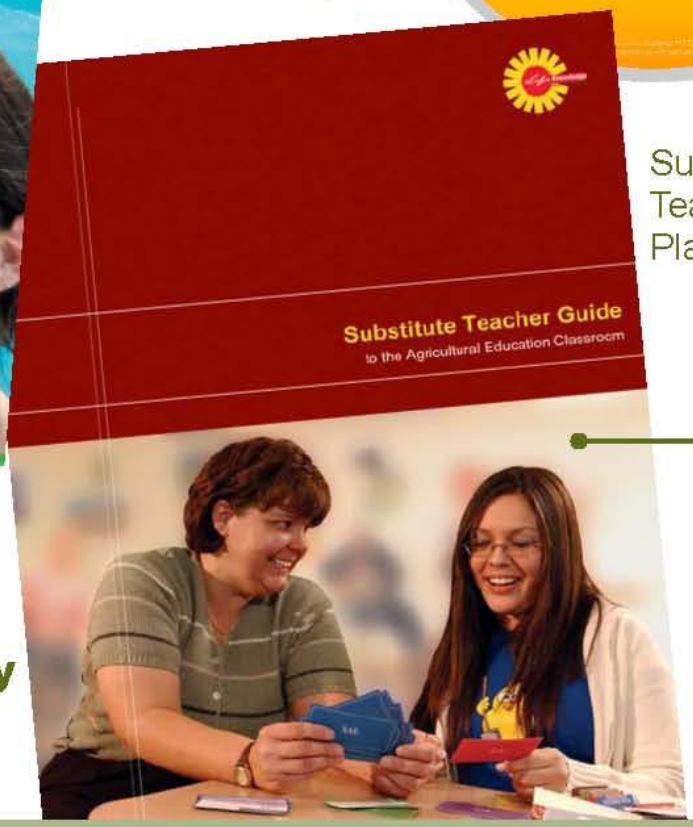

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