

The

Agricultural Education

July, 1987
Volume 60
Number 1

Magazine



**THEME: Coping With
Declining Enrollments**

THE AGRICULTURAL EDUCATION MAGAZINE



July, 1987

Volume 60

Number 1

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Articles and photographs should be submitted to the Editor, Regional Editors, or Special Editors. Items to be considered for publication should be submitted at least 90 days prior to the date of issue intended for the article or photograph. All submissions will be acknowledged by the Editor. No items are returned unless accompanied by a written request. Articles should be typed, double-spaced, and include information about the author(s). Two copies of articles should be submitted. A recent photograph should accompany an article unless one is on file with the Editor.

PUBLICATION INFORMATION

THE AGRICULTURAL EDUCATION MAGAZINE (ISSN 7324677) is the monthly professional journal of agricultural education. The journal is published by THE AGRICULTURAL EDUCATION MAGAZINE, INC., and is printed at M & D Printing Co., 616 Second Street, Henry, IL 61537.

Second-class postage paid at Mechanicsville, VA 23111; additional entry at Henry, IL 61537.

POSTMASTERS: Send Form 3579 to Glenn A. Anderson, Business Manager, 1803 Rural Point Road, Mechanicsville, Virginia 23111.

SUBSCRIPTIONS

Subscription prices for THE AGRICULTURAL EDUCATION MAGAZINE are \$7 per year. Foreign subscriptions are \$10 (U.S. Currency) per year for surface mail, and \$20 (U.S. Currency) airmail (except Canada). Student subscriptions in groups (one address) are \$4 for eight issues. Single copies and back issues less than ten years old are available at \$1 each. All back issues are available on microfilm from Xerox University Microfilms, 300 North Zeeb Road, Ann Arbor, MI 48106. In submitting subscriptions, designate new or renewal and address including ZIP code. Send all subscriptions and requests for hardcopy back issues to the Business Manager: Glenn A. Anderson, Business Manager, 1803 Rural Point Road, Mechanicsville, VA 23111. Publication No. 7324677.

Preparing Future Professionals For Agriculture

This issue examines a problem analogous to a bodily part becoming inactive, thus unresponsive to commands dictated by the body as a whole. Nature's way is to simply cast that part from the body when it ceases to function. The part can be quickly severed by amputation or left to a slow but certain death, usually by the decay route. No matter which option is chosen, the result is the same. The part is lost!

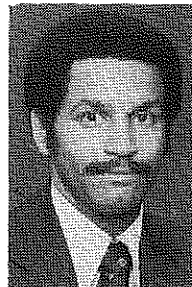
This analogy holds for instructional programs in agriculture because many are withering on the vine and dying a slow death. On all levels (secondary, post-secondary, and university), declining enrollment is the theme being echoed across the land. Recent media attention on the subject focused primarily on problems confronting secondary vocational agriculture programs. That appears to be only the tip of the iceberg.

Concerns of the same magnitude must be posed about students who are not enrolling in undergraduate instructional programs in agriculture and natural resources. Steadily declining enrollments in colleges of agriculture and departments of agricultural education are scary. Does agriculture need future generations of professionals? You bet it does! An article by Jane Coulter in the NACTA JOURNAL (September, 1985, 19-22) discusses potential careers, the shortage of professionals, and recruitment strategies that should be attempted.

Coulter cautions agriculturalists to look beyond the routine excuses of birth rates and a reduced pool of college-age students as possible explanations for the problem. She indicates that U.S. college enrollments for all majors did NOT decline until 1983, but enrollments in colleges of agriculture were declining long before that year. Data shown in Table 1 support her contention. Enrollments in colleges of agriculture at National Association of State Universities and Land Grant Colleges (NASULGC) dropped from 98,000 in 1978 to almost 75,000 in 1985. Interestingly, the number of graduate students enrolled during this period remained relatively constant at around 20,000 students.

Table 1
Students Enrolled in Colleges of Agriculture at 74 National Association of State Universities and Land Grant Colleges (NASULGC) from 1978-85.

Year	Undergraduates		Graduate Students		All Students
	Number	%	Number	%	
1978	98,030	82.4	20,984	17.6	119,014
1979	97,177	82.0	21,267	18.0	118,444
1980	92,833	82.1	20,262	17.9	113,095
1981	91,945	80.0	23,038	20.0	114,983
1982	86,710	79.4	22,537	20.6	109,247
1983	78,945	77.6	22,791	22.4	101,736
1984	77,711	77.7	22,307	22.3	100,018
1985	74,814	77.5	21,697	22.5	96,511



BY BLANNIE E. BOWEN, EDITOR

(Dr. Bowen is an Associate Professor in the Department of Agricultural Education at the Ohio State University.)

The NACTA JOURNAL (1986, March) noted that females comprised from 36-39% of the undergraduates and 25-30% of the graduate students in agriculture and natural resources at NASULGC institutions during the 1979-1985 period. Minority students comprised 3-5% of the undergraduates and 5-9% of the graduate students during the same period.

Fortunately for college of agriculture faculty, processes and procedures followed in academia take the slow death route. It is an exceedingly slow process to eliminate instructional programs, academic departments, and yes, faculty. Even though amputations rarely occur where academic programs are seemingly closed overnight, there is ample room for colleges of agriculture to be concerned about whether they will exist in the next decade.

Thus competitive instructional programs must be designed to attract today's students. But, before attempting to market these academic marvels, agricultural educators and all college of agriculture faculty should critically look at their curricula and honestly answer the question: Would I want my daughter, son, brother, sister, or another close relative to enroll in my department or college as a means of preparing for the 21st Century? An affirmative answer probably means a program does not and will not have an enrollment problem. Conversely, a negative reply necessitates a thorough curriculum overhaul.

Authors writing in this issue describe instructional programs with a future. Such contemporary programs deserve and will have a place in America's educational delivery system. Wayne Nattress, a supervisor from Iowa, served as the theme editor and solicited writers to share their thoughts about handling issues related to declining enrollment in agricultural education.

About the Cover

Displays and other visuals that tell the story of agriculture and FFA must be of high quality and tell the true story of American agriculture as well as our programs. (Photo courtesy of Ronald Crawford, Program Supervisor, Olympia, Washington).

A Vision of Challenge

Visions of challenge face agricultural education. The 1970s were years of optimism, growth, and not worrying about how to cope with declining enrollments. I started teaching when the Iowa vocational agriculture/FFA enrollment finally swung back to the level of the mid 50s. The days of the Vocational Agriculture/FFA challenge had passed and technology and agricultural commodity prices were on the move. My student enrollment was about 50 students and fewer than 10% of the students were living in town.

The community was very agriculturally oriented and practically all students earned extra money working for the farm community. How sweet it was! Production agriculture was the foundation of the program. All I had to do was to teach production techniques and how to keep records. If a student needed an SOE project, a few lambs on the edge of town was the solution. Agricultural placement was never a problem. There was hay to bale, beans to walk, and barns to clean.

One or two girls in the program indicated non-sexist success. They usually were farm girls and this presented no problem since many wanted to marry a farmer and work with him on his family farm after high school graduation. Then the gentle rumble began.

A Change Occurred

"I want to be a veterinarian," "I want to own my own farm," "I want to sell livestock supplies," and yes, even "I want to be a florist." This was okay with me but we still needed to teach production agriculture. My second year I decided to teach some horticulture as another course. I had an interest in trees and shrubs and my father-in-law had a small greenhouse in Des Moines. I knew I would be able to get a few plants from him to make the class interesting enough to survive the semester. As the summer progressed, I found my enrollment starting to change a little — from majority rural to a growing minority from town and small acreages. I felt another rumble. I turned my attention to a horticulture one-day seminar and ordered a few extra books on vegetables and house plants.

That fall I had 12 more students in my program. The roar began and students seemed to spring up overnight. At the end of my fifth year at Earlham, I had 84 students in the Agriculture and Horticulture classes. The FFA was becoming more and more involved in community, state, and national activities. What caused this eruption? Was it luck? Timing? My dry humor? Today I can look back on those days and see some of the secrets to what I considered a success.

My Success Story

Total student involvement in classes, home visits, 100% FFA membership, involvement of school and community,



By THOMAS P. CORY

(Mr. Cory is a Vocational Agriculture Instructor at North Polk Community School, Alleman, Iowa 50007.)

and goal setting for a lot of little successes are crucial. One activity that helped enrollment increase was getting two individuals to exhibit at the American Royal Livestock Show during the National FFA Convention, thereby causing two other adults to help chaperone and keep the agenda full each day at the Convention to keep chapter members tired, but always remembering the hustle and bustle of the convention.

But, maybe it was the spring that class members built a 12' x 24' poly greenhouse in the shop using the large south windows for light and a house fan to draw air through the house. Now that I really think about it, I am sure it was the nature center we started and the fruit budding that took place that summer getting more parents and the local garden club involved. Another large roar! What about working with local sheep producers and getting three town students involved in a ewe chain and having facilities on the edge of town?

Remember how Joe did absolutely nothing in school, but got up every third night at 1:00 a.m. to check the ewes? Dennis lived in town, had three lambs, and like judging animals. He had never judged anything except cars before high school. I gave him two books on livestock judging and asked him to study them for a contest the following week. He placed in the top 10 that day and another roar vibrated me. He was on his way and the next year he finally won top individual judge in an area contest.

God bless the Ike Gomez Family. Ike's family consisted of 19 children. My first home visit was to see Tim's projects and visit Ike. He was a no non-sense type to all strangers. As I recall, he was doing chores and the lot was very muddy. All I had on was a pair of western boots. You guessed it, I never looked down as I headed toward him. I told him who I was and visited about his horses and sheep since he and I both raised them. From that day forward, the Gomez's always tried to get their children to FFA and agricultural activities.

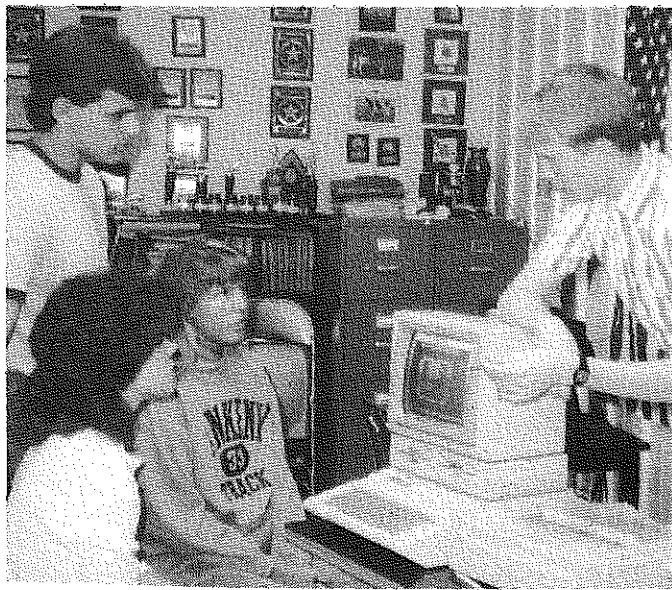
Looking back on those first five years, I always expected responsibility to be handled by the students and tried to reward them by awards or publicly in the local newspaper.

I pushed them hard — very hard — for I loved competition and felt second place could become number one by a little more effort. I worked closely with the school staff and administration. In 1974 I was involved in a car accident. Several people came to my aid in chaperoning summer events. My dear friend, Wilbur Frederick, trained our horticulture team and took the team to the competition, placing sixth. To this day, Wilbur and I joke about how the interim coach did such a fantastic job. The roar erupted into a young volcano spilling out enthusiasm and responsibility to all young people in his program.

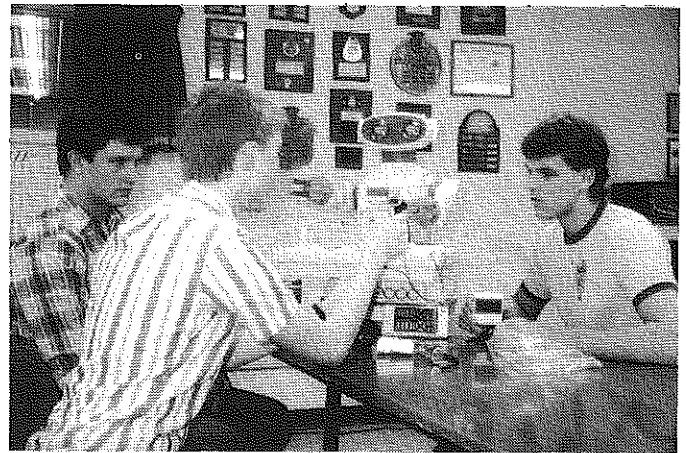
I had spent a summer overseas after high school graduation and believed in the growth that took place in me as well as others. One of my students, Wilda Loomis, applied for Austria; another, Dave Morford, went to Germany. The maturing that took place made me even more certain that you need to provide information on FFA programs to all students before the roar can even purr much less erupt into success. I had no crystal ball or vision as to what would happen next, but I felt an urge to return to the home area as did my wife, Lorrie. In the spring of 1975, a school district near my home community decided to start a vocational agriculture-horticulture program.

Building a New Program

Twenty-one people were on the original council to organize the program and all attended the meetings. I knew this program was for me. I applied and received a contract after an interview. Earlham had taught me so much in a short five years. Now I felt ready to build a program from scratch. My first summer was spent ordering textbooks and supplies and making new contacts as well as renewing old friendships. The teachers' lounge was my office because I had no facility to call my own. I was to share the new industrial arts building that was to be built by fall. I attended the 4-H Fair (not 4-H/FFA then) and prepared for the first day when I was to meet 94 students who had signed up for my courses.



Students are taught to use microcomputers for a variety of classroom, supervised occupational experiences, and FFA activities. (Photo courtesy of the author.)



Senior students set sensors as they learn more about robotic controls and capabilities. A seven alarm system is also set to allow five minutes at the end of each class hour for student work. (Photo courtesy of the author.)

On the teacher inservice day, I explained my program and how I wanted to share in making students successful. Then came the first day! I decided to start with quality not quantity. The roar that first day came from me. My enrollment dropped to 45 after two weeks. I was asked to attend the board meeting. Bev Long, a board member, asked me several questions. "You have lost many students recently, correct?" "Yes." "You evidently have very high standards for students don't you?" "Yes." "Great, never lower them!" The first 11 weeks I had six different classrooms in the school. I knew we would survive. Within two months, the chapter was asked to rent 35 acres. Two farmers asked to help get the first crop in the ground. The horticulture class had a make-shift greenhouse with florescent lights in the lumber storage rooms. Shop classes of Agriculture and Industrial Arts were held during the same hour part of the day. The first year was a growing time, but a solid foundation was laid with a handful of dedicated students.

SOE projects were started, books filled-out, and home visits made to students as well as adults in the community. The county fair board voted to allow FFA members to exhibit at the county fair. Adult meetings were arranged by me and the advisory council. The roar of the volcano seemed to start a transformation into a well oiled machine. For the first time in years, I was able to see a vision of challenges that could propel me into new areas. I could see more students because I worked their thoughts in the 8th grade exploratory class using current students and offering more than cows, plows, and sows. I eventually changed my routine to a 2-3 days per area that I introduced them to in class.

Wayne Nattress, this month's theme editor, had taught at Buffalo Center and used a shotgun approach for 8th graders. This technique has worked well with me for several years. I took many areas in the Agriculture-Agricultural Business-Horticulture classes such as livestock, soils, plants, parliamentary procedure, concrete, woods, history of U.S. agriculture, and careers and taught just enough to make them hungry for more information. I teach six 6-week sections to all 8th grade students on a rotational basis with about 12 students each session. This is where your foundation is usually laid. Mess up and you lose!

(Continued on page 6)

A Vision of Challenge

(Continued from page 5)

You Can Succeed!

The high school program — is it declining? No! Since 1975 when I had 45 students, I have had a very slow but steady growth to 85 students in high school and 12 each six weeks in junior high. There are 265 students in our 9th-12th grades. Approximately 32% of the student body are exposed to my curriculum. Sixty-one percent of my students live on small acreages or in town; 36.5% are girls. Why has my program not gone the way of Iowa vocational agriculture enrollment and FFA membership the past eight years?

Visions of Challenges!

I felt another rumble underfoot several years ago. It scared me and made me work even harder at selling my program. I offered new areas in my curriculum and challenged students more than ever. This rumble was not familiar nor did it sound friendly. I felt I had to prepare as if a storm was approaching. I encouraged livestock projects, gardens, jobs, trapping, small game, and horticulture employment. Responsibility was thrust upon members. Proficiency awards were filled out by at least 10 members each year, advanced degrees were pursued, and FFA leadership activities were attended. Approximately 30 members per year participate in speaking contests and another 18-25 are involved in state judging contests. Many are trained by alumni members in the community.

An FFA alumni was chartered in 1983. This has been one of my best support groups in the community. This group has helped relieve some of the pressures of training teams while encouraging community input and involvement. My administration helps train many speaking contestants, thus enabling students to see a new side to administrators. Our high school principal, Chuck Knight, formerly taught distributive education and is invaluable in training Agricultural Sales and Job Interview contestants.

Another program thrust came in 1980 when the advisory council spearheaded a fund drive to build a 42' × 84' shop building for the vocational agriculture department. In three months, \$35,000 was raised. In six months, the advisory council donated the completed facility to the school board. Many FFA members helped financially and provided labor to complete the facility — one more vision completed!

A livestock lot facility was started in 1983 with completion of phase one last summer. Several more areas will be added. When the last is completed, we hope to have a small apiary, a broiler area, a stall horse barn, a few ewes, and even rabbits to help tie-in animal science in the classroom to hands-on in the lab.

What about horticulture? A 20' × 40' house was built in 1977 and then another 20' × 40' added in 1979 to make a 20' × 80' lean-to that generates about \$4,000 in sales to the community each year. One member of the community purchases 500 pine seedlings each year to give to elementary students for Arbor Day. A nature center has been started with pine trees, shrubs, and deciduous trees planted each year. Grape cuttings were added in 1986 and 100 dwarf apple root stock also added. Horticulture students learn how to prune trees, service lawn mowers, and even pour slip for ceramic pots and operate a kiln. I have taken several courses the past few years in areas in which I had limited knowledge. They helped me fine tune many of my teaching techniques to enable me to "run" with my students instead of lagging behind.

A Vision For the Future

Where are we now that the 1980s are nearly gone? We must prepare for the 90s with all our energy and enthusiasm. Animal science is important, but we must add nutrition, genetics, and embryo transplants as well as diet information about meats. For example, we must promote the new "white meat" as well as lean light lamb and the other meat groups to all industries. Teach crops but learn about seed corn production, growing degree days, groundwater, erosion, ridge till, and other areas of crop rotation. Agricultural mechanics — wiring, plumbing, plastic cement for brick laying, machines, tool usage, etc. — must be taught for the weekend do-it-yourselfer.

Agricultural management — computers, spreadsheets, data bases, ratios, percentage return on investment and many other financial decisions to be made, futures contracts, forward pricing and finding real life situations — must be taught for students to practice the knowledge. Hydroponics, space labs, satellite teaching, sharing ideas with other departments, and other ideas must be introduced. In the past three years, I have visited over 19 departments in six states to gain new insight on teaching methods and instructor creativity. I have taken much more than I have given, but that was my intent. People love to talk about their programs. I like to listen and incorporate some of their techniques. I am not just one instructor, but a combination of 17 years and ideas from over 80 departments.

The 1990s will be an age of competitiveness and as a vocational agriculture instructor, I hope to meet the challenge by using my vision to successfully teach and train the future leaders of my community, state, and nation. My bonus pay is when another student is able to teach me ideas about the new areas that lie before us. "Visions of Challenge" will face us in different ways — how you see the challenges will determine your effectiveness in the classroom.

Coming in August:

Agricultural Opportunities for Rural Nonfarm Students

Coping With Declining Enrollment

During the 1970s, vocational agriculture and the Future Farmers of America (FFA) organization enjoyed their greatest popularity nationwide. New vocational agriculture programs were opened, the number of multi-teacher departments increased steadily, and FFA membership swelled to over 500,000. Now, however, as we approach the end of the 80s, the trend is much different. Vocational agriculture now faces reductions in multi-teacher departments, and in some cases, complete elimination of the program. Likewise, membership in the FFA appears headed below the 400,000 mark by the end of this decade.

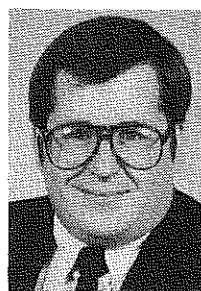
What happened to cause such drastic changes in such a relatively short period of time? The economic problems facing agriculture have been a contributing factor, but there are many others for which we, as vocational agriculture instructors, must claim responsibility. Declining enrollment is one of the most pressing problems facing vocational agriculture, but solutions are there — if instructors are willing to look for and implement them.

Combating Agriculture's Negative Image

There are two giant killers out there stalking vocational agriculture — agriculture's negative image and the "pendulum swing" back to the basics in education. The stress for more basic education has come to mean more math, more English, more science, and more liberal arts courses. Just as the swing away from vocational courses hit after 1957's "Sputnik", we are seeing the push for straight "academic courses." But, what is more basic than agriculture? Agriculture taught correctly is an academic course.

The industry of agriculture now faces the greatest economic difficulty since the Great Depression. Many parents, failing to see any future in agriculture for their sons and daughters, are discouraging them from taking agriculture courses. There will always be a need for well educated, highly motivate individuals in agriculture. As vocational agriculture instructors, it is up to us to point out the many opportunities for agribusiness employment available to students, and not direct our program toward production agriculture alone.

By introducing non-traditional courses such as entrepreneurship in agriculture; fruit, nut, and vegetable production; forestry; and cooperative employment programs, many students will be attracted who otherwise would have passed us up. Now is not the time to become mired in the ways of the past, but rather to look toward the future. If we are to survive and our programs prosper as in the past, we must become aware of the opportunities which can be provided for our students through non-traditional courses.



BY RICHARD J. NORRIS AND JOE TOWNSEND

(Mr. Norris is a Graduate Assistant and Dr. Townsend is an Associate Professor in the Department of Agricultural Education at Texas A&M University, College Station, Texas 77843.)

Recruitment

In the past, our program would sell itself. Many instructors had more students applying for entrance into the vocational agriculture department than they had room. But today, few can boast of that luxury. If ever there was a time for aggressive, imaginative recruitment of potential students, it is now. We can no longer wait for students to come to us, but must go out and convince them that there is a future in agriculture. Utilization of successful former students as examples, promotional devices such as films and booklets on agricultural occupations, and testimonials from current students can be forceful tools for bringing people into the program. We must become aware that education of the parents and students as to what vocational agriculture has to offer is important. No longer can we allow vocational agriculture to be associated with only the growing of crops or the raising of livestock. It must be more than "cows, sows, and plows." The community must be made aware that many occupations make up the industry of agriculture, and that the future is indeed open for those who wish to make a career for themselves.

Public Relations

We need a strong, well planned public relations program. By publicizing our programs and emphasizing their strong points, we will enhance our chances of attracting students in the future. The characteristics which are developed in student members of the FFA: public speaking, group dynamics skills, leadership, and goal setting are skills useful in any occupation. These are the parts of our program which must continually stay in the public eye if we are to successfully battle the current decline in popularity. If someone has to ask, "What can my son/daughter get from taking vocational agriculture courses or being a member of the FFA?" then we are not doing our job properly in the area of public relations.

(Continued on page 8)

Coping With Declining Enrollment

(Continued from page 7)

Changes need to be made to improve the image of agriculture. First, drop the term "vocational", which to some evokes a negative feeling. Instead, refer to subjects as courses in agricultural science. Second, change the name of the Future Farmers of America organization to "FFA", a generic term which will encompass all facets of agriculture. Just as the term "vocational" gives many individuals a negative image, so, unfortunately, does the term "farmer". These changes would do much to improve the overall image of agricultural education in secondary schools.

Science Credit for Vocational Agriculture

With the new, stricter requirements for graduation being implemented around the country, some students find they have no room in their schedule for an elective course even if they wanted it. Many states (Missouri, Iowa, Illinois, and others) allow agriculture to be taught for science credit. However, in states that don't, students are hard pressed to include vocational agriculture and still meet the requirements for graduation.

A recent study conducted by the Agricultural Education Department of Texas A&M University revealed that 92% of the materials currently being used by Texas vocational agriculture instructors contain "essential elements" identified



Urban youth in Houston, Texas raise and market plants as part of their instruction in horticulture. The Spring Branch FFA Chapter serves a variety of youth from this metropolitan area. (Photo courtesy of Chris Townsend, Texas A&M University.)



University and high school students around the country must be trained as agriscientists to meet the demands of the new high technology industry of agriculture. (Photo courtesy of Project Clear Window.)

for math and science. This would seem to support the practice of allowing vocational agriculture to substitute for science credit. Yet Texas remains one of the states not allowing it. To remain competitive in this new, academically oriented emphasis, we must make facts such as those in this study public and push for inclusion of vocational agriculture as a viable science credit where it is not now allowed.

Summary

Enrollment is declining nationwide — that is a fact! There are measures which instructors of vocational agriculture can take to change the situation. The inclusion of non-traditional courses to our vocational agriculture programs, emphasis on agribusiness possibilities for employment, aggressive recruitment practices, a sound public relations program, and allowance of science credit for vocational agriculture are just a few of the avenues we should pursue in our quest to bolster sagging enrollment. Students will go where the best programs are found. This issue has become one of our greatest challenges as we close this decade. If we choose to stand still, and become trapped in the ways of the past, chances are good that we may not be around by the end of the 1990s. Ultimately, much of the responsibility rests squarely on the shoulders of each of us involved in vocational agriculture. Do we use our imagination, skills and abilities, and forge aggressively ahead into the future, or go quietly into extinction?

Recruiting and Retaining Students: A Challenge For Vocational Agriculture

Declining enrollments have become a major concern for vocational agriculture programs all over the country. There are numerous explanations for this trend, but the following appear as almost-universal sources of difficulty when it comes to enrollments in vocational agriculture.

1. Vocational agriculture programs have had and continue to have a heavy focus upon production agriculture. Since the number of farmers continues to decline, the rural economy is in a shambles, and many farmers are counseling their children to get out of farming, the traditional focus of production agriculture makes the prospect for increased numbers in traditional programs shaky at best.
2. With the tremendous public response to the "Nation at Risk" phenomena, there is a great deal of pressure to make sure that students in the public schools receive adequate academic preparation. This concern is often viewed as being in conflict with vocational offerings. As a result, schools, parents, and others have combined to limit or reduce many vocational offerings.
3. There is a long standing bias that promotes the idea that vocational education of any sort is for the less-able students. This is often reflected in the attitude that vocational education is a good thing for someone else's children.
4. In recent years, there has been a standing commitment that for individuals to be successful, they must have a college degree. The view that a career in a field that requires the use of one's hands is somehow inferior is also tied closely to this commitment.
5. The traditional source of students for vocational agriculture programs has been the male students. Even in a day and age of the liberation of the sexes, the enrollment patterns all over America demonstrate that programs still tend to be highly stereotyped by sex.

Obtaining Larger Enrollments

For programs to effectively increase enrollments, they must address barriers that tend to keep students out. The five previous items represent some of those barriers. One barrier that has been thoroughly researched and solid recommendations offered relates to item five. In essence, this item focuses on the idea of expanding career options for students. A workforce that has historically been segregated by gender has been opening-up in recent years. Vocational programs have often lagged behind what was actually occurring in industry. It is clear that women have been taking a more active role in farming and other agriculturally related businesses in recent years. Since vocational agriculture programs are for students (male or female) who are seeking careers in agriculture, it makes good sense to make sure that



BY JAMES A. KNIGHT

(Dr. Knight is an Associate Professor in the Department of Agricultural Education at The Ohio State University, Columbus, Ohio 43210-1099.)

programs are not viewed as only for males. The following are five suggestions documented by research to aid in this process:

1. Written brochures and materials should be cleaned-up in terms of sexist language and pictures. In other words, the generic "he" and pictures with only one gender represented should be eliminated. In research conducted in vocational programs in Ohio, it was found that when materials were used that had been edited to take care of this concern, a more positive response was received from potential students and enrollments increased.
2. Many teachers have used slide programs as a way of informing potential students about their programs. The research demonstrates clearly that by making sure that slides depict both males and females performing various tasks and participating in activities and events are useful strategies. In addition, instructors reported again and again that as they involved both male and female students as recruiters, enrollments tended to increase. Of course, most of that increase was reflected in increased numbers of females in the programs.
3. It appears that the FFA is a powerful recruiting device and should not be overlooked by teachers of vocational agriculture. Because of the visibility of the FFA, students who consider enrolling in vocational agriculture develop much of their opinion of the program based upon their impressions of the FFA. By actively using the FFA in recruiting, the vocational agriculture instructor will be using one of the excellent recruiting tools available in her or his arsenal.
4. The more "hands on" experience students have, the more likely they are to choose a particular program. This is especially important for nontraditional students. Therefore, as programs make it possible for potential students to obtain actual experience related to the instructional program, the more likely those students are to enroll. In other words, the more career education a student has, the better. If potential students are touring the facilities, it is appropriate to organize, if possible, little work sta-

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Recruiting and Retaining Students: A Challenge For Vocational Agriculture

(Continued from page 9)

tions where students can obtain more information and experience related to vocational agriculture.

5. The single most powerful recruiting device identified by the research in this area is the identification and use of appropriate role models. It is important to find people, both males and females, who can provide potential students with models with whom they can identify. This appears to be especially important for nontraditional students who are predominantly female.

There are, of course, other strategies identified by the research for increasing enrollments but these five represent simple, yet useful techniques for dealing with this troubling concern.

Maintaining Enrollments

Many programs have been able to recruit nontraditional students only to have them drop out in the first week or two of the program. Enrollment data all over America demonstrate that nontraditional students drop out at disproportionately higher rates. The root of this problem lies in that nontraditional students tend to bring a different self-concept to programs than do the traditional students. Both students can come from a similar background and have similar experiences. However, the traditional student comes feeling a lack of confidence and the nontraditional student comes feeling incompetent. If teachers do not recognize and consider this fundamental difference, they are almost certain to experience the dropout of the nontraditional students who really should remain in the program. An interesting insight in this area relates to how students feel when they do indeed dropout. The traditional students are generally upset with the instructor while the nontraditional students are generally upset with themselves. Following are five suggestions for retaining students once they enroll:

1. When recruiting nontraditional students, recruit more than one. The dropout rate is much higher when the student is the only one like herself or himself. As students have a friend in the program with whom they can share common problems and concerns, they are much more likely to remain in the program.
2. Instructors should be careful of sexist language in the instructional materials and in their own language. While many have talked this way for years without recognizing the adverse effects, it is now time to recognize that such verbiage is at minimum inaccurate and at worst, quite offensive. The students are no longer "guys" but represent a broader population. It is time that the language of the instructor and the instructional materials reflect the world in its true light.
3. Provide success experiences early in the instructional program. Instructors have often said that they would make their courses tough early on as a way of eliminating the "wheat from the chaff." However, with the already identified difference in self concept between the traditional and nontraditional students, it becomes evident that the students dropping out may not be "chaff" but have lower self concepts. This is reflected in disproportionate drop-



Sex-role stereotyping begins at an early age. Activities such as the Children's Barnyard prepared by the Spring Branch FFA Chapter in Houston, Texas, must be used to alleviate such problems related to vocational agriculture enrollment. (Photo courtesy of Chris Townsend, Texas A&M University.)

out rates of the nontraditional students. By helping students feel successes early in a program, they are much more likely to stay enrolled.

4. Develop support groups for nontraditional students. "Misery loves company." The point here is that when someone is the only person like herself or himself, she or he begins to wonder why she or he is being treated that way. In the absence of information, people tend to assume the worst. Because of this trait, support groups help people think more clearly about what is going on and what must be done to cope appropriately. By providing a time and location where nontraditional students can get together to simply talk about what is going on appears to be very powerful in retention efforts.
5. Just as they were effective in recruitment, so too are role models an effective tool in retention. By having role models offer some instruction in the vocational agriculture program, students can still learn the skill being taught but also learn that people who are different can perform this skill as well. This has a tremendously positive effect upon nontraditional students as they observe others like themselves performing whatever skill is being taught.

Conclusions

In a time when declining enrollments appear to be a fact of life for many programs of vocational agriculture, every available technique at the disposal of the teacher will need to be used so enrollments can be maintained or increased with students who are appropriate for the program. The largest number of small businesses owned and operated by women in America are farms. In addition, with the increasing pressure on the small family farm, women are moving into a much more direct role in the operation than ever before.

The agribusiness sector currently employs many women. As a result, the enrollment of females in vocational agriculture is appropriate and should be sought. By addressing the barriers that keep students from enrolling in the program, teachers can at least take assertive and positive steps to stem the tide of declining enrollments. At the same time, teachers can effectively maintain enrollments by simply being sensitive and paying attention to the basic self concept needs of individuals enrolled in the program.

Using SOE to Increase Enrollment

As a vocational agriculture teacher rebuilding a once closed department, I was discouraged when I heard that the American History teacher, in the presence of 30 students, asked my best vocational agriculture student, "What possible future can you see in studying agriculture?" Faced with this challenge, the student drew upon her public speaking ability, collected her thoughts, and responded to the teacher and the listening students. It quickly became apparent that the teacher had already established his perceptions of agriculture and was not seeking an answer.

Seated in that class of 30 students — was there a prospective vocational agriculture student? There possibly could have been, but the chances for recruitment were negatively affected. When already faced with minimum enrollment, vocational agriculture departments cannot afford such advertisements.

Declining enrollment obviously is not a problem which developed in 1987, but it is certainly a problem to be addressed now. If vocational agriculture teachers are planning to rebuild their once strong programs, their curricula will need to be relevant, applicable, and sound. High school students today are being offered a greater number of subject choices and vocational agriculture must be able to compete.

Use SOE Opportunities

Vocational agriculture students want to see a relationship between their career objectives and what they are learning. They want to use their learning in real life situations. Students need to know that the curriculum incorporates up-to-date, proven practices that will work. Supervised occupational experience programs are an excellent way to fulfill these student needs.

Supervised occupational experience programs (SOEP) can be an aid to teachers battling declining enrollments. This can only be possible when the teacher is teaching SOE in the classroom. The teacher then has to carry the teaching one step further by encouraging and requiring the students to use their newly learned techniques in their production, laboratory, placement, or business SOE. When every student in vocational agriculture has an SOE in one of these areas, then every student in vocational agriculture will have problems. When every student in vocational agriculture has problems, then the teacher can start to develop long term applications for the agriculture being taught through the use of the problem solving approach to teaching.

Beginning production agriculture students will encounter problems with their SOE such as: What species should I select and what breed do I want to purchase? Where will I buy the animal? For each of these problems, there is a unit to be taught. For each of these problems the students solve as part of their classroom instruction, the teacher has ac-

By SUSIE WHITTINGTON

(Ms. Whittington is a Vocational Agriculture Instructor at Wellington High School, Wellington, Ohio 44090.)

complished several teaching principles. The teacher has personalized instruction and applied it directly to the student, therefore, the teacher has enhanced the student's interest.

From there the students have more problems to face: Where will I house my project? What will I feed it? The teacher can use the classroom to allow the students to solve these problems while opening the door for the teacher's next on-site instructional visit. The teacher, at this point, must visit the homes to seek out housing and to involve the parents in the SOE. Each step through which the teacher walks the students and the parents leads to a new understanding and a new problem. Finally, a production cycle is completed and plans for expansion are encouraged. The students have invested time and finances, and have enjoyed applying their learning. At the same time, the parents have realized the benefits of the SOE and want the students to continue in vocational agriculture. Students have successfully been kept in vocational agriculture and by word of mouth from satisfied students and parents, the teacher stands to gain others.

New Arrangements Needed

This "supervised occupational experience combined with problem solving theory" as an answer to declining enrollment fades only when non-farm students and parents in vocational agriculture programs do not understand the philosophy behind SOE and are not willing to take an active role at home. The future of vocational agriculture depends upon schools to offer SOE to students in the form of school farms, cooperative purchasing agreements, greenhouses, and other school provided agricultural activities and establishments. With schools offering a means for valuable hands-on hours, agriculture will remain vocational and students will continue to reach their peaks of interest in the classroom created through SOE.

When students are interested, they will cause others to be interested. When students are learning, transferring, and enjoying vocational agriculture, it is a credit to their teacher, an encouragement to students as a career choice, and appealing to other students as a subject choice. Teachers of vocational agriculture cannot be accused of tolerating declining enrollment. The teacher has to be willing to work toward a curriculum that is meeting the needs of students in a way that is exciting enough to motivate them to recruit for vocational agriculture.

And Ms. McDonald, Too

The tragedy for girls who grew up in the 1950s and 1960s is that they will never know what it is like to be "The Farmer in the Dell." The only role girls played was in being the farmer's wife. Until 1969, public education further reinforced the stereotype that girls did not take part in agriculture. That year it became acceptable for females to enroll in vocational agriculture and to join the Future Farmers of America.

In 1970, West Virginia's vocational agriculture enrollment consisted of 61 females, or just one percent of the total. Since that time, data show that a 16% increase of females has taken place. An average increase of one percent per year is progress. However, have the stereotypes been left behind or are they as great as ever?

In 1978, West Virginia employed its first full-time vocational sex equity coordinator. Since this time programs have been developed to increase the number of non-traditional students in vocational education. The data indicate that the most significant increase of females enrolled in vocational agriculture came in the school year 1978-1979, and that accounted for only a 1.6% increase.

Why So Few?

Why has female enrollment in vocational agriculture not increased significantly? Without research this question can only be addressed by observations and inquiries.

Many potential students, male and female, have grown up working on farms and do not choose to do this as an occupation. Others explain that agriculture is a dying art form, and still others feel that they have received no encouragement from counselors or teachers.

The stereotypes associated with females enrolling in vocational agriculture will best be eliminated by educating counselors and teachers. How can this be done? By emphasizing success stories of females in agriculture, by addressing future employment needs in agricultural occupations, and by simply assuring them that it is the right thing to do.

For centuries women have worked alongside men in the fields and have inherited large tracts of land which they continue to farm even today. Since 1969, a female has been national president of the Future Farmers of America, a great number of females have served as State FFA officers, and many have earned State and American Farmer degrees. These persons have developed valuable enterprises which form a part of the future of agriculture in this nation.

By M. MARLENE GRADY

(Ms. Grady is the Sex Equity Coordinator for the Bureau of Vocational, Technical and Adult Education, State Department of Education, Charleston, West Virginia 25305.)

Possible Solutions

The answers of how to operate and manage an agricultural business for profit, how to promote production efficiency, how to effectively use new technology, and how to conserve our valuable resources will not be addressed by how many bales of hay a woman can lift or how well she can change a sickle bar. The future of females in agriculture lies with their ability to reason, to compute, to analyze, to demonstrate, and to discover a better way to do almost anything. The brawn associated with farming will be just as unimportant for males. Modernization of equipment has seen to that. However, agriculture is not for the "shrinking violets" or the "faint hearted." Much of it is hard, tedious, time-consuming labor. But, if physical strength were the answer surely the American farmer would still be "farming in the dell."

Beyond the need for involvement of both sexes in agriculture, the involvement of school guidance counselors and teachers must be addressed. Limiting a student's choice of occupation is not only narrow minded, it is illegal. With the passage of Title IX of the Education Act of 1972 or Public Law 94-142, it became illegal for a student to be denied access into a vocational program because of his or her sex. Every individual now has the right to make unbiased, non-stereotypical choices. The major consideration in career selection should come from evaluating a person's skills, desires, and aptitudes — not whether he or she was born male or female.

To make agricultural occupations non-sexist, and thus to become a progressive aspect of American society, we must utilize one of our own resources — females. We must stop "playing games" with peoples' lives. We must give greater emphasis to the over-looked population of women who could become "Ms. McDonald."

FFA: Leaders for the New Fields of Agriculture

Agricultural Education in the 1990s

With low enrollments, a depressed agricultural economy, and many outdated programs, once proud vocational agriculture programs are facing their greatest challenges for the 1990s. How should programs prepare for the next decade? Many believe we can continue to maintain the traditional "old-time" programs. Many also feel the strong history of the blue and gold jackets will carry us through hard times. I contend we are on a self-destructive collision course and if we continue as is, vocational agriculture will take its place beside the dinosaur.

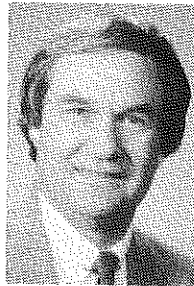
The answer to a future agricultural education that can meet industry demands of the 90s can be found in the stars. Yes, a five star program that includes:

- Understanding the state of American agriculture
- Understanding future agriculture in an international economic system
- Narrowing the "Image Gap"
- Marketing our program
- Developing live, dynamic, up-to-date programs that prepare students to meet agriculture's industry needs.

We, in American agriculture, are in the toughest of times since the 1930s. The agricultural producer, processor, distributor, sales/service person, and the credit segment have not escaped the economic clamp placed upon the industry. We must know that the depressive state of the industry will cause a change not only in agriculture, but our agricul-



Displays at the local fair must include high quality, professional work that represents a display comparable to the industry. (Photo courtesy of the author.)



By RONALD CRAWFORD

(Mr. Crawford is a Program Supervisor in Agricultural Education for the Division of Vocational-Technical and Adult Education Services, Office of Public Instruction, Olympia, Washington 98504.)

tural education programs as well. It becomes increasingly important that instructors work with local advisory committees to develop curriculum on more efficient management methods, use of computers, recordkeeping, and efficiency practices that represent modern agriculture of tomorrow.

Future Programs

The agricultural program of the 90s must understand agriculture as an international economic system. We live in a complex international economic system being brought closer to us each day. We must teach agriculture in the global sense. Our graduates must have better knowledge of concepts related to exports and imports, foreign support prices, and external competition forcing farmers out of business. Agricultural producers must also learn to look at consumer demands before determining what to produce. Agriculture must also look at antiquated farm bills of yester-year and try new policies to deal with problems that continually undermine agriculture.

We must support demand side agricultural policies that direct government subsidies to marketing rather than controlling production. In short, bright, young minds in agricultural education must be exposed to questions and solutions of international agriculture and farm policy issues. When they enter the agricultural work force of the 1990s, they must be equipped to make proper economic decisions.

Narrowing the Image Gap

At one time, vocational agriculture and the FFA were "right on" in training young men and women to enter farming. Curriculum, leadership, and competitive activities centered around sending the "boys" back to the farm. However, many of us still cling to this traditional approach even though jobs are just not there. People outside of the agricultural family are telling us that we are seen as "farm boys." I believe we must change our programs, including the FFA, to better reflect a contemporary agricultural image rather than the traditional "farming" image. Our aims and purposes must reflect that we serve the total agricultural industry and not just farming. We must develop an image of

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Agricultural Education in the 1990s

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agriculture that projects three-piece suits rather than bib overalls.

Marketing Programs

Never before have we felt the need to "market" our product. However, with low enrollments, a poor image, and increasing competition for high school students, we must develop strategies to market our program to prospective



The FFA should continue to emphasize agribusiness as well as production. (Photo courtesy of the author.)

students and the public. After developing an image and vision for agricultural education, we must then develop an internal and external marketing plan to close the image gap. We need to let prospective students and our publics know our program does include skills, knowledge, and attitudes in the total agricultural industry, not just farming.

Quality programs should be based on needs identified by an active (not good ole boy) advisory committee. The advisory committee must identify classroom, mechanical, agribusiness, supervised occupational experiences as well as leadership skills truly needed by the industry. In other words, does the program include economics, business management, marketing, and the use of computers? Does the shop program still teach welding and rope work, or does it include equipment operation, trouble-shooting, maintenance and repair, etc.

What's Needed

A recent report indicated that agriculture will need college graduates in engineering, science, finance, marketing, merchandising, education, communications, and social service professionals. We must develop programs that can deliver that product.

In summary, our future successes will depend on our ability to focus programs on the true changes that have occurred in the total agricultural industry. FFA activities, occupational experiences, and other classroom activities must give students the skills, knowledge, and attitudes needed to enter the agricultural workforce upon graduation or to further post-high school training.

BOOK REVIEW

SOURCEBOOK FOR FARM MACHINERY ALTERNATIVES, by James D. Ritchie, New York, NY: McGraw-Hill Book Company, 1983, 311 pp., Price \$34.50.

This book covers a wide range of alternative forms of energy in the agricultural context. The editor, James D. Ritchie, brings to this work long experience of writing and editing a number of works in the agricultural field. The first chapter sets the stage for the premise that conservation is actually the cheapest energy source. Against even the present backdrop of falling oil prices, conservation remains the most effective energy saver. One must become familiar with alternative energy sources regardless of how much purchased energy might cost. Throughout the text Ritchie presents a great number of energy saving tips that could be accomplished on the farm. All of this serves to reinforce the fact that energy saved is energy earned. Thus, conservation of energy is the most effective form of energy saving.

In largely nontechnical language the editor describes opportunities to save

energy in such areas as farm and livestock buildings; ventilation and insulation; solar heated water, crop drying, and photovoltaic cells for energy production; heating and cooling concerns, wind power generation and irrigation, as well as the generation of hydroelectric power. Included are ethanol, gasohol, vegetable oil, methane, hydrogen, and various agricultural by-product uses for energy generation in a variety of forms. Appendices cover such things as weights and measures, solar radiation levels as per various geographic areas, addresses for companies dealing with various alternative energy sources, and service firms dealing in this industry.

The book represents a good overview of the alternative energy options available on the agricultural scene. It would be an excellent starting point for any study of alternative energy sources for students on all levels of education in addition to the family farmer desiring to learn more about the subject. A real strength of the book is the practical discussion of the advantages and

drawbacks of each energy alternative. Some examples of drawbacks are the hazards involved in the storage of hydrogen, the high costs of purchasing both wind and solar energy generation equipment, a discussion of the break even point where the cost of additional insulation will not translate into savings, the fallacy that firewood is a free source of energy even if it's your own trees, and warnings for all to beware of those who advertise themselves or their equipment as being able to provide cheap fuel for the farm.

Another strength of this book is the outlining of various methods where the farmer can attempt to maximize the return of his energy dollars invested. The cutting of overhead may well prove to be one of the most important factors for survival for many involved in the present American farming industry.

Charles F. Hamsa
University of Southwestern
Louisiana
Lafayette, Louisiana

Balancing Vocational Agriculture Enrollments

Balancing the family checkbook is a job that requires continuous attention. At various times we add funds or cut expenses to keep the books in balance. In the same way, vocational agriculture enrollment, funding, and other factors rollercoaster up and down.

A survey of state supervisors of agricultural education conducted in February posed questions about vocational agriculture enrollments and how instructors are coping with suspected declining enrollments. Of 28 supervisors responding, 19 or sixty-eight percent indicate their state is experiencing declining vocational agriculture enrollments. Several states noted declines of 1,500 to 4,000 students. This article will summarize some reasons cited for the declining enrollments and report on ways that instructors across America are attempting to achieve a balance.

Reasons for Declining Enrollments

State supervisors cited four major reasons for declining vocational agriculture enrollments.

1. **Graduation Requirements** — Increased high school graduation requirements brought on by the "Excellence in Education" movement have left students with fewer electives.

"The districts with the greatest (enrollment) problems are those that have increased "academic requirements for graduation." Ted Mickelson — Wyoming

"Within the next two years (declining enrollments) will become a major problem in all vocational programs because of increased graduation requirements, and the lack of course substitution."

Dewey Stewart — Indiana

2. **The Farm Crisis** — There is a general negative attitude toward farming and agriculture.

"The decline may be a result of the poor image of agriculture based on the recession."

Bill Schreck — Illinois

"The bad publicity which agriculture in general received last year is affecting guidance counselors, local administrators, and others and is very hard to combat." Martin Mitchell — New Hampshire

3. **College Entrance Requirements** — Colleges seeking to improve the quality of graduates have raised entrance requirements.

"College requirements are a continual threat unless vocation can be substituted for math or science classes."

Ralph Dreesen — Oklahoma

"The decrease can be attributed to increased college entrance requirements."

Gene Forrester — Washington



BY DOUGLAS A. PALS

(Dr. Pals is an Associate Professor in the Department of Agricultural and Extension Education at the University of Idaho, Moscow, Idaho 83843.)

4. **Declining Funds** — Federal and state vocational education funds have gradually declined along with local budgets.

"I think our state will reduce support for vocational education because of the federal leadership."

Eric Henderson — Alaska

"A few programs may be dropped because of . . . reduced funding based on program enrollment."

James Cummins — Ohio

"(Declining enrollment) is a problem to most departments, especially as one considers the size of the school and economic base of the community."

Ted Ward — Nebraska

States also cited reduced school enrollments, out-dated curriculum, and poor instructional quality as reasons for the decline.

Increasing Students

Adding money to the checking account brings a balance to the checkbook. In the same way, finding ways to increase the number of students will bring a balance to sinking vocational agriculture enrollments. Have you tried these reported ways to increase the number of students?

1. When asked about how instructors could cope with declining enrollments, the most common response by state supervisors was to improve the quality of instruction.

"Programs with excellence are tough to eliminate."

Joel Janke — North Dakota

"If the instructional program is up-to-date, dynamic and relevant, then the teacher has created the type of image that attracts students — you can't keep them out. A quality program sells itself."

Gene Forrester — Washington

2. Active recruitment programs were also seen as essential. A letter from the Alumni Association has worked in Montana. Recruitment with 7th and 8th grade students and parents was mentioned by several states.

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Balancing Vocational Agriculture Enrollments

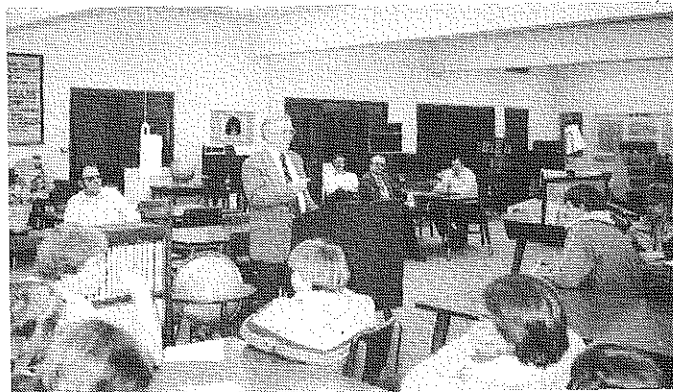
(Continued from page 15)

3. The scheduling of seven period days has been useful in many schools to allow students more flexibility in course selection.
4. Semester course offerings are being used in some states to allow more flexible entry and exit opportunities for students. Reducing prerequisites for advanced courses was mentioned by Hugh McClimon of South Carolina.
5. Changing the titles of courses improves the image portrayed to students. Animal Science or Agribusiness Leadership is more enticing than Vo-Ag I. It may be easier to use vocational agriculture courses for college entrance requirements if the course titles are more descriptive.
6. Assisting counselors and administrators in their understanding of the opportunities in agriculture can be the most essential recruitment technique.
7. A positive image of vocational agriculture is necessary to combat negative impressions of the farm crisis.
"We need to **demonstrate** that the vocational agriculture curriculum has changed in response to agriculture's changing needs and characteristics."
Warren Reed — California
8. Getting approval for science, math, or economics credit for agriculture courses was cited by Illinois, Alaska, New Hampshire, California, Kentucky, Washington, Michigan, New Jersey, Oregon and New Mexico supervisors.
9. Increasing adult education enrollment can justify program costs and meet a need in combating the farm crisis.
10. Recruitment activities at the elementary school level may prove worthwhile in the long range. Food for America and Agriculture in the Classroom programs deserve continued emphasis.

Closer ties with advisory committees and industry were seen as essential. In some cases, vocational agriculture instructors are coping with too many students. Additional teachers or limiting enrollment must be considered to maintain a quality vocational agriculture program.

Decreasing Enrollment

Cutting expenses is an unpleasant but sometimes necessary task to balance the checkbook. In the future we may need to be more flexible and creative to maintain quality programs.



A career night sponsored by the FFA Alumni enables 7th and 8th graders to hear three to four speakers explain their careers. The students also discuss the careers with the speakers to get a first-hand impression. (Photo courtesy of Clare Hedrick, vocational agriculture teacher, Chilton High School, Chilton, Wisconsin.)

1. Closing some vocational agriculture programs may be necessary, especially if they are poor quality or do not meet standards.
"There is no place today for less than adequate instructional programs." Larry Nelson — South Dakota
One poor program affects the image of all programs.
2. Share instructors.
"Co-op arrangements are becoming more popular. Two small schools can share one teacher. One small school may combine levels of instruction: 9 & 10; 11 & 12 and free the instructor for adult farm management."
Joel Janke — North Dakota
3. Qualify teachers in areas other than vocational agriculture such as math or chemistry.
"Teachers are taking courses to become certified in science."
Les Olsen — Kansas
This may justify to schools to keep vocational agriculture in the curriculum.
4. Combine county Extension agent and vocational agriculture instructor positions. In limited population areas, this might be a viable alternative.

Conclusion

Balancing vocational agriculture enrollments is just as essential as balancing the checkbook. Vocational agriculture has maintained existence in the public schools since 1917, largely because of instructional excellence. Let's remember this as we strive to balance vocational agriculture enrollments. It's not difficult to support quality instructional opportunities for students.

Coming in September

Recognizing Excellence in Teaching

A Tool For Program Improvement: A Professional Development Plan

Have you participated in a professional development activity today? Few of us go through a day without adding to our personal storehouse of knowledge, attitudes, or skills. While some learnings are intentional and have great future value, many occur on an incidental basis and often have minimal future value.

To promote the acquisition of worthwhile learning, a professional development plan (PDP) should be utilized. A PDP is merely a description of the activities through which identified knowledge, attitudes, and skills will be acquired and evaluated. Those attributes for which activities are specified should be the ones needed by agricultural educators for professional growth, for meeting program demands, and/or for meeting certification/ recertification requirements. Completion of the activities is intended to result in program improvement by assisting one to acquire needed instructional and technical (occupational) skills and in making professional contributions. But how is involvement in such activities typically decided. Too frequently the agricultural educator is confronted with situations such as the following.

Pat, you can't attend that basic skills workshop being held on the 23rd. The superintendent wants all faculty members to attend the district workshop on completion of the revised report forms.

I have disapproved your request to attend the regional seminar on techniques for enhancing the basic skills of students, June. We don't have funds either for the travel expenses or to hire a substitute teacher for the period you'd be gone.

Marty, I don't believe your enrolling in the university course on developing reading skills in the vocational classroom would result in improvements to our program. I won't approve your leaving school early one afternoon per week for the next 10 weeks to participate.

I promised the district's inservice coordinator that you would attend the session on implementing competency-based education. I know that you have already done a lot of work in this area, Sam, but you're the only one I can spare at the time this session is scheduled.

Each of us has heard of decisions related to professional growth activities being made on the bases implied in the above examples. Though such activities are meant to train, upgrade, or fine tune the performance of personnel, often the decision for an individual to participate or not is made on an entirely unrelated reason. It is evident that a process should be implemented which would provide a basis for an agricultural educator to identify one's area in which improvement is needed and to show others that such areas exist.

By WILEY B. LEWIS AND WINDOL L. WYATT

(Dr. Lewis and Dr. Wyatt are Associate Professors in the School of Occupational and Educational Studies at Colorado State University, Fort Collins, Colorado 80523.)

Cole (1986, p. 20) recently reported that educators "... usually take additional inservice coursework in their areas of strength — not their areas of weakness. By selecting inservice courses in their areas of strength . . . (educators) defeat the prime purpose of inservice education." If this indeed is an accurate description of the basis upon which many decisions to participate are made, and these writers believe it is, efforts should be made to redirect the decision-making process so that additional attention is focused on strengthening one's identified areas requiring improvement.

A decision for an individual to be involved in specific professional development activities should be made utilizing a two step process: (1) the identification of an individual's developmental needs based upon specified areas in which improvement is needed and (2) the selection of appropriate needs serve as the driving force — not what activities are available, convenient, or of interest. The needs considered should represent those that have been identified as being important for a relatively long period in the future, not just those considered as being important for today.

In implementing such a process, one should begin by identifying those competencies needed by an individual to be successful and then identifying from those competencies the ones perceived as requiring improvement or development. This might best be accomplished by using a form similar to the one shown in Figure 1. This "Professional Competence Assessment Instrument" can be used for recording, over a period of time, the competencies in which further development is perceived as appropriate. The user will find that the form represents an attempt to quantify qualitative aspects of performance by assigning numerical values to provide a basis for making decisions relevant to professional development activities.

To implement this process, the following steps should be completed.

1. As competencies are identified by an individual educator or another individual such as an administrator, a supervisor, a student, a parent, an advisory committee member, an employer, a worker, a teacher educator, or a teacher, they should be listed as action statements in column 1, "Competency."

(Continued on page 18)

Figure 1

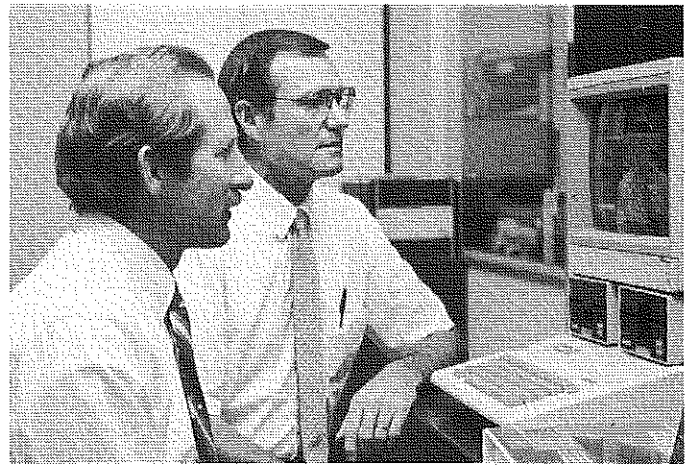
PROFESSIONAL COMPETENCE ASSESMENT INSTRUMENT

NAME: JOHN DOE TITLE: TEACHER OF PRODUCTION AGRICULTURE

1	2	3	4	5	6	7	8
COMPETENCY (AFFECTIVE, COGNITIVE, OR PSYCHOMOTOR)	DATE ENTERED	YOUR CURRENT PROFICIENCY LEVEL 1-2-3-4-5*	PROFICIENCY LEVEL REQUIRED FOR SUCCESSFUL PERFORMANCE 1-2-3-4-5*	DIFFERENCE IN PROFICIENCY LEVELS	PRIORITY RATING	WEIGHTED RATING	FINAL RANKING
	YR/MO/DY						
IDENTIFY STUDENTS WHO NEED SPECIAL ASSISTANCE IN LISTENING	85/12/04	2	3	-1	6	-0.17	7
ASSIST STUDENTS IN ANALYZING GRAPHICS WHICH ACCOMPANY TEXT	86/01/30	1	3	-2	5	-0.40	5
INCORPORATE APPLICATION ACTIVITIES RELATED TO MAGNETIC PRINCIPLES FOR ELECTRICITY INTO THE CURRICULUM	86/02/08	2	4	-2	4	-0.50	4
INCORPORATE MEASUREMENT TASKS WHICH REQUIRE UTILIZATION OF METRIC UNITS INTO THE CURRICULUM	86/04/12	1	3	-2	7	-0.29	6
INCORPORATE BIOLOGICAL PRINCIPLES RELATED TO REPRODUCTION INTO THE PLANT AND ANIMAL SCIENCES PORTIONS OF THE CURRICULUM	86/06/04	2	5	-3	1	-3.00	1
IMPLEMENT TECHNIQUES FOR UTILIZING HARD-TO-READ TEXTS WITH STUDENTS OF LESSER READING ABILITIES	86/08/13	2	4	-2	3	-0.67	3
INCLUDE ACTIVITIES IN THE CURRICULUM WHICH WILL ASSIST STUDENTS TO IMPROVE THEIR WRITING SKILLS	86/09/30	2	4	-2	2	-1.00	2

*1 - NOT PROFICIENT (ACCOMPLISHES ONLY WITH INSTRUCTION AND SUPERVISION OR DOES NOT PERFORM)
 2 - PARTIALLY PROFICIENT (ACCOMPLISHES BUT NOT TO DESIRED LEVELS)
 3 - PROFICIENT (ACCOMPLISHES AT MINIMUM ACCEPTABLE LEVELS)
 4 - HIGHLY PROFICIENT (ACCOMPLISHES AT HIGHER THAN MINIMUM ACCEPTABLE LEVELS)
 5 - EXTREMELY PROFICIENT (ACCOMPLISHES AT HIGHEST LEVELS WITH MINIMUM LEVELS OF SUPERVISION)

2. The current date should be entered in column 2, "Date Entered," opposite the statement of the competency. A rating of one's current proficiency level for performing each competency should then be recorded in column 3, "Your Current Proficiency Level."
3. The "Proficiency Level Required for Successful Performance" of a particular competency within the educational setting should be entered in column 4. Such a rating might be determined by oneself or in collaboration with one of the other individuals identified earlier. In determining the "Proficiency Level Required for Successful Performance," recognition should be given to the fact that the level of performance for technical or specific occupational skills should be equal to at least that level the students are expected to achieve. In fact, it is believed that the level should be higher than that minimum level so that the minimum level for acceptable student performance does not become the maximum. Educators should be expected to assist students to develop their skills to the maximum possible level as the students' abilities and resources permit.
4. The "Difference in Proficiency Levels," column 5, should be computed at the time the values for "Your Current Proficiency Level" and "Proficiency Level Required for Successful Performance" are determined. This is done by subtracting the rating in column 4 from that in column 3 (column 3 - column 4 = column 5).
A value in column 5 might range from +4 through -4. The existence of a rather large discrepancy between one's current proficiency level and the proficiency level required for successful performance is indicated by a value near +4 or -4. A positive value in column 5 indicates that one is currently performing at a proficiency level that is equal to or higher than the level actually required while a negative value indicates a performance deficiency that should be corrected.
5. On a periodic basis such as once per month and always prior to making decisions related to participating in professional development activities or preparing a professional development plan, each competency listed on the "Professional Competence Assessment Instrument" should be given a priority rating. Ratings for the competencies should take on the values of positive one (1) through positive N with one (1) being the competency of highest priority. The ratings should be recorded in column 6, "Priority Rating." In providing this rating, consideration should be given to how critical each competency is to one's professional growth, for meeting program demands, and/or for meeting certification/recertification requirements.
6. A "Weighted Rating," column 7 in Figure 1, should then be computed for each competency so that a realistic comparison based upon one's proficiency discrepancy and the priority rating of the competency can be made. The "Weighted Rating" is obtained by dividing the "Difference in Proficiency Levels" by the "Priority Rating" (column 5/column 6 = column 7). As with the "Difference in Proficiency Levels," column 5, the "Weighted Rating" can range in value from +4 to -4.



John Pohly, instructor of horticulture, and his supervisor, J.W. Smith, coordinator, Post-secondary Instruction, Larimer County Voc-Tech Center, reviewing a computerized version of a professional development plan. (Photograph provided by Ron Harris, Larimer County Voc-Tech Center, Fort Collins, Colorado.)

7. To assist in interpreting the results of these computations, column 8, "Final Ranking," should be completed. The competency with the "Weighted Rating" value nearest -4 in column 7 should be assigned a ranking of 1, the next lowest value should be assigned a ranking of 2, and so forth. All competencies with a negative value in the "Weighted Rating" column should be ranked.
8. Next, a "Professional Development Plan" such as the one shown in Figure 2 should be prepared, probably with the assistance of one's immediate supervisor. In addition to requiring some general information, the competencies considered to be of major importance as reflected by the final rankings on the "Professional Competence Assessment Instrument" should be listed in column 1, "Competency," Figure 2. Those competencies receiving ratings of lesser value — nearer zero (0) — for "Final Ranking," column 8 in Figure 1, should be given preferential consideration in this process.

A rating of the "Proficiency Level Required for Successful Performance" (column 2) for each competency should be recorded at the same time as each competency is listed. This information should be taken directly from column 4 on the "Professional Competence Assessment Instrument" unless it is determined that the original value is in error.

Once the competencies to be addressed are specified and the proficiency levels required for successful performance are recorded, the activities through which the competencies might be developed should be recorded on the PDP in column 3, "Activity for Acquiring." Activities such as workshops, courses, industry experiences, study groups, readings, conventions, conferences, meetings, research or curriculum development projects, or visits to other programs, sites or with other personnel might contribute to the development of the required proficiency levels. One or more activities should be listed for each competency.

(Continued on page 20)

Figure 2
PROFESSIONAL DEVELOPMENT PLAN

NAME: JOHN DOE DATE: MAY 20, 1987
 POSITION TITLE: TEACHER OF PRODUCTION AGRICULTURE TELEPHONE NUMBERS:
 AGENCY: LOWLAND HIGH SCHOOL OFFICE: 491-2222
 STREET OR P.O. BOX: P.O. BOX 36 HOME: 221-6666
 CITY/STATE/ZIP CODE: STONEHAM, CO 80000

1	2	3	4	5	6	7
COMPETENCY (AFFECTIVE, COGNITIVE, OR PSYCHOMOTOR)	PROFICIENCY LEVEL REQUIRED FOR SUCCESSFUL PERFORMANCE 1-2-3-4-5*	ACTIVITY FOR ACQUIRING	PROJECTED COMPLETION DATE YR/MO/DY	ACTUAL COMPLETION DATE YR/MO/DY	YOUR CURRENT PROFICIENCY LEVEL 1-2-3-4-5*	DIFFERENCE IN PROFICIENCY LEVELS
INCORPORATE BIOLOGICAL PRINCIPLES RELATED TO REPRODUCTION INTO THE PLANT AND ANIMAL SCIENCES PORTIONS OF THE CURRICULUM	5	STUDY <u>THE HEART OF INSTRUCTION: RELATIONSHIP OF MATH AND SCIENCE PRINCIPLES TO VOCATIONAL CURRICULA</u> CONSULT WITH SCIENCE TEACHERS IN THE SCHOOL SYSTEM PARTICIPATE IN THE NATURE CONSERVATION CONFERENCE	86/10/30	86/10/20	4	-1
INCLUDE ACTIVITIES IN THE CURRICULUM WHICH WILL ASSIST STUDENTS TO IMPROVE THEIR WRITING SKILLS	4	STUDY PROFESSIONAL TEACHER MODULE SERIES: <u>MODULE M-3 ASSIST STUDENTS IN IMPROVING THEIR WRITING SKILLS</u> CONSULT WITH ENGLISH TEACHERS IN THE SCHOOL SYSTEM PARTICIPATE IN A WRITING INSERVICE WORKSHOP	86/12/30	86/12/01	4	0
IMPLEMENT TECHNIQUES FOR UTILIZING HARD-TO-READ TEXTS WITH STUDENTS OF LESSER READING ABILITIES	4	STUDY PROFESSIONAL TEACHER MODULE SERIES: <u>MODULE M-2 ASSIST STUDENT IN DEVELOPING TECHNICAL READING SKILLS</u> CONSULT WITH READING TEACHERS IN THE SCHOOL SYSTEM PARTICIPATE IN THE UNIVERSITY COURSE 'READING TECHNIQUES'	87/02/28	86/12/23	5	+1
			86/11/31	87/02/13		
			86/12/10	87/02/23		
			87/04/25	87/01/30		
			86/12/30	87/03/12		
			87/01/31	87/05/03		

SIGNATURE OF EDUCATOR: John Doe SIGNATURE OF SUPERVISOR: Susan Phillips

- *1 - NOT PROFICIENT (ACCOMPLISHES ONLY WITH INSTRUCTION AND SUPERVISION OR DOES NOT PERFORM)
- 2 - PARTIALLY PROFICIENT (ACCOMPLISHES BUT NOT TO DESIRED LEVELS)
- 3 - PROFICIENT (ACCOMPLISHES AT MINIMUM ACCEPTABLE LEVELS)
- 4 - HIGHLY PROFICIENT (ACCOMPLISHES AT HIGHER THAN MINIMUM ACCEPTABLE LEVELS)
- 5 - EXTREMELY PROFICIENT (ACCOMPLISHES AT HIGHEST LEVELS WITH MINIMUM LEVELS OF SUPERVISION)

A "Projected Completion Date" for each activity identified in column 3 should be listed in column 4 at the time an activity is recorded. This established a target date for developing the required proficiency level for each competency and gives the involved educator and the supervisor a basis for making decisions about the timing of professional development activities. Both of these individuals — the involved educator and the supervisor — should indicate approval of the PDP by signing the form. As an activity listed on the PDP is completed, the "Actual Completion Date" should be recorded in column 5. This will give one an opportunity to determine whether satisfactory progress is being made.

Finally, in column 6, a rating of one's current proficiency level for performing each competency should be listed as each activity associated with a competency is completed. Then, the rating in column 6 should be compared with the rating for "Proficiency Level Required for Successful Performance" in column 2. The "Difference in Proficiency Levels" should be recorded in column 7 at the time the rating of "your Current Proficiency Level" for each competency is recorded. The value to be listed in column 7 is determined by subtracting the rating in column 2 from that in column 6 (column 6 - column 2 = column 7).

If a negative value is obtained, then consideration should be given as to whether the original rating of "Proficiency Level Required for Successful Performance" was accurate. If it was and still is correct, an additional activity should be completed to further the development of one's proficiency or the competency statement with a negative value should be added to the current version of the "Professional Competence Assessment Instrument" and the process continued.

As work with the "Professional Development Assessment Instrument" and the PDP progresses, one should recognize that the planning process is never completed. Both docu-

ments are flexible and may be changed at any time to take advantage of unforeseen opportunities, to meet needs of changing importance, and to meet unanticipated needs. The two documents should be reviewed periodically by the involved parties to determine if satisfactory progress is being made and whether revision is required. Using computerized forms makes the task of revising them much simpler.

Properly implemented, this process will assist individual agricultural educators in the identification of the competencies necessary for success in a variety of areas and give them quantitative data to use in making relevant professional development decisions. Few of us, if any, want to admit that we are not fully proficient in all areas required for our work. Utilization of the proposed process will help to broaden our ranges of performance by enabling us to break out of the spheres in which we participate only in those activities with which we feel comfortable.

References

- Cole Lee. (1986) "Oregon State University." In Gary E. Moore (Compiler) "Staying current in the classroom and laboratory: What the universities are doing." *THE AGRICULTURAL EDUCATION MAGAZINE*, 59, 20.
- Fardig, Glen E. and West, Gail B. (1985) *PROFESSIONAL TEACHER EDUCATION MODULE SERIES: MODULE M-2 — ASSIST STUDENTS IN DEVELOPING TECHNICAL READING SKILLS*. Athens, GA: American Association for Vocational Instructional Materials (AAVIM), The University of Georgia.
- Malowney, C. Lynn. (1985) *PROFESSIONAL TEACHER EDUCATION MODULE SERIES: MODULE M-3 — ASSIST STUDENTS IN IMPROVING THEIR WRITING SKILLS*. Athens, GA: American Association for Vocational Instructional Materials (AAVIM), The University of Georgia.
- Mathews, Earl L. (1977) *THE HEART OF INSTRUCTION: RELATIONSHIP OF MATH AND SCIENCE PRINCIPLES TO VOCATIONAL CURRICULA*. Series Number 8. Columbus, OH: Ohio Agricultural Education Curriculum Materials Service, The Ohio State University.

ARTICLE

Meeting the Challenge of Smith-Hughes

Each May, many high school students find themselves walking from the graduation line to the unemployment line because they do not possess the skills necessary to secure employment and succeed in their chosen field. Unfortunately, a number of vocational students find themselves in this same position. This is in direct conflict with the philosophy and legislative mandate of the Smith-Hughes Act (1917), and subsequent vocational legislation.

In these cases, we have failed in preparing individuals for gainful employment. To better equip high school students for the job market, educators must pause from time to time to survey the needs of their communities to reassess their programs and curricula. It is far too easy to accept "canned curricula" from the state level at face value. The local programs must first meet the needs of the individual student and the local community.

BY CHARLES W. SHEPHERD AND JACQUE DEEDS

(Mr. Shepherd is a Vocational Agriculture Teacher, Quitman High School, Quitman, MS 39355 and Dr. Deeds is an Assistant Professor in the Department of Agricultural and Extension Education at Mississippi State University, P.O. Drawer AV, Mississippi State, MS 39762).

Involving the Public

Public programs need broad community involvement and support. The success of these programs is largely dependent upon the suggestions and input from persons in the field. Vocational agriculture teachers may be surprised at the suggestions they receive. If given the opportunity,

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Meeting the Challenge of Smith-Hughes

(Continued from page 21)

our clientele may open our eyes by revealing some unexpected opinions.

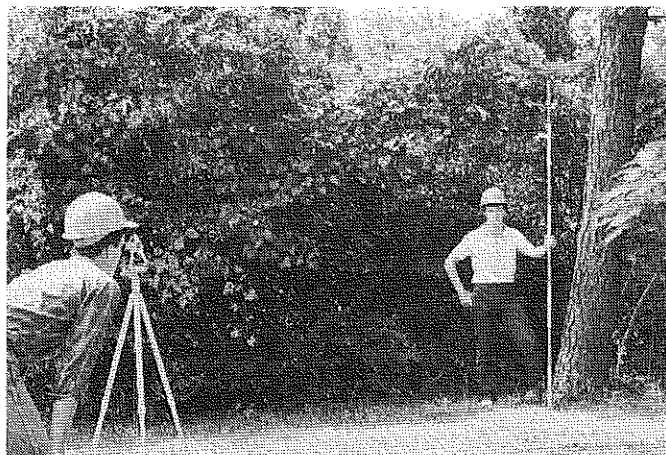
In a recent study (Shepherd, 1986), forestry personnel were surveyed as to the competencies needed for entry level employment and advancement in a forestry occupation for persons completing a high school forestry program. Some of the findings were contrary to forestry competencies prescribed on the state and national level. Skills that were once perceived to be essential or important in previous national studies were rated low by local respondents. Conversely, skills which were once thought to be of little importance were rated high by local forest industry workers.

What Competencies Are Needed?

A list of 49 competencies was compiled from state and national lists with the assistance of 28 Mississippi forestry personnel in the field, advisory council members, government agencies administering forestry programs, and private forest landowners. The 49 competencies identified were rated as to their level of importance by the 28 local professional and technical foresters and private landowners. Those competencies rated important to essential included safety skills involving some basic background knowledge of general forestry.

Somewhat surprising was that the industry personnel did not see the use of computers or knowledge of computers as important on the secondary level of training as had previously been thought.

Students having secondary vocational forestry training were not considered "laborers." They are not expected to fell trees or do routine maintenance. Instead, they are expected to be crew leaders and work closely with the profes-



Technical forestry competencies identified as important or essential by professionals in the community should be included in instructional programs. (Photo courtesy of the authors.)

sional foresters as aides and assistants. These students are expected to solve minor problems in the field and report to office personnel. They are considered "field bosses."

Fulfilling Local Industry Needs

Each of us has been given state level curricula and told to adapt it to our local needs. This is an excellent beginning. However, too often it is accepted as presented. We take it upon ourselves as educators to decide what is best for our programs without considering the feelings of our patrons.

Students who have completed programs which offer those skills desired by potential employers have a distinct advantage. No matter what area of agriculture is being taught, a survey on desirable skills by individuals in the local agricultural industry is beneficial. The results may be used for updating courses, evaluating present programs, determining equipment needs, providing skills for students in their SOE programs, and most importantly, to provide a list of those skills and competencies needed for placement and advancement in agricultural occupations in your local area.

Sharing and Meeting the Responsibility

To be committed to the basic principles of preparing individuals for gainful employment, we must consider and include all available resources. Involve local people in a survey. They will feel they have input into what is taught, how it is taught, and essentially how their tax dollars are spent. Educators, industry, and private individuals will have worked together to provide learning experiences which will better prepare students to be productive members of the community. Most important, you will have met the challenge of Smith-Hughes.

Shepherd, C.W., Jr. (1986). IDENTIFYING AND VALIDATING ESSENTIAL COMPETENCIES NEEDED FOR ENTRY AND ADVANCEMENT IN A FORESTRY OCCUPATION. (Unpublished Research Project). Mississippi State University.

Smith-Hughes Act. (1917). (Federal Legislation). Washington, D.C.

Table 1
Highest and Lowest Rated Forestry Competencies

Rank	Competency
1.	Marking timber for thinning
2.	Determining when to thin timber stands
3.	Understanding why to thin timber stands
4.	Determining height measurements
5.	Determining diameter measurements
6.	Reading maps
7.	Cruising maps
8.	Interpreting volume tables
.	.
.	.
.	.
44.	Using wood preservation
45.	Maintaining chainsaws and equipment
46.	Repairing chainsaws and equipment
47.	Pruning trees
48.	Understanding papermill operations
49.	Understanding sawmill operations

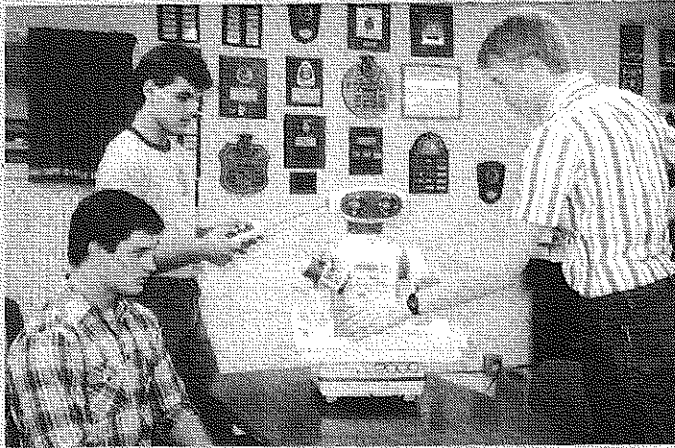
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Stories in Pictures

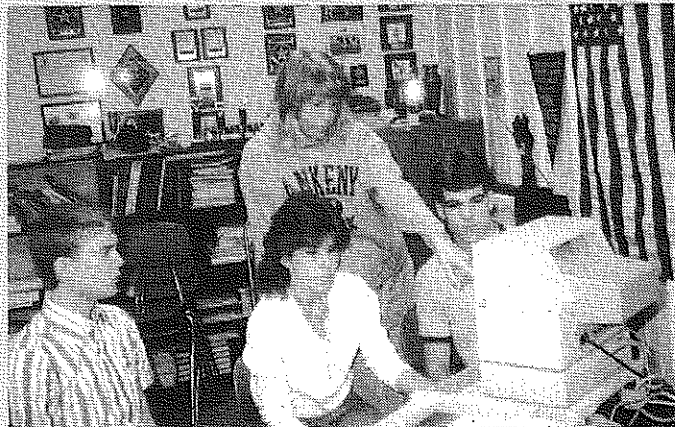
Revitalizing the Curriculum



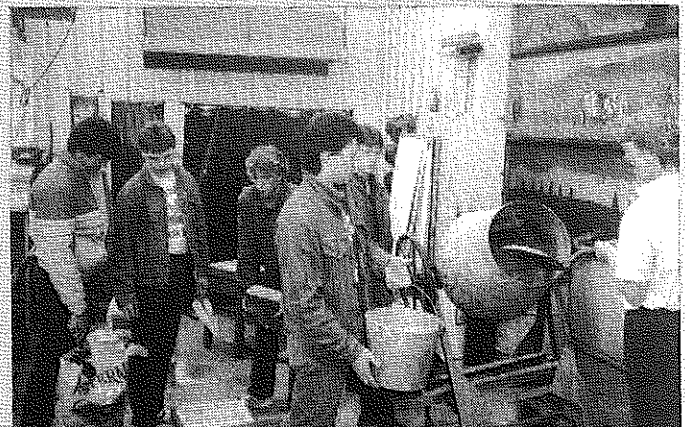
Students learn basic freedoms of movement in this simple omnibot. Robotics was started in the Winter of 1986-87 to have students realize and use the new technology of the 1990s.



Horticulture students learn to pour slip into molds for making ceramic pots. This is a new addition to the usual plant work and landscaping.



Students receive computing experiences using a chapter-owned microcomputer.



New skills such as mixing concrete for slump tests to making plastic cement for bricklaying techniques are taught in the program.

(Photos courtesy of Thomas P. Cory, vocational agri-business instructor, North Polk Community Schools, Alleman, Iowa)