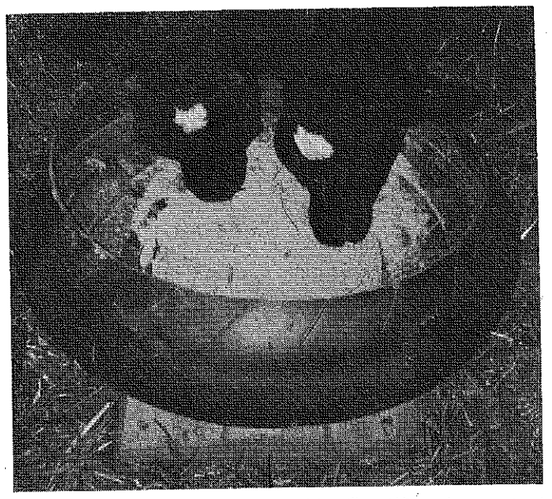
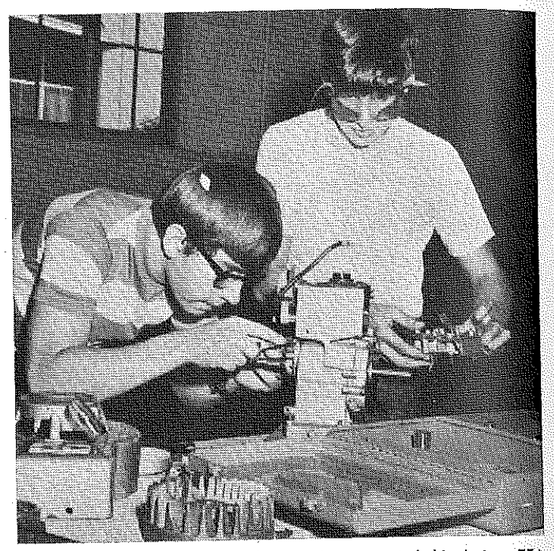
Stories in Pictures

ROBERT W. WALKER
University of Illinois



Vocational agriculture students at Mayville, Wisconsin, construct multi-purpose livestock feeders from used car tires. To build, remove one side of the tire by cutting all the way around about five inches from the bead, turn the tire inside-out and nail the resulting bowl-shape through the other bead to a platform made of two-inch lumber. (Photo by John W. Santas, Vocational Agriculture Teacher, Mayville, Wisconsin)



Contestants in the small gasoline engine contest held during FFA Week at The Pensylvania State University attempt to correct faults placed in the engines by contest officials. (Photo by Rodney W. Tulloch, The Pennsylvania State University)

Students not enrolled in the horticulture class at Cherryville (North Carolina) High School use their study period to get experience in horticulture. They are supervised by William M. Edwards, Teacher of Agriculture. (Photo by W. T. Ellis, North Carolina A&T State University)

AGRICULTURAL EDUCATION

Volume 43 December, 1970 Number 6

Agricultural Education

Featuring —

INNOVATION IN AGRICULTURAL EDUCATION

THE
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MAGAZINE

Vol. 43 December, 1970 No. 6

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EDPRESS

Editorials

From the Editor . . .

A Point-of-View About Vo-Ag's Survival

J. Robert Warmbrod

It is interesting to read and listen to the various reactions to the Vocational Education Amendments of 1968. On the one hand, there are those who hail the legislation as the basis for a new approach to American public education. These enthusiasts see the Act as a means of enhancing the role of vocational education in the public schools. An interesting contrast is the reaction of some persons in vocational agriculture and others who supposedly speak for vocational agriculture. Here are some examples of the rhetoric: "not once does this 1968 Act mention vo-ag;" "we're fighting for vo-ag's survival;" "they're out to revamp vo-ag;" "challenge stems from an apparent deliberate effort on the part of policymakers in the U.S. Office of Education to de-emphasize vocational agriculture;" and "vo-ag in every state will have to fight toe-to-toe with every other vocational program for funds." From these and other comments, it is easy to get the impression that some believe the 1968 Act sounded the death knell for vocational agriculture.

These reactions apparently stem from the fact that for the first time vocational agriculture is not mentioned specifically in national legislation for vocational education. The Smith-Hughes Act of 1917 set the course for vocational agriculture's first fifty years by providing federal funds for programs enrolling those "who have entered upon or who are preparing to enter upon the work of the farm or of the farm home." In 1946, the writers of the George-Barden Act stated that vocational agriculture included "supervision by the vocational agriculture teachers of the activities . . . of the Future Farmers of America." In the Vocational Education Act of 1963, vocational agriculture was redefined to include "education in any occupation involving knowledge and skills in agricultural subjects . . . ." But the reactions of some to the 1968 Act imply that if vocational agriculture is to survive, it must be "protected" by specific mandate in federal legislation. Incidentally, none of the other occupational areas is specifically men-

(Continued on next page)

Guest Editorial . . .

Bold and Imaginative Innovations

James W. Hensel

The term "innovation" is no stranger to teachers of vocational agriculture. Educational innovations have been an accepted part of the vocational agriculture program since 1918. For example, some innovations which gained popularity through vocational agriculture are home visits with students and parents, individualized curriculum planning, leadership activities as an integral part of the course of study, work experiences which provide an opportunity for entrepreneurship, problem methods of teaching, performance objectives in lesson planning, and the development of long-rang goals. These ideas have all moved from the innovative stage to accepted practice in vocational agriculture, but to some disciplines they still rank as innovations.

An innovation is a new idea, method or device. An innovation is the introduction of a new idea to your school, community, or classroom. You don't need to invent the idea, you merely introduce something new or make a change in your current operation. Accept the fact that an idea can be common practice in one community and still qualify as an innovation for you. An innovation, to be worthwhile, should be more than a novelty, a teaching trick or a gimmick.

Innovations come in many sizes and shapes. Little ideas are the easiest to establish and may be very effective in giving a new look to your program. Some of the little innovations include the use of single concept film loops, use of teaching machines and program materials, establishing an awards program for off-farm agricultural occupations, enrolling girls in agriculture courses, providing an adult program in the off-farm agricultural occupations, utilizing community resource personnel to assist in teaching, and using management games and other simulation techniques. These are excellent innovations, but we need bold and imaginative ideas that will keep agricultural education in the forefront as a relevant educational program. Major

(Continued on next page)

James W. Hensel is Professor and Chairman, Vocational, Technical and Adult Education, College of Education, University of Florida, Gainesville.

From the Editor . . .

tioned in the Act either.

Does vocational agriculture have to depend on preferential treatment to survive? It may sound trite, but we are now on our own. The future of vocational agriculture will be what we make it. Vocational agriculture will survive and prosper on its own merits, which have been considerable and can continue to be so. How can we expect or want preferential treatment for vocational agriculture in national legislation?

In the final analysis, the future of vocational agriculture depends on the capacity and willingness of the profession to exert leadership in developing and conducting agricultural education programs which are a significant and meaningful part of an extensive program of occupational education. Responsibility for the further development of vocational agriculture in the public schools rests squarely on the shoulders of state supervisors and teacher educators at the state level and with teachers and supervisors in local and area schools. Individually and collectively through professional organizations, teachers, supervisors, and teacher educators must give top priority to innovative and high quality vocational agriculture programs. Although the role of each is crucial, in the long run, teachers will have a great deal to say about the nature and orientation of vocational agriculture in the years ahead, for they are the major determiners of the nature and quality of vocational agriculture in the public schools. As states and local schools implement policy for vocational education, the extent to which adequate and appropriate programs of vocational agriculture result is in no small measure a reflection of both the profession's philosophy of what vocational agriculture is and should be and its willingness to exert the leadership and effort required.

The most crucial factor for the future of vocational agriculture is not whether vocational agriculture is mentioned in federal vocational education legislation. Our most urgent concern is imaginative and continuing innovation, not replication or protection through legislative mandate. We must be as concerned about developing innovative programs in local and area schools as we are about the lack of mention or identity of vocational agriculture in Washington. —JRW

Guest Editorial . . .

innovations in the future should encompass some of the following trends:

—A definite move toward the student as a self-directed learner. Much of our instruction in the future will operate on an individual basis where the teacher's first responsibility will be that of understanding the student and diagnosing his educational needs.

—Vocational agriculture, as well as other vocational subjects, will be offered at the elementary school level. This will include an introduction to the world of work, and courses will be designed to provide orientation and exploratory experiences for elementary and junior high school pupils.

—New vocational agriculture programs will be designed to serve a wider range of students, especially those considered to be disadvantaged.

—Specialized courses in agriculture will be offered at the junior and senior level on a semester basis. Students could select from a dozen courses in agriculture which would offer a wide variety of occupational education and experiences.

—The high school will need to play a larger part in placement and followup of the graduate, not just for his first job, but for as many jobs as the graduate wishes to seek over the next 20 to 40 years.

These are only the beginning. There are literally dozens of new ideas being tried in communities around the nation. Your job as a vocational agriculture teacher is to visit other teachers, read the literature, find new ideas, sift them out, adapt the best to fit your situation, and begin work on your own "innovative program."

KITTS APPOINTED EDITOR

Harry W. Kitts

Harry W. Kitts, Professor of Agricultural Education at the University of Minnesota, will assume the editorship of *The Agricultural Education Magazine* with the January 1971 issue. The Editing-Managing Board appointed Dr. Kitts to a three-year term as Editor earlier this year.

Dr. Kitts received the Bachelor of Science degree from Cornell University in 1936. He received the Ph.D. from Cornell University in 1948. Dr. Kitts is a former president of the New York State FFA. He is a past chairman of the National FFA Judging Contests and holds the Honorary American Farmer Degree.

Dr. Kitts has been a member of the faculty of the Department of Agricultural Education at the University of Minnesota since 1948. He teaches both undergraduate and graduate courses in agricultural education. Dr. Kitts has had extensive experience in international education having served in several foreign countries.

THE COVER PICTURE

First-year teachers of vocational agriculture in Texas observe a forestry operation on a field trip arranged by the Texas Forestry Association. The field trip was part of a workshop on Pre-Employment Laboratory Training in Forest Products Harvesting which was sponsored by the Agricultural Education Division of the Texas Education Agency, Austin. (Photo by J. A. Marshall)

WHO WILL ANSWER?

CHARLES J. LAW, JR.
Director of Occupational Education
North Carolina Department of Public Instruction

There is a popular song which repeats in the refrain, "Who will answer, who will answer, who will answer?" This provocative approach to problems of life stirs me to suggest that the time has come when the same question must be asked for agricultural education. There are many questions today which are being thrown at agriculture teachers across the nation.

I would like to address myself to some of the problems which are particularly pertinent today in North Carolina, not because I think that they are important simply because they are occurring here, but because I think that they will occur in like manner in other states also. These are serious questions which must be answered by serious men; someone must answer these questions. Again, the refrain comes to mind, "Who will answer?"

The Situation

Terms of employment. Something strange has occurred in agricultural education in North Carolina which I predict will be coming into many other states as time progresses. This is the fact that no longer is 12-months employment guaranteed to every agricultural education teacher. The allotment of resources from the State Board of Education to local administrative units in North Carolina is made in terms of man-months of employment. In other words, one former agricultural education teaching position which was budgeted for 12 months now becomes 12 man-months of instruction.

The importance to note in this particular situation is that no longer is the local board of education required to employ the agriculture teacher 12 months. The board of education has within its discretion the power to determine the length of employment of the agricultural education teacher. The reason this is being done is to put back into the hands of the local people the real strength for planning local programs. Due to the fact that this has occurred in North Carolina, some agricultural education teachers have had their terms of employment cut from 12 months to 11 months, some from 12 months to 10 months, and a relatively small number from 12 months to 9¼ months. Without arguing the validity of whether these cuts should be made or not, it is important to point out the fact that the time is here when such cuts can be made.

Replacement of former agriculture teaching positions with teachers in other occupational education fields. As schools are consolidated in North Carolina and across the nation, we are going to find more and more programs of occupational education changing from what may have been several agricultural education teaching positions to a more balanced program. This means that some of the resources which previously have been budgeted to agricultural education positions will find their way into programs of trade and industrial education, distributive education, business and office education, and any other type of occupational education that seems to be appropriate at the local level.

Teachers are leaving agricultural education. Today finds the demands placed upon agricultural education teachers even greater than the demands which have been placed on them in the past. Young teachers are more reluctant to enter the field partly because of some of the situations indicated previously, partly because the competition is much greater today than it has ever been before for qualified graduates, and partly because the attraction to the field of agricultural education is not what it used to be.

Charles J. Law, Jr.

Dr. Charles J. Law, Jr., is Director, Division of Occupational Education, North Carolina Department of Public Instruction, Raleigh.

Loss of morale. Due to the fact that the number of months of employment for some teachers has been cut back, there seems to be a corresponding drop in morale of agricultural education teachers. There are some teachers who feel that they are no longer appreciated and that their programs are no longer understood. There are some teachers who feel that no longer do they have any real responsibility for adult education, or even FFA activities, since their terms of employment have been cut. So loss of morale is a real factor.

Declining enrollments. As new and varied occupational education programs are started across the nation, we may well expect enrollments in agricultural education to drop in some instances. This will be compensated for in some instances by growth in other areas where we have not had agricultural education programs in the past such as the big cities where the trend may be toward floriculture or specialized kinds of agricultural education programs. But all in all, we can expect an overall drop in enrollment of agricultural education students.

(Continued on next page)

Who Will Answer?

(Continued from page 137)

Questions

The fact that questions are being raised about agricultural education across the nation has been alluded to in the first part of this article. There are four basic questions which are being asked. Not only are these questions being asked by others, but agricultural education teachers must ask these questions of themselves. I would like to speak briefly to each of these questions pointing out some of the specifics of what is being asked at the present time.

Whom do we serve? Are agricultural education teachers going to be content to work with the same clientele with which they have always worked? Are we going to be content to work with farm boys, or are we going to move into other areas of agricultural business and industry? Are we going to offer cooperative programs? Are we going to continue to serve adults, and if so, in what manner? These are questions which must be answered by those who wish to serve agricultural education.

What kind of programs must we offer? Are we to be content with programs that are based strictly upon supervised practice programs on the local farm, or are we going to take students into the whole complex of business and industry and really begin to shape the future of these young people? Will the adult education programs which we offer be new, exciting, innovative, and creative or will they be the same general kind of farm visitation as we may have had in the past?

When do we begin? Many agricultural education teachers have already begun and are doing many of the things which have been mentioned. Yet, there are others who seem hesitant to get into the whole area of bringing agricultural education up to date in a modern America.

Where do we go from here? What does the future hold for agricultural education? Should we be timid and hold back? Should we believe those prophets of doom who predict that all is lost for agricultural education? Or, should we go as we know we must and answer the problems which face agricultural education in America today?

"There are many questions being thrown at agriculture teachers across the nation. These are serious questions which must be answered by serious men."

Who Will Answer?

Again the refrain from the song comes to mind. Who will answer for agricultural education teachers? Who will answer for the thousands of agricultural education students, both youth and adults, in this time of trying circumstances? There are four possibilities. I would like to explore each briefly.

The traditionalist. Will the traditional agricultural education teacher who has always done things in much the same way simply because they have always been done that way be able to make an intelligent answer? Will he fall back on the same stock answers of an earlier decade?

The reactionary. Will the answers given by the group of agricultural education teachers who are reacting to what is going on be given in a very negative way? Will this group of teachers go on saying we must have the same things we have always had simply because we have always had them? Will they be able to answer the questions in a legitimate fashion, or will their answers be so biased and so prejudiced as to be of little worth to anyone?

A new breed of teachers. Will the answers be given by a new breed of agricultural education teacher who is young, inexperienced, innovative, and creative and has all the things we think a teacher should be? I think not. I think in the last analysis the answers must come from the following group of teachers.

The solid agriculture teacher. This is the teacher who has been innovative, flexible, adaptable, and creative. He has been willing to stick his neck out for his students; he has been willing to go the extra mile, day and night, to do the job that must be done. He has been willing to look at his curriculum and say, "Is what I am offering today in line with the needs of today and tomorrow?" He has been willing to be flexible and he has been willing to adapt instruction to today and tomorrow and not to yesterday. He has been willing to be creative and to dream of new ways of doing things.

If the answers are to be found for agricultural education, the answers are going to be given by the same solid agricultural education teachers who over the years have given so much of themselves to do the job in order that the job might be done. This is the agricultural education teacher who has brought young men into full positions of leadership, the agriculture teacher who has taken adult farmers from where they were to where they now are in terms of being a much more productive farmer. This is the agricultural education teacher who has given more of himself than anything else and who still says, "Yes I will walk the extra mile to do the job a little better."

The answers are going to be given by this type of agriculture teacher. Are there many of these across the nation? Are they to be counted in tens, hundreds, or thousands? I think that they are to be counted in the thousands as agricultural education teachers across this country stand up and answer the questions and move forward as they have always moved forward in the past.

"In the last analysis the answers must come from the solid agriculture teacher who has been . . . innovative, flexible, adaptable, and creative . . . willing to stick his neck out for his students . . . willing to go the extra mile . . . willing to adapt instruction to today and tomorrow and not to yesterday . . . willing to be creative and dream of new ways of doing things."

A New Venture in Public Information

HAROLD W. SULLIVAN, Supervision
West Virginia Department of Education

Harold W. Sullivan

When vocational agriculture is mentioned to those outside the field, an opinion is often voiced that the need for training in agriculture is declining, perhaps non-existent. Too many times this conclusion is a result of a lack of knowledge about what constitutes a course of instruction in vocational agriculture and the benefits of such a program.

To a high school student, finding suitable employment ranks high in personal objectives. An occasional session with the high school guidance counselor often fails to supply enough data to offer a student all he needs to select a satisfactory career. Many guidance counselors are not aware of the vast number of careers for which a background of agricultural experience is desirable.

News Column

It became apparent to the state supervisory staff in West Virginia that regular, factual, and timely publication of information concerning careers in agriculture was needed. A news column designed for release in weekly newspapers appeared to be one of the better techniques. A weekly column "Opportunities in Agriculture" was begun in 1968.

A personal letter to sixty editors of weekly newspapers requesting their cooperation was prepared and mailed with the first mimeographed column. Many replied, assuring their support; others did not reply but used the column.

State and federal governmental agencies, such as the West Virginia Department of Natural Resources and the U.S. Soil Conservation Service, were particularly receptive to the idea of publishing information concerning opportunities in their fields. All agencies contacted readily agreed to provide the necessary data and to review the articles before release. Many who were contacted later called with suggestions for other articles or asked that information on a certain job be repeated the next year.

Some personnel directors phoned reporting startling response to the column. One department stated that for years they had been forced to "beat the bushes" to fill a 75-man summer working crew in plant pest control. After one article, 250 applications were received which allowed the quota to be filled "with the best crew we've ever had."

Preparing Articles

In order to secure information for articles, letters were written to approximately 300 sources of occupational guidance materials including private companies, educational institutions, and agricultural organizations. Surveys were conducted, particularly of companies dealing with forest products, to learn labor needs. Agricultural association meetings were attended to interview members concerning desirable education and experience necessary for employment in their fields. Professional guidance materials were purchased and a file of agricultural careers material was organized for use in preparing articles and for distribution to those who wrote asking for information.

Each column is limited to two typewritten double-spaced pages. If a suitable photograph depicting some phase of the job described is available, a black and white copy is enclosed. Photographs are secured from companies, governmental agencies, and educational institutions. Many photographs are taken specifically for use with the column. Most editors use the picture.

"Opportunities in Agriculture" includes specific information. In the article the title of the job is given, the expected starting salary as well as the potential salary is stated, education and experience requirements are listed, the job described, and methods of making application are outlined. Most articles contain a reference where more information may be obtained.

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THE TIMES RECORD, Spencer, W. Va.
Thursday, February 20, 1969

The Wetzel Republican
Moorefield Examiner

CABELL RECORD, MILTON, W. VA.

Strategies for Teaching Students with Special Needs

J. A. BARGE
Florida Department of Education

We are in the midst of basic social changes that increasingly affect all aspects of the educational system. We find a substantial group of students who are not adequately served and do not make normal progress in school. Predominantly, these are students whose early experiences in the home, school, and community, whose motivation for learning, and whose goals for the future handicap them in both school and work. They are often defined as disadvantaged and potential drop-outs.

Research indicates that the root of their problems may in large part be traced to their experiences in the home, school, and immediate surroundings which do not transmit the cultural patterns necessary for the type of learning that is characteristic of the regular school setting. The task of the school is to provide programs that will help students overcome these handicapping conditions and become contributing members of society. It is in the context that special needs programs in agricultural education are planned and implemented.

Organization

In Florida, attempts have been made to design programs in agricultural education for the disadvantaged around horticulture and farm mechanics. Curricula modifications are made to provide training for entry level skills in several horticulture occupations such as garden center worker, landscape worker, greensworker, landscape gardener, and groundskeeper.

The programs provide instruction in blocks of time from two to three hours daily. Class loads are limited to a maximum of fifteen, with ten or twelve being the optimum. Flexibility is built into the program to provide for individualized instruction, independent study, project activity, and job placement. Adaptations are made to meet the individual needs of students. The program is designed to keep the student in school, thereby serving both as a vehicle for motivation and job preparation. Emphasis is on teaching the student rather than content.

J. A. Barge

J. A. Barge is Consultant, Special Needs Programs, Florida Department of Education, Tallahassee.

Curriculum

The very nature of the experiences in school must be changed for the disadvantaged. In no sense should intellectual problems be minimized. Disadvantaged pupils must have experiences which will bring understanding of the humanities and science, but the approach for bringing about these understandings must be different from the traditional approaches. Problems of living in the home, in the school, and in the community must be a part of the curriculum. Field trips, movies, camping, parties, operating machines, creating models, first-hand experiences with life problems, role playing, and individualized packaged instruction are recognized as effective approaches conducive to working successfully with the disadvantaged.

The aim of life itself must determine the curriculum of the school. Disadvantaged students must be involved in or be given the opportunity to be involved in the total learning experience. They must help decide the goals and purposes of all activities, and they must help select experiences which seem to give promise to reaching these objectives. Students must understand the type of performance required to satisfy each objective and must be aware of the level at which performance must be demonstrated to conclude that the experience was successful. The director of the learning experience must be skillful at communicating these desirable changes in the student's behavior prior to involving the student in the activity.

Every part of the school environment should be conducive to the overall development of students. The teacher needs to recognize that he is responsible for giving guidance and seeing that effective communication skills are developed, that human relations skills are developed, that esthetic values are established, that new interests are created, that job entry skills are mastered, and that the process of thinking and problem solving are learned.

Techniques and Materials

Too often it is assumed that individuals can learn through verbal means alone. However, the use of nonverbal cues to elicit responses in verbal terms are the vital steps in learning for disadvantaged students. Using nonverbal materials such as films, filmstrips, charts, models, specimen, slides, and pictures permit immediate success in the acquisition of knowledge for the disadvantaged. This enables the student to associate the verbal with the nonverbal, thus strengthening the student's verbal ability.

To teach the concept of planting distances to disadvantaged and handicapped students enrolled in horticulture at the Pinellas Park Exceptional Child Center, a large model of a ruler with lines painted on its edge was constructed. Using this model, the teacher was able to point out proper planting distances for various plants and at the same time provide students with practical experiences in using numbers. This technique also helps students grasp an understanding of measurements in related situations dealing with mixing spray materials, mixing potting soils, and spacing plants in slat houses. These practical experiences in using numbers and concepts of space, distance, and volume develop understanding and reinforce the student's self-confidence through successful participation in the activities.

At the Manatee Vocational Technical Center, procedures for teaching the operation of machines and equipment were developed through creating laboratory projects such as golf greens, lawn turf, vegetable gardens, landscape designs, and tree surgery. These activities are used for demonstration purposes and for providing practical experiences for each student to learn proper operating procedures and develop skills for employment. During the practice phase, students observe their own progress, thus building confidence through successful experiences.

Teaching plant identification to disadvantaged students at Kathleen Junior High School presented many problems. Motivating students to take notes and to learn the names and spelling of tools and other media were difficult. To deal with these problems, name tags were attached to plants, tools, and other media. This permitted the teacher to describe and discuss the plants and tools in conceptual terms unhampered by students trying to memorize proper names. To encourage note taking and spelling, the teacher periodically set aside a portion of a class period for students to record the names of materials used in selected projects. A point system was devised to award students for successfully recording material in the notebook.

A teacher of the disadvantaged should have competence in his subject area and familiarity with the latest methods of working with retarded, ill-motivated, verbally different, and disillusioned students. He should be competent in the basic subjects of language arts and mathematics and realize the enormous task of teaching students who at times seem motivated not to learn.

Teachers at Wymore Vocational-Technical Center developed individualized program packages for each student. The core of the package contained the content and related practical experiences to guide students through a series of experiences in acquiring skills in horticulture and farm mechanics. The package also contained sections on reading, English, and mathematics which the student must complete to progress from one unit to the next. Students are assigned to specialists in these areas to provide individualized instruction.

Teaching techniques and materials have to be geared to the needs of the students and in many instances are a departure from the traditional methods of textbook and lecture presentations. The most attractive and varied materials that may be acquired to motivate and entice the student to learn are required. Continuous exploration of new material and experimentation with new techniques are required to maintain the vitality of teaching and learning for disadvantaged students.

Evaluation

Learning can be properly appraised only in terms of learning goals. Neither the student nor the teacher can see progress except in relation to what is being attempted. Obviously, the student must participate in the evaluation of his work because he knows better than anyone else what he is attempting to achieve. Equally obvious is the need for the teacher to be involved in evaluation because he has the responsibility of communicating educational objectives to the student and guiding the learning process.

Helping pupils realize their progress and success along the way to realistic and attainable goals strengthens their self-confidence, self-concept, and attitude. In directing the educational process of disadvantaged students, the evaluative process must be carefully planned. The purpose of the activity must be clearly understood by the evaluator and the results sought must be appraised and used in the best interest of the student.

Traditional and conventional methods of evaluation are not appropriate in assessing the progress of disadvantaged students. Evaluation through individual projects, contests, and group performance are illustrative of some techniques that may be used with disadvantaged students.

A New Venture in Public Information

(Continued from page 139)

Guidance counselors, vocational agriculture teachers, and agricultural education personnel in the state receive copies of the column monthly. Potential employers receive a copy of any article applicable to their field of employment.

Continuing Project

A definite line of demarcation between an informational service and a placement service is maintained. No interviews are arranged, no applicants screened, and no personnel recommendations are made. If requested and available brochures and pamphlets are sent to individuals. Specific questions are answered, usually by telling the inquirer how or where to get the information needed.

Time required to prepare the articles and answer correspondence is not severe. Much of the work is handled by a secretary, but approximately two hours per week are required to prepare the column and secure the necessary data. More time is needed, of course, for conducting and analyzing surveys.

After the column had been in existence for a year, the supervisory staff evaluated the program and decided to continue publishing the column indefinitely. Dividends, in the form of increased public awareness of the career opportunities in agriculture, far exceed time and material costs. This endeavor is one that can be instigated by many states or local departments of vocational agriculture.

Sustaining Commitment to Innovation

WILLIAM L. HULL
The Ohio State University

As agricultural educators, we perceive ourselves as open and receptive to new ideas. Like apple pie and motherhood, the concept of innovation as a road to improved practice is readily accepted in principle by almost everyone. Yet in practice, we resist the new and return to familiar techniques. This article addresses itself to conditions for planned change and ways of encouraging program innovation; this topic should be of vital concern to state supervisors and teacher educators.

Systematic Approach

The Vocational Education Act of 1963 and the Vocational Education Amendments of 1968 have brought pressure to bear on the need for innovation and change in state and local programs of vocational agriculture. For the first time in the history of vocational education, resources are available to implement a system of planned change for program renewal. State boards of vocational education are expected to invest in research and development activities to improve vocational education. Provisions of these Acts include opportunities for pilot testing innovative programs and demonstrating exemplary efforts to other school districts. How state boards elect to use discretionary funds will determine the impact of these activities on vocational programs.

It may be tempting for administrators to launch into an erratic, undisciplined approach to funding innovative programs. Such an approach could result in small amounts of money with limited time allocations being sprinkled throughout a state. Such a strategy has little chance of successful impact on existing vocational education programs. Hearn's[1] study of Title III programs of the Elementary and Secondary Education Act showed successful projects to have a larger budget, less cost per child, and extend over a longer period of time than unsuccessful innovative projects.

Efficient use of research and development monies allocated to states requires not only a commitment to the improvement of vocational education in agriculture, but effective means of identifying priorities and delivering projects which will be relevant to these needs. The need for a systematic approach to program innovation is clear.

State leaders, including supervisors, teacher educators, and officers of teachers' organizations, face a responsibility to construct a vocational agriculture system with renewal capability. Such a system pre-supposes role definitions and procedures interrelating all persons and agencies concerned with planned change. Each group should have an opportunity to make an input into the decision-making process. The dual problems of uncritical acceptance of innovations and resistance to innovations are very real. Our goal must be an efficient and effective system of allocating resources, both people and dollars, for program renewal.

Conditions for Planned Change

There are many conditions which enhance systematic innovation and improvement. *The first ingredient for program renewal is recruitment of dedicated professional staff.* Teacher educators and supervisors must "be able to see the forest in spite of the trees," to paraphrase Whitehead.[2] Teachers must be able to look beyond the pressing short-term needs of students to less immediate but perhaps more pervasive needs of program renewal and curriculum reorganization. It is an unusual individual who can transcend the immediate in favor of the future. It sometimes requires personal risk of reputation to attempt implementation of idealistic, professional goals.


William L. Hull

William L. Hull is a Research Specialist at the Center for Vocational and Technical Education and Associate Professor of Agricultural Education, The Ohio State University, Columbus.

A second factor conducive for sustained commitment to innovation is a supportive atmosphere for change. Channels of communication within an organization need to be open with frequent opportunities for face-to-face contact. Havelock[3] identifies the following characteristics of an ideal change agent-client relationship: reciprocity, openness, realistic expectations, expectations of reward, structure, equal power, minimum threat, confrontation of differences, and involvement of all relevant parties. These characteristics also describe an organizational climate of mutual cooperation.

Thirdly, sufficient resources must be available to support innovation in a programmatic manner. Staff time and program funds invested in research and development can be expected to pay dividends in the long run. Not every innovative idea will result in mammoth gains in agricultural education. But the opportunity for improvement provides a viable alternative to unflexible, rigid programs. Maintaining surveillance of existing programs and the development of techniques for installing proven innovations rate as priority concerns for most state directors and head teachers educators.[4]

The development of dedicated staff, the creation of a supportive climate for innovation, and the allocation of research and development funds are necessary but not sufficient conditions for sustained commitment to innovation. *There must be action which is deliberate and calculated to improve the existing situation.*

Noakes[5] recently reported a dramatic change in providing financial assistance to high school vocational agriculture programs. Funds were used as an incentive for innovative proposals with emphasis placed on programs to serve additional students in more effective ways during the summer. A direct relationship was noted between program costs and services provided. Money represents only one incentive for innovation and change. Supervisors may want to consider released time for high school teachers, additional staff for expanded vocational agriculture programs, and other methods for rewarding teacher achievement.

Sustained Program Renewal

Activities which aim toward program renewal must be consistent with the goals of the organization. Activities should be initiated within existing channels of communication if at all possible. A responsive system yields to pressures in a systematic manner and avoids erratic change due to revolutionary forces. The following guidelines suggest ways to encourage program innovation.

—Start by piloting a relatively simple aspect of the innovation. Research findings clearly show divisibility to be an important variable in the adoption of any innovation. If adoption can occur by degrees it is more likely to be received favorably.[6]

—Assess the current situation immediately prior to initiating the innovation. This "reading" will provide useful benchmarks for evaluating the impact of the innovation on program development. Quantitative and qualitative information on the effectiveness of the innovation becomes a key factor in rational decision-making.

—Stress the tangible benefits of the innovation to others who participate in deciding whether or not it will be adopted. Most people prefer to form judgments based on empirical evidence.

—Select an innovation which can be adjusted and changed to fit the local situation. People affected by the new idea should be involved in assessing its merits. Changes to accommodate provincial ideas and customs are desirable as long as they do not interfere with the central thrust of the innovation.

—Obtain tentative approval of the innovation before initiating the process of installation into the school system. A review of the merits of the idea should determine its appropriateness for the system. Agreement on cost-sharing arrangements with a scheduled withdrawal of "outside" funds increases the likelihood of successful adoption.

Rapid growth in vocational education research capability and information systems has occurred in recent years. This technological development has encouraged sustained innovation diffusion on a comprehensive scale. Research coordinating units have provided personnel and procedures to stimulate research activity, assess its contributions, and implement research findings in local programs of vocational education. The Educational Resources Information Center (ERIC) as a document based information system has provided a valuable commodity — relevant information — to the process of innovation and planned change. State divisions of vocational education have undergone a metamorphosis from a regulating agency to one of coordination and planning program renewal. This emphasis on program renewal should bring together all elements of the community — teacher educators, supervisors and practicing teachers — into a function system of vocational agriculture.

Success

Success of innovative programs in any exemplary effort frequently depends on the expectations of others in the profession. Influential state leaders may cast doubts or praise innovative programs before evidence of their worth can be obtained. This creates expectations for the program which may be unreal and develops hardships for the program staff. Any new or merging activity requires protection and nurture during early months of growth. State leaders are in a position to provide this shelter by substituting moral support and assistance in the place of premature criticism and negative comments. A long-range perspective is encouraged. Indications of the project's worth will emerge providing a sound basis for rational decision-making. Most disciplines in education have not grown up with a scientific tradition. Educators find it difficult to refrain from offering opinions especially when they have an attentive audience.

Professions like people tend to resist change in their drive for internal consistency. Potential threats to existing boundaries are viewed with suspicion and rebuffed. The plasticity which earmarks an aggressive, dynamic profession needs to be cultivated on a daily basis for this quality enables leaders in agricultural education to take advantage of unanticipated opportunities. In the long run, a sustained commitment to innovation builds self-renewing qualities into program development.

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[1]Norman E. Hearn, *A Report on the Adoption Rate of ESEA Title III Innovations Following Termination of Federal Funding,* A paper presented at the American Educational Research Association Convention, Minneapolis, Minnesota, March 3, 1970.

[2]Alfred North Whitehead, *The Aims of Education,* New York: The Macmillan Company, 1929.

[3]Ronald G. Havelock, *A Guide to Innovation in Education,* Ann Arbor, Michigan: Center for Research on Utilization of Scientific Knowledge, Institute for Social Research, The University of Michigan, 1970, pp. 51-5.

[4]William L. Hull, William D. Frazier, William W. Stevenson, *Research Handbook for Vocational-Technical Education,* Oklahoma: Research Coordinating Unit, Oklahoma State University, July, 1969, pp. 9-10.

[5]Harold L. Noakes, "New Policy Encourages Innovation," *Agricultural Education Magazine,* Vol. 42, No. 7, January, 1970, pp. 172-3.

[6]Everett M. Rogers, *Diffusion of Innovations,* New York: The Free Press, 1962, p. 131.

A New Ball Game

ELVIN DOWNS, Supervision
Utah State Board of Education

Yes, we are in a new ball game. Things have changed since the Vocational Education Act of 1963 and more particularly since the Amendments of 1968. The product of vocational education is a well trained individual who is placed in the field for which he is prepared. Our objectives are now threefold: select the student for vocational agriculture, train the student, and place the student. This new approach in vocational agriculture suggests that we give more specificness and directness to teaching.

New Philosophy

The new philosophy of the systems approach to teaching in terms of measureable objectives must be reflected in the objectives set by vocational agriculture teachers. The objectives might read like this:

—All students enrolled in vocational agriculture will have realistic occupational goals within the board field of agriculture which are recorded in the teacher's and counselor's files.

—All students enrolled in vocational agriculture will be given the opportunity for productive supervised work experience and the teacher will report on these activities at the end of the year.

—The teacher will make arrangements for at least six well planned field trips to farms and agricultural industry for each class.

—The teacher will require each student to keep an up-to-date journal including instructional notes and miscellaneous information on the student's occupational objective.

—The teacher will require each student to keep an up-to-date record book of activities, earnings, and other experiences in relation to his supervised occupational experience.

—The teacher will provide leadership in assembling new and up-to-date periodicals, books, and bulletins for the department's library.

—Weekly lesson plans will be prepared and copies delivered to the principal's office not later than Monday morning of each week.

—The teacher will arrange for resource persons to visit each class five or more times during the year to discuss employment opportunities in agriculture.

—The teacher will encourage each student to become a member of the FFA and participate in leadership training activities.

—The teacher will arrange for appropriate awards to be presented to outstanding students with emphasis on freshmen and graduating seniors.

—The teacher will arrange for educational tours for students during the summer months with emphasis on both farming and off-farm agricultural occupations.

—The teacher will make special arrangements to meet the needs of handicapped students and other students with special needs.

Behavioral objectives of students must be specific, well defined, and measureable. We are departing from a generalized course in agriculture. This is 1970 and with it has come some definite standards for meeting occupational needs. Vocational teaching can no longer be general. It demands that we select the student, train the student, and place the student.

Some Observations

I would like to mention briefly a few other observations that have come to my attention.

A shift from production agriculture. I am most pleased with the progress that has been made in shifting from conventional Vo-Ag 1, 2, 3, and 4 to more specific titles for courses in the total field of agriculture. In one high school I visited recently, I was given an outline of the proposed courses which included fifteen specific courses in vocational agriculture. Some were designed for a semester, others for one period throughout the year, while others were planned for two periods per day for the full year.

Record keeping. In general I think we have slipped backwards with respect to good record keeping. Perhaps it is more difficult to teach record keeping with more and more boys from other than farm homes. Record keeping can be excellent training whether a boy is to operate a farm, work in a greenhouse, or participate in a cattle auction. Record keeping is a practice that will be used throughout life by most young men. I feel that it is our responsibility to prepare students with basic understandings in keeping acceptable records.

Disadvantaged and handicapped students. I am asked frequently what we are doing in agriculture to take care of those students who are disadvantaged, handicapped, or have other special needs. The Vocational Education Amendments of 1968 give high priority to funding programs that deal with this group. The question may be raised about what we are doing to help this group of slow learners and others who do not seem to fit in regular programs. Could teachers provide short courses for agricultural students having special needs? Could not a summer program be designed for slow learners? Extra money is available and we can no longer say that we could do it if we just had the funds.

Is summer work productive? Some superintendents are firm in their position that the summer work of the agriculture teacher is less demanding and is worth less per hour or per day than work during the school year. I take exception to this. Summer work can be the most productive of all in a good vocational agriculture program. What constitutes a productive summer? I suggest the following.

—Every student is assigned to a challenging occupational work experience program with a written plan as to his goals.

—The teacher conducts leadership activities with both FFA members and young farmers.

—The teacher conducts short courses in agriculture for whatever need might exist.

—The teacher sponsors field trips, machinery clinics, and demonstrations.

—The teacher orders new equipment, supplies, and teaching materials.

—The teacher supports county officials in sponsoring fairs and shows in which youth are involved.

—The teacher locates work stations and arranges for occupational experience in off-farm agricultural occupations.

Is it old fashioned to have a student journal? I do not see the neat, attractive, and well kept student journals that I saw some twenty years ago. Yet, with the new approach to vocational teaching, the demand is even greater. The student journal has always been one of the high standards maintained by better teachers. The student journal is one of the best motivators for performance. It becomes an excellent criterion for evaluation. The keeping of a good journal is developing a habit that will contribute much to the student as he pursues any type of advanced training.

Elvin Downs is Specialist, Vocational Agriculture Education, Utah State Board of Education, Salt Lake City. This article is based on his presentation at the Annual Vocational Agriculture Teachers Conference held in Logan, Utah, June 1970.

Challenge and Change in the 70's

L. L. SELLERS, Supervision
Alabama Department of Education

L. L. Sellers

The big question facing vocational agriculture in the 1970's is not whether we continue to exist but rather in what capacity. We are well aware of the comments made by the press and certain segments of the business community that "agriculture is on its way out." If we accept this statement literally, we will be compelled to expect that future generations can and will exist without the benefit of food, shelter, and clothing.

We in vocational agriculture should accept this as a challenge. Our job today is more important than ever before if we are to remain a potent influence in keeping America strong and free.

Change

Let us be the first to admit that in order for vocational agriculture to remain a potent part of the educational and agricultural complex, we must make certain adjustments and changes. This is not a trend toward weakening our programs but rather a step toward broadening and strengthening them. When we realize that 40 percent of the labor force in this country is either in production farming or some equally important agriculturally related job, should it not give us the incentive needed to adjust instructional programs to meet the needs of all.

We are all caught in the same predicament. Many teachers have not been adequately prepared to give the needed instruction in the many new and related agricultural employment areas that have grown up in the great agribusiness complex during the past few years. It finds us in the same position as a football team that is woefully short on score and experience but unusually long on talent and desire. At present, we are playing a catch-up game.

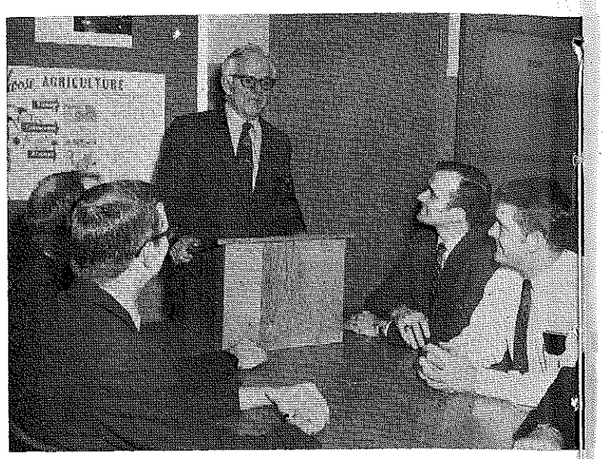
We need some adjustments in teacher education programs on both the graduate and undergraduate levels. It is awfully hard to push something that is outrunning you. However, during the past few years we have been gaining ground. Many states have been conducting intensive workshops for short periods in areas where the greatest needs exist: small engines, ornamental horticulture, welding, electricity, masonry, plumbing, pulpwood production, beef, and hogs. In addition, some teachers have attended regular summer school sessions where they gained additional knowledge in many phases of technical agriculture.

Style

I do not believe that vocational agriculture is going out of style, but the style may be changing somewhat. I am not pessimistic about the importance of or the role vocational agriculture will play in the future development of our nation. We have graduated from the "horse and buggy" days. We may not yet be in the Cadallic and Rolls-Royce society, but neither are we living in the Model-T Ford era. The future may not at all times look rosy, but I am confident that we have an important part to play in the ever present now and in the challenging future of which we are an important and dynamic part.

Leadership Styles in Agricultural Education

CAYCE SCARBOROUGH
North Carolina State University, Raleigh



This article is adapted from Dr. Scarborough's Graduate School Lecture in Agricultural Education given at The Ohio State University, February 1970. In this picture, Dr. Scarborough discusses some issues mentioned in the lecture with graduate students in agricultural education. (Photo by Ralph J. Woodin)

Leaders of any group at any time will vary. However, for a given period of time leaders within a group can usually be clustered around certain types with fairly well-defined characteristics. This phenomenon has been studied by people interested in leadership and leadership development. Apparently, the members of a group (or even we as a society) develop a sort of readiness for a certain type of leader at one period of time and another type at another time. The followers have a heavy hand in making the leader but even this backfires because we fickle followers sometimes change our minds quicker than the leader can change his style, even if he is capable of making major changes in his leadership. Ministers sometime get caught in this shift of emphasis on the kind of leader the flock wants.

• Leaderships Styles for the Future

Looking at the future in a predictive fashion is fraught with risks. One of these is that we are never sure what questions people will be asking. I expect that people will be asking some questions that we had just as soon they would not ask. One of these is already being asked in our state: How many months will the teacher of vocational agriculture be employed this year? This question had never been asked, at least officially, in our state. It may be a good question, but it sure opens up a whole new can of worms, Pandora's Box, or however you want to say it for a "mess of trouble."

Leadership styles that were acceptable in the past will not be adequate nor acceptable in the future. With the emphasis on people instead of programs, it is going to take a different leader to "see and sell" agricultural education's place in occupational orientation as well as vocational and technical programs.

• Who Will Be The Leaders of the Future?

The answer to this question may be as obvious as the slogan that I saw the other day on the side of one of those small shelters along the highway for school children while they wait for the bus. The slogan was "Our Children of Today Will Be the Leaders of Tomorrow." As I drove on down the road, I decided that this was indeed a true statement. We cannot avoid this, for better or for worse. So it is with agricultural education, the younger fellows will replace some of us who will be retiring, ready or not. But in the meantime, we may be able to see some patterns that will indicate the type of persons who will become leaders.

The agricultural education leader of the future must be concerned about CAREER DEVELOPMENT and how programs in vocational agriculture can contribute to the career development for the individuals enrolled. This means that the leader will learn the major factors involved in relating education to the world of work. Some of these factors are motivation and work, vocational development and maturity, occupational sociology, vocational guidance, vocational behavior, and career pattern development. Bob Warmbrod's editorial in the March, 1970, *Agricultural Education Magazine* offers some very interesting concepts for the "new" vocational education that is emerging.

The agricultural education leader of the future must be "socio-econ" minded too. It may be more important for him to know the trends in population mobility in an area than to know the latest trends in growing crops. What careers are open to whom and when? Where do people go to work everyday?

The agricultural education leader of the future will be creative and inventive in contrast to the authoritarian defender of the status quo. We must clarify the difference in HEADSHIP and LEADERSHIP. Because one is a State Supervisor or a State Director or a Dean or Department Head does not necessarily make him a leader.

"The agricultural education leader of the future must be . . . concerned about career development and how programs in vocational agriculture can contribute to career development . . . socio-econ minded . . . creative and inventive in contrast to the authoritarian defender of the status quo . . . a clarifier of issues that affect agricultural education."

• Clarifier of Issues

The leader of the future will need to be a clarifier of issues that affect agricultural education. Many of these will be forces coming from outside agricultural education and usually beyond the control of agricultural education personnel. One of these areas is that of objectives or goals of people in programs of vocational agriculture. In this area it appears sometimes as if we fit the statement of that famous philosopher Pogo when he said, "We have met the enemy — they are us." We seem to be hell-bent on tying ourselves down to goals that are unrealistic in terms of people that we enroll. Then we are in trouble.

Even in the FFA we try to make it be and do what it cannot possibly do, given the people who are in FFA. "Future Farmers, Why are we here?" The answer comes through loud and clear. "To practice brotherhood, honor rural opportunities and responsibilities, and develop those qualities of leadership which a Future Farmer should possess." That is broad and challenging. Then, we start nailing down and let Future Farmer mean Farmer of the Future, literally. This was done as late as 1966 in a national magazine, USOE's *American Education.* To further illustrate the point, a guidance publication did a reprint on that article and sent it to all guidance personnel in the country with a file number all ready for the busy guidance counselor. It was to be filed under *FARMER, General.* Yet, we complain that guidance counselors do not understand that "agriculture is more than farming!"

• Broader Objectives Needed

Another illustration is the nationally distributed bulletin on objectives which was developed by an able committee of leaders in agricultural education. Here again, we talk a good game of broader programs but when we get down to specifying objectives, we nail them down real good! We continue to use the term "individuals engaged in or preparing to engage in agricultural occupations." Then we eliminate all of these occupations requiring bachelor, master's, or doctoral degrees.

As Howard Martin pointed out so well in his AATEA Lecture at AVA in December 1969, we should move to goals that are beyond "develop agricultural competencies needed by individuals engaging in or preparing to engage in an agricultural occupation." Broader goals are needed for many reasons, among those being appeal to those under 30 which is a pretty important point. Howard's broadly designated goals are as follows: Agricultural Production and Marketing, Natural Resource Management, Environmental Development, and Agricultural Research and Service.

An earlier version of a simliar grouping of areas for goals was Harold Byram's Agricultural Production, Agricultural Business, and Agricultural Professions. This general idea was followed by leaders in Georgia, Louisiana, and possibly other states. But if all students must be reported as pursuing an agricultural occupation in one of eight categories, this makes it difficult for all concerned.

• Some Concluding Remarks

What I have been arguing for is a leader and a program at all levels in agricultural education *offering the person enrolled the best possible opportunity to develop himself or herself toward a desired and appropriate career.* If we must limit this to an agricultural career, let's include *all* careers in agricultural professions as well as production and business. This is not a new idea, certainly it has been around since the first teacher of agriculture helped the first student see a wider world for himself, frequently including a degree at the College of Agriculture. Every teacher since who is worth his salt has tried to help his students find their ways to higher concepts of what they can do in the world of work.

In fact, in my opinion, this might well be the greatest single contribution that teachers of agriculture have made through the years. This would be difficult to document, treat the data, and reach a valid conclusion. I will let it stand as an opinion subject to such fallible, subjective data as myself, you, and thousands of others who had the privilege of learning to do by doing under an able teacher of vocational agriculture.

So, I suppose that what I am saying is that we should legalize what our best teachers have been doing through the years. We thought that the Vocational Acts of 1963 and 1968 were legalizing this highly personalized approach to a broader occupational program, but we keep hemming ourselves in by official documents and pronouncements. I still believe that the mandate of the 1963 and 1968 Acts is for the best possible occupational education for those who need it, and that is just about "everybody in every community." If our programs do indeed help those enrolled find their places in the world of work as productive, happy, effective citizens, I believe that will be the ultimate test.

• National Action

I believe that we should consider putting our own professional leader in agricultural education in Washington, attached to the AVA Office, with secretarial help and expense account to do the professional job that we need. If teachers of agriculture in a state can employ their own executive secretary, it would seem that all in agricultural education could employ one at the national level. While this is being considered, let's join hands behind Howard Martin's suggestion that we establish a *Commission to Study Goals for Agricultural Education.*

• Modern Pioneers Needed

It is my considered opinion that we need pioneers in agricultural education in the 70's just as we needed them 50 years ago in the 20's. No, the leadership of the 20's will not do now; neither will the leadership of the 60's. You cannot be duplicates of the present leaders; if you try, you will be forever trying to catch up. You must be a 1970, preferably a 1971 or 1975, model leader.

Innovation in Adult Farmer Education

BOB JASKA
Texas A & M University

It is recognized and accepted that systematic adult and young farmer education is an integral part of vocational agriculture. Public schools offering vocational agriculture have the responsibility for providing systematic instruction for adults established in farming and ranching or in the process of becoming established. Adults participating in farming and ranching on a part-time basis also need assistance in becoming more proficient.

Specialists Assistance

To assist the public schools to fulfill this responsibility and to enhance and enrich the adult farmer education program in local schools, the Texas Education Agency in 1958 entered into an agreement with Texas A&M University to carry on an adult and young farmer program.

Specialists are employed to conduct systematic short courses for adult and young farmer groups which are organized and sponsored by local public high schools. In order to avoid duplication of effort with the Texas Agricultural Extension Service, courses taught by these specialists are conducted according to the standards set forth by the Texas Education Agency under the State Plan for Vocational Education.

These standards specify that educational programs may be conducted by specialists on a short course or workshop basis for regular adult farmer or young farmer groups which meet at scheduled intervals throughout the year. The length of short courses is a minimum of twelve hours of formal instruction plus laboratory work. Specialists are employed in the various agricultural subject matter areas according to needs determined mutually by the Texas Education Agency and Texas A&M University.

A Coordinator is employed to administer the program under the supervision of the Head of the Department of Agricultural Education at Texas A&M University. The appropriate subject matter department heads in the College of Agriculture assume responsibility for the accuracy of subject matter presented by the specialists.

Program Operation

Generally, each specialist is assigned to one of the ten geographical areas for vocational agriculture in Texas for a period of one month each year, September through June. Assignments to local schools within the area are the responsibility of the area supervisor. Each specialist conducts an equivalent of three twelve-hour short courses during the month. The specialist devotes the remaining part of the month in preparation of teaching materials and obtaining research data.

To obtain the services of a specialist, the local teacher of vocational agriculture makes a request to the area supervisor of vocational agriculture. The area supervisor makes assignments for the month the specialist is scheduled in the area. The area supervisor forwards assignments directly to the Coordinator of the Specialist Program who sends application blanks to the vocational agriculture departments selected along with a course outline, a biography of the specialist, publicity releases, and other information pertaining to the short course. Specialists are available in the subject matter areas of arc welding, oxy-acetylene welding, tractor maintenance, pasture, beef production, swine production, farm wiring and safety, and electric motors.

Funds

The Texas Education Agency reimburses Texas A&M University for the salaries and travel of the Coordinator and specialists and for the salaries of two secretaries. Texas A&M University provides office space and facilities for the staff and secretaries.

Office supplies, demonstration equipment, teaching materials, and other needs of the specialists in conducting short courses are funded through a local account which derives its funds from fees collected from short course enrollees. The fees charged to short course enrollees range from $2.00 to $10.00 depending upon the course.

Scope of Activities

The program has grown from one specialist when the program was initiated in the spring of 1958 to a staff of ten specialists during 1968-69. From June 1958 through June 1969, a total of 2,917 adult and young farmer short courses were conducted with a total of 58,585 persons participating. An average of 426 vocational agriculture teachers participated in these short courses each year.

During 1968-69, the specialists conducted 266 regular one-week short courses throughout the state with 6,156 participants, an average of slightly over 23 enrollees per course. While conducting these short courses, extra and individual instruction was given to 4,762 people in the field. In addition, 26 workshops for teachers of vocational agriculture were conducted with 452 vocational agriculture teachers participating.

During 1968-69, the specialist staff also presented programs or otherwise participated in 98 other activities such as district in-service education meetings for teachers, judged shows and contests, gave safety demonstrations, and presented programs on radio, television and for civic organizations. Several lesson plans and publications have been developed by the specialist staff for use in adult short courses and in other teaching situations.

Outcomes

Vocational agriculture teachers who sponsor these short courses report many favorable and far-reaching effects on local programs. The most frequently listed outcomes of the program are:

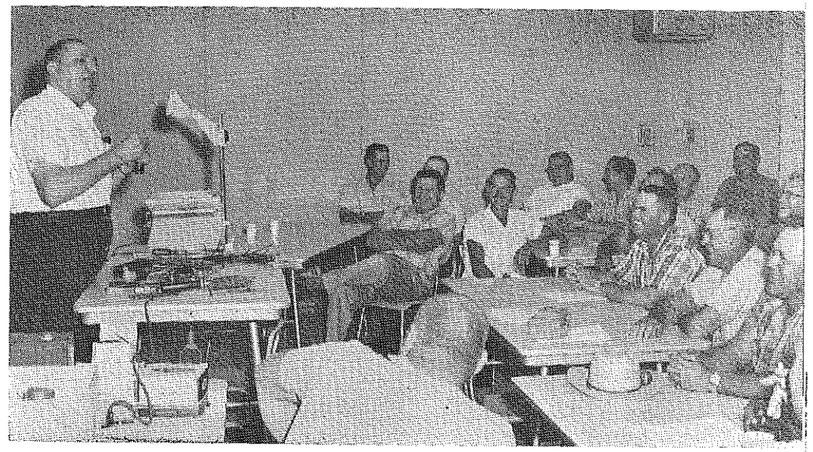
—Teachers become aware of the need and desire of adults for educational programs on a continuous basis.

—The growth of young farmer programs is stimulated.

—The confidence of teachers in conducting adult education programs is increased.

—Models and patterns for adult education procedures and techniques are provided.

—Farmers and ranchers become aware of other programs sponsored by vocational agriculture departments.



Bob Jaska, Coordinator of the Agricultural Education Adult Specialist Program, Department of Agricultural Education, Texas A & M University, teaches a short course for adult farmers on electric motors.

—School administrators recognize the responsibility and advantages to schools from adult education.

—Vocational agriculture teachers have access to recent agricultural information and see new approaches.

—Business, industry, and civic groups recognize adult education as a school responsibility, thereby improving the image of vocational agriculture.

AN INNOVATIVE PROGRAM IN ORNAMENTAL HORTICULTURE

RUSSELL BRUMBY, Teacher of Horticulture
Niagara Falls, New York

In February 1966, the horticulture program was born in Niagara Falls, New York. The project was financed by Title I of the Elementary and Secondary Education Act. We received some $200,000 in federal funds to build a 25′ by 100′ greenhouse and a 80′ by 32′ classroom laboratory building; to purchase tools, a tractor, and other assorted equipment; and to provide the salaries for staff to start the program. The complex is situated on a 54-acre site adjacent to LaSalle Senior High School in Niagara Falls.

Facilities and Projects

Since moving into the completed building in February 1967, we have grown considerably. The students have completed a 125′ rose bed garden, six large annual flower beds, and completely landscaped the greenhouse and classroom building. Also, one 125-yard, par 3, golf hole of a tentative four-hole golf course has been completed to teach golf course management. We have experimental turf plots with grasses from all over the world made available with the cooperation of a seed company.

In March 1969, we added two 26′ by 103′ greenhouses to increase flower production. Each year the students grow some 55,000 annuals which are used to plant eleven schools in the city school system. The excess plants are sold to faculty and staff within the school system.

Holidays are made special with home-grown poinsettias, lilies, roses, chrysanthemums, and other cut flowers for the floriculture program. Students make corsages for approximately 450 seniors on Class Day each year and floral arrangements which are sent to various offices for special occasions. In the fall of 1970 we undertook a park area project which will include 100 different varieties of trees and 350 varieties of evergreen and deciduous shrubs.

Students

At present we have 64 students. Each student spends a double period in horticulture each day for two years. The course is open to students in grades nine through twelve in parochial and public school poverty areas. It is also available to dropouts and mentally and physically handicapped persons capable of learning.

A night course, held twice a year for adults, covers such subjects as general gardening techniques, landscaping, floral design and botany. This course is always filled to capacity.

Change Agents for Agricultural Education

J. C. ATHERTON, Teacher Education
Louisiana State University

J. C. Atherton

We are living in an age of change. The indications are that this evolution shall continue but at an ever increasing pace. Evidence verifies the fact that change may be modified and it may be slowed, but in the longrun it seems inevitable.

Teacher educators and supervisors are in a position of responsibility and opportunity when it comes to fostering change and to directing the reconstruction of modifications currently in process. As leaders on the state scene they have not only a privilege but a mandate to fulfill the role of change agents for agricultural education.

• The Big Picture

As change agents, we should face this responsibility with optimism and enthusiasm. We must gear our efforts to meet the needs of the public. In doing this, practices and methods which have been traditional must be modified so that they will become more effective.

Agricultural educators usually consider themselves practical people. Probably many persons would agree with this attitude. Still there appears to be a weakness that frequently they fail to give much consideration to the larger framework within which they should operate. Any viable program of education should be based upon the needs of the learners.

It is essential that we see the "big picture" before efforts are made to attack a specific objective. By getting this view, one is in a position to visualize the relationships which exist between the item receiving primary emphasis and the entire task facing the educator. It may be possible to coordinate various efforts so that the approach to the overall problem will not be piecemeal and fragmented.

It may not only be feasible but desirable to aim at this larger frame of reference so that we may develop a larger philosophy or a more basic feeling of what we are attempting to accomplish. Although we work toward an ideal we should recognize that it is neither practical nor desirable to "button up all of the buttons" or to put each object in the proper pigeon hole. Work in this direction, but recognize that society is far from static and what seems right today may need to be modified in the days ahead.

The primary function of the agricultural educator is developmental. Its purpose is that of aiding individuals to become what they are capable of becoming. Instruction should be presented in such a way that it is not only felt and experienced but that the learner will respond to it. In other language, words and philosophy should put on their working clothes.

The agricultural educator should realize that bringing about modification requires the efforts of a number of persons and that one individual seldom has the intellect, insight, personality, or energy to be all things for all people in all situations. Except in situations of emergency and stress, change is normally slow and accompanied by a certain amount of resistance. It may also be "messy" and cause temporary inconvenience.

• Opposition to Change

It will not be at all unusual for some people to be opposed to change. The unknown and the uncertain nearly always bring about a feeling of uneasiness. The usual, the routine, and the accustomed way of doing things become comfortable, whereas instability and the new or untried bring about a feeling of uneasiness.

Those who are antagonistic toward change may exhibit resistance openly or covertly. The hostile person may manifest his feelings in a variety of ways. He may refuse to cooperate, he may openly criticize the program or those who are fostering innovations, he may completely ignore those holding views not to his liking, or he may attack the person or activity obliquely by finding fault with the educator or the program generally but never openly assaulting the sore spot—the changes which are being sought.

This hostility leads to a lack of trust between individuals thereby tending to isolate persons one from another. This causes a breakdown in relationships thereby creating a barrier which reduces the possibility of effective communication among the parties concerned.

Although one may be tempted to take short-cuts and to manipulate people, the educator must be a person of integrity. Immediate results must not be used as an excuse for taking advantage of others or for shady deals of any type. Circumstances do not justify the distortion or misrepresentation of facts. This does not imply that one should not use imagination in his efforts to upgrade agricultural education. The point is that it should be used realistically.

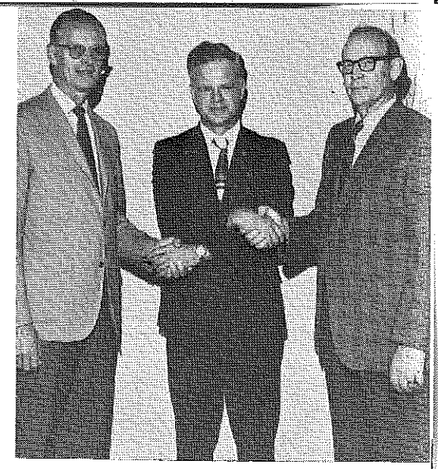
• Bringing About Change

When fostering change, we should be aware of the ways groups arrive at goals and purposes and ways in which the educator can assist them in achieving these ends. Positive steps are needed if one is to have any impact upon society. The educator will want to make use of the following sugges-

(Continued on page 152)

Innovative Professional Organizations Keep Up With the Times

E. L. BOSOMWORTH
Olney (Illinois) Central College



Eldon Witt (center), newly appointed Executive-Secretary of the Illinois Association of Vocational Agriculture Teachers, is congratulated by Charles L. Harn (left), 1970-71 President, and E. L. Bosomworth, 1969-70 President. Mr. Harn is Agriculture Occupations Teacher at Fairview, Illinois. Mr. Bosomworth, a former high school Agriculture Occupations Teacher and junior college Instructor of Agriculture Supplies and Services is a Vocational Counselor at Olney (Illinois) Central College. (Photo by James Bond, Jr.)

We speak of a changing agriculture, and we have seen the need for innovation in supervised experience programs, curriculum, and the FFA. Professional organizations must also change if they are to reach their objectives and meet the needs of the profession. Facing new problems and seeking to further their objectives, the Illinois Association of Vocational Agriculture Teachers proceeded on a course during 1969-70 which was not only a change in itself but will bring about further change.

The Setting

The Illinois Association of Vocational Agriculture Teachers' Convention in June 1969 seemed to "drive home" several points.

—Teachers faced the prospect of working under a new state plan for vocational education which was an unknown factor in a state which is rather highly urbanized.

—Junior colleges were growing in number with twenty-two offering agriculture programs and employing approximately 80 instructors.

—University students preparing to teach wanted a voice in an organization in which they would later become active members.

—The leadership of the organization, due to busy schedules in their home communities, found it difficult to find the time required to move the organization and its objectives forward.

This was the setting in June 1969 when the Association voted to employ a full-time executive secretary and establish an office. At the same time a substantial increase in dues was voted to support such a program.

A search for an executive secretary was initiated and Eldon Witt, Roanoke, Illinois, was employed in February 1970. The new executive secretary is experienced in vocational agriculture and professional organizations; he served the Association as President in 1968-69. So Illinois became one of the few state vocational agriculture teachers' associations to have full-time executive secretary.

Junior College Teachers

Also in Illinois is the Illinois Association of Junior College Teachers of Agriculture, an organization working primarily to serve the interests of agricultural education at the junior college level. Recognizing that where there is cooperation progress can be greatest, the executive committees of the Illinois Association of Vocational Agriculture Teachers and the Illinois Association of Junior College Teachers of Agriculture went to work. Working separately and together, they developed a plan whereby both groups could most effectively serve the interests of their members and the interests of agricultural education. These changes were accepted by the membership of both associations, and constitutions were amended to bring about the changes.

Under the plan, the Illinois Association of Junior College Teachers of Agriculture maintains its own organization and has its own officers and program of work. Membership in the Illinois Association of Vocational Agriculture Teachers is optional to their members. The junior college association has representation on all standing committees of the vocational agriculture teachers' association, including the nominating committee. In addition, they have representation on the Executive Committee of the Illinois Association of Vocational Agriculture Teachers through a district director elected by the junior college association.

Membership

The change in the constitution of the Illinois Association of Vocational Agriculture Teachers brought student membership to a reality. Membership in the association can now be Active, Student, Associate, or Honorary. Student membership is open to anyone who has completed at least two years in a college of agriculture in Illinois or a recognized transfer course in agriculture in a junior college and who has declared the intent to student teach during the senior year. Associate membership, as in the past, is open to the state supervisory staff, teacher educators, Vocational Agriculture Service staff, and others who have a genuine interest in agriculture and who seek membership.

Student and Associate members have full discussion privileges, but not voting rights. Thus it makes it possible for all segments of agricultural education to work together in one organization for a common goal.

Other Changes

There have been other changes in the organization. Among them are changes in the program of work and

(Continued on next page)

Change Agents for Agricultural Education

(Continued from page 150)

tions as he works with others in the implementation of new directions in agricultural education.

—Involve those concerned in the basic planning for change. People are much more concerned with something they consider "ours" than they are with something they feel to be "theirs."

—Limit the changes to a few essential ones. Concentrate on the essential lest the group become so involved in the trivial that the major elements are overlooked.

—Provide for free and frank discussion. A consensus is formed by people as they have opportunity to express their views and consider the opinions of others.

—Allow time for decision making. Except in emergency situations, opinions are changed slowly and over a period of time. Rushing a decision often creates resistance.

—Have the facts on hand and present them in an unbiased manner. Decisions should be based upon correct information. Distortion of facts or suppression is not justified and may lead to distrust by one's associates.

—Consider the group mode of thinking, feeling, and acting. Each group has some distinct mannerisms, codes, and practices. One may find acceptance difficult if he fails to observe these.

—Use problem solving procedures. Through this technique the group essentially solves its own problems in a manner satisfactory to the group as a whole.

Probably one of the largest problems faced by the educator who is attempting to initiate change is coordination. The complexity of the educational program and the many relationships the teacher has with various aspects of the community make it essential that adjustments be made so that relationships be kept on an orderly plane. In bringing about change it seems wise to assist persons to identify their concerns and to allow them to voice these concerns freely so that they may evolve procedures for resolving these matters.

• Trends

There are a number of societal trends which must be taken into account as efforts are made to bring about certain modifications. If one ignores the obvious, he is blindly proceeding down pathways which may contain numerous pitfalls. Some of the significant trends which leaders should consider as they plan include:

—the increasing urbanization of the population,

—the enormity of the task of supplying the needs of the farmer and rancher,

—the increasing portion of the American population who are less than 30 years of age,

—the continuation of war and the American involvement in world affairs,

—the refusal by a segment of society to become involved in local, state, and national problems,

—the increased emphasis being placed upon education,

—greater usage of mass communications,

—the unprecedented knowledge explosion,

—the many pressures being brought to bear upon those in the field of agriculture,

—increasing depersonalization of the individual, and

—enlargement of community tensions.

As we lead in fostering change, one of the major problems we face will be that of getting individuals to acquire a proper sense of direction in their turmoil-filled world.

Professional Organizations

(Continued from page 151)

contests. The official stationery once carried the line "Dedicated to the Education of Rural America." Today it reads "Educating for Careers in Agricultural Occupations."

These innovations have come about through the efforts of a concerned membership and an active Executive Committee of the Illinois Association of Vocational Agriculture Teachers. The leadership of the organization, in the form of an eleven-man executive committee, met more than once a month during 1969-70 in order to bring about these and other changes.

One professional organization has attempted to keep abreast of the times. Significant changes? Innovative? Perhaps, but not as significant or as innovative as these alterations may bring forth as the organization accepts the challenge to move forward in the 1970's.

From the Book Review Editor's Desk

GUIDE TO THE 1968 NATIONAL ELECTRICAL CODE by Roland E. Palmquist. Indianapolis, Indiana: Theodore Audel and Co., 1969, 480 pp. $6.95.

The publisher states that "By-rewording the more difficult sections of the Code and with the extensive use of graphic examples, the author has succeeded in making this an extremely useful guide to the complex and controversial NEC." This book would be a valuable reference for teachers and students alike.

FOOD FOR US ALL, The Yearbook of Agriculture 1969. Washington, D.C.: U.S. Government Printing Office, 1969, 360pp. $3.50.

If you do not have your copy yet, write to your Congressman. He may be able to furnish a free copy. Every school should have at least one copy in the library. This is a well illustrated "encyclopedia of food for the consumer in country or city." The publication focuses on consumer services in the food fields.

EVALUATIVE CRITERIA FOR THE EVALUATION OF SECONDARY SCHOOLS. Washington, D.C.: National Study of Secondary School Evaluation, Fourth Edition, 1969, 356 pp. $7.50.

This "Manual" for evaluative criteria should be in every school, state department of education and university where there is a unit responsible for some phase of secondary education in agriculture. Twelve pages are devoted to Agriculture. Other sections refer to the total secondary school as well as specific programs.

The Effectiveness of Individualized Instruction

Walter W. McCarley

Raymond M. Clark

WALTER W. McCARLEY, Central Michigan University
and
RAYMOND M. CLARK, Michigan State University

Walter W. McCarley is Assistant Professor and Coordinator of Student Teaching at Central Michigan University, Mt. Pleasant. Raymond M. Clark is Professor (Retired) of Agricultural Education at Michigan State University, East Lansing. This article is based on Dr. McCarley's doctoral thesis, "An Experimental Study to Evaluate the Effectiveness of an Individualized Instructional Method and the Lecture Discussion Method for Teaching Vocational Agriculture Classes," which was completed at Michigan State University in 1969.

Do students learn as well with individualized instruction as when taught by the more traditional lecture-discussion-laboratory method? Can teachers who are prepared to teach according to the lecture-discussion-laboratory method successfully direct individualized instruction with a minimum of re-education when instructional units are provided?

These and many other questions are being asked by teacher educators, teachers, and administrators as they discover that students in vocational agriculture courses have a great diversity of occupational objectives. Individualized instruction may be an effective means of meeting these varied objectives.

Problem

To assist Michigan teachers meet the challenge of helping students reach individual occupational objectives, we prepared a publication titled "A Pattern for Individualized Instruction." During 1968-69, a series of individualized instructional units were prepared and tried out by teachers. (See Clark's article on "Individualizing Instruction in Vocational Agriculture" in the November 1969 issue of *The Agricultural Education Magazine.*)

This article reports the findings of a study designed to determine if high school students learn as well when taught by an individualized instruction program as when taught by the lecture-discussion-laboratory approach. An instructional unit on grading corn according to U.S. grain grading standards was chosen for the study.

Procedure

Samples of grain were assembled, equipment was secured, lesson plans were prepared for the lecture-discussion-laboratory procedure, and an individualized instruction unit including visuals was prepared. Teachers of vocational agriculture met with the researcher and agreed on methods they would use in teaching one group of students by the lecture-discussion-laboratory method while a second group of students, taught by the same teacher, used the individualized instruction unit. The same equipment, grain samples, and other instructional materials were used in teaching both groups. Each group spent eight days for instruction and two days for pencil-and-paper and laboratory posttests.

Four teachers participated in the study which involved 128 junior and senior vocational agriculture students. Students were ranked high, medium, and low an academic rank and interest in agriculture. Achievement was measured after instruction on the basis of the student's ability to interpret questions (pencil-and-paper posttest) relating to each grain determining factor and the student's ability to assign numerical grades (laboratory posttest) to two samples of corn according to U.S. grain grading standards.

Table 1
Mean Posttest Scores by Method of Instruction and Academic Rank of Students

Variable	Method of Instruction	Rank in Class		
		High	Medium	Low
Pencil-and-paper posttest	Individualized	178	161	150
	Laboratory-Discussion	145	150	118
Laboratory posttest	Individualized	79	81	77
	Laboratory-Discussion	37	43	37
Total posttest	Individualized	257	243	227
	Laboratory-Discussion	182	194	155

Findings

Individualized instruction proved to be superior to the more traditional lecture-discussion-laboratory procedures on the following variables.

—students' gain scores on the pencil-and-paper test

—difference between the two groups in mean scores for total posttest

—difference between the two groups in mean scores on pencil-and paper posttest

(Continued on page 155)

SUPERVISED OCCUPATIONAL EXPERIENCE | A Must in Vocational Agriculture

Kenneth Dishman

KENNETH DISHMAN, Vocational Agriculture Teacher
Elsberry, Missouri

One of the basic principles of vocational education in agriculture is that schools provide for directed or supervised experience in agriculture. Directed or supervised experiences may be obtained on a farm or in farm-related agricultural occupations. Modern agriculture affords many employment opportunities for youth which can be utilized to build sound vocational education programs.

New Program

The Lincoln County School System, Elsberry, Missouri, instigated a new career-centered program to give students on-the-job training in an agricultural field closely related to their occupational objective. One learns by doing. If students are given opportunities to apply, to participate in applying, or to observe the application of the principles and practices to be learned, they will be more qualified to assume a job and become more responsible citizens on completion of high school.

The program is called "Occupational Vocational Agriculture" and is intended for junior and senior students who plan to end their formal education with the completion of high school. However, it is believed that the program will have a tendency to motivate students and encourage them to further their education beyond high school.

In addition to the new program of vocational agriculture, we maintain the basic production courses including Animal Science the freshmen year, Plant Science the sophomore year, and Farm Management and Advanced Plant and Animal Science the junior and senior years. We believe it is still essential that students have a background in production agriculture in order to serve in agriculturally related occupations which are supporting to production agriculture. Every student is required to take freshmen and sophomore agriculture before the advanced courses. Juniors, as well as the seniors, have a choice of taking production agriculture or occupational agriculture.

Placement

Students who select occupational vocational agriculture in their sophomore year are processed as to their occupational objective and given a list of possible employers. From this list students are given three choices as to preference of placement. These selections are then given to employers who are allowed to select the students they prefer. If these lists do not correspond the teacher-supervisor with the employer places students according to their occupational objectives.

One must be exceptionally careful in selecting employers or work centers. It is important that the firms are agriculturally related. At present we have two feed exchanges with elevator facilities; a parts exchange where alternators, regulators, sylenoids, and clutches are overhauled; one auto parts exchange; one super market; one dairy and crop farm milking over 200 cows and farming 3,000 acres along with a beef herd; and one landscaping wholesale-retail nursery with 75 full time employees. Each of these firms could become permanent employment for the sixteen students who are enrolled.

There must be close coordination with the employer and the student in order to make the program educational and worthwhole. Each employer talks to the entire class about his particular field and interviews interested students in order that they might have a clear picture of what is expected of them. Each employer along with the students, school administrator, and teacher-supervisor plan and agree upon individual training programs to meet the needs of each student.

Coordination

The teacher-supervisor (the vocational agriculture teacher) maintains close touch with the student and the employer to check on accomplishments, to discuss problems, to provide and

This student's work center is a local supermarket where his work is supervised by the store owners.

One of the eight students working at the wholesale-retail nursery assists the sales manager in setting up a display of container-grown evergreens.

assist the employer in providing on-the-job instruction, and to evaluate the student's experience in cooperation with the employer.

When the students are placed, they begin training with the school year and continue throughout the school year. The last two periods in the day are allotted for on-the-job training. The remainder of the students' day is occupied with other classes. For the two hours of on-the-job training each student receives one hour high school credit and a fair rate of compensation by the employer.

Taking into consideration the different employers, we try to maintain equal wages to alleviate hard feelings among students. During the school year, plans are to increase each student's salary as he progresses toward more responsibility. We also maintain a placement agreement with each student which states what the student, the employer, the administrator, the supervisor, and the parents must do.

Evaluation

We believe this is a sound approach to the present needs of students in vocational agriculture. Along with the fact that fewer and fewer students can find permanent employment on the farm, there must be other approaches to meeting the needs of these students. Since most vocational agriculture students have some background in agriculture, there are many agriculturally related jobs that offer opportunities.

Since the program has just been started, we have not been able to evaluate it fairly. However, we can see a change in attitude of the students toward education. They are attending school more regularly, and they are showing a greater interest in furthering their education beyond high school. Of the sixteen students enrolled, two have shown a desire in attending a two-year technical school in landscape architecture. Perhaps this will show that there is a need for programs of this type and that the programs benefit those who participate.

The Effectiveness of Individualized Instruction

(Continued from page 153)

—difference between the two groups in mean scores on laboratory posttest

Overall, high interest in agriculture and high academic rank in class were associated with greater achievement by students in the individualized instruction group.

The data reported in Table 1 reveal that in each case students in the high academic group surpassed those lower in academic rank. More important, perhaps, is the fact students in the individualized instruction program scored higher than the lecture-discussion-laboratory group. It is interesting to note for each of the three variables that the mean scores for the low academic, individualized instruction groups are higher than the mean scores for high academic students in the lecture-discussion-laboratory groups. Teachers attribute this finding partially to the fact that the individualized instruction groups covered more of the unit in the allotted time, consequently students were able to complete successfully more of the posttests.

Some Observations

Work with teachers who prepared the individualized instruction units and teachers participating in the research project leads to the following observations.

—The role of the teacher changes when individualized instruction is used. One teacher though "he wasn't doing his job because he was not in front of the class" leading and directing discussion.

—Students like individualized instruction. However, they need a period of adjustment and must learn skills such as how to use an index, how to attack a problem, how to prepare a report, and how to evaluate their work.

—Individualized instruction is equal or superior to traditional lecture-discussion-laboratory procedures for helping students achieve selected learning objectives. Many students with low academic records can achieve as well as higher academic level students when individualized instruction is used.

EXTERN PROGRAM Provides Occupational Experience for Teachers

JAMES P. CLOUSE and AVERY GRAY
Purdue University

Flexibility seems to be an increasingly important characteristic of teacher education programs. Purdue University has applied this idea in meeting the needs of vocational agriculture teachers for new concepts, new skills, and first-hand experience in agriculturally related occupations.

Extern Program

The "Teacher's Extern Program" is a part of inservice teacher education which provides practicing vocational agriculture teachers the opportunity to develop their own supervised experience program in a local business. The extern concept involves the teacher in a realistic "employee role" in an agricultural business through which he could develop understanding and practical working skills. The teachers receive no pay, since the plan involves professional improvement and growth as a part of the regular inservice summer program.

A placement agreement and training plan is developed by the teacher and businessman under the direction of local school officials and teacher educators.

The training plan specifies at least the equivalent of ten days of extern duty in the selected place of business. The competencies included in the plan are designed to give the teacher a total perspective of the business operation. Perhaps even more importantly, the specific tasks to be performed are selected on the basis of the needs and weaknesses of the teacher as he develops programs for occupations related to servicing the needs of agriculture.

Curriculum and Teaching

Coupled with this on-the-job extern experience is a second phase of the teacher education program which involves this same group of teachers in a concentrated series of curriculum construction and teaching aids development activities. These working sessions are held after the extern experience with the specific goal of transforming newly developed concepts into curriculum modifications and innovations. The final phase culminates in the development of teaching techniques and materials which could be shared with other teachers.

The extern program for practicing teachers involves a team approach to professional growth including local business men, local school administrators, the state supervisory staff, and teacher educators. Visits are made by teacher educators and supervisors to assure coordination of the team approach. The flexible extern approach shows considerable promise for rapid modification of professional development courses designed to up-date teacher competencies.

Placement

During the summer, externs were placed in a variety of agricultural businesses such as farm implement dealerships, lawn and garden equipment sales and services centers, grain elevators, feed stores, lawn and garden centers, landscape contracting firms, greenhouses, and flower shops.

One of the most unusual programs was developed in the sprawling metropolitan complex of Gary, a next-door neighbor to Chicago. Gary is a heavily industrialized city. There is little opportunity for production agriculture; however, greenhouses and flower shops are plentiful.

The agriculture teacher at Gary Technical Vocational Center is a greenhouse man and had avoided requests for a floral design and merchandising program to serve the floral industries 100 retail centers in Lake County. The extern program included placement of the teacher in a flower shop and the development of a curriculum for the floral design program.

Similar success stories could be related for most of the more traditional agricultural businesses where externs were placed. The flexibility of the extern concept provides each vocational agriculture teacher with the opportunity to tailor his program to provide the experiences he needs. The follow-up work on curriculum construction and program operation insures application of on-the-job experience to the local school program.

James P. Clouse

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Avery Gray

Structured Occupational Experience A Part of In-Service Teacher Education

DAVID L. WILLIAMS, Teacher Education
University of Illinois

In 1969 the National Advisory Council on Vocational Education issued a failing grade to vocational education in the nation's schools. To remove this failing mark, school personnel are charged to implement occupational training programs which will educate young men and women to a level of adequate employability.

In vocational education in agriculture, programs must be initiated that will adequately equip youth for employment in agricultural occupations found more frequently in the city than on the farm. The percentage of enrollees in agricultural occupations and applied biological science with a nonfarm agricultural occupational objective will continue to increase. This movement may be frightening to a teacher with only limited experience in the nonfarm business sector of agriculture.

The Need

Teacher education institutions must accept some of the responsibility for the failing grade vocational education has received. In the past, agriculture teachers who came from the farm were endowed with ideal occupational experience. Today, teachers of agricultural occupations need occupational experience in nonfarm agricultural business to supplement and complement experiences in production agriculture. Teacher educators are challenged to provide in-service teacher education programs designed to acquaint teachers with nonfarm agricultural occupations and to assist them in planning relevant training activities for students.

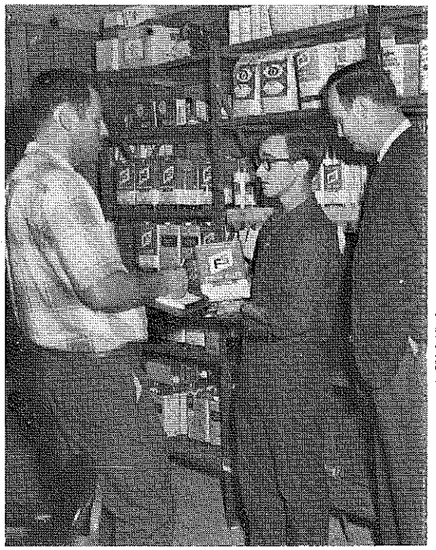
Promising Approach

A program was initiated by the Agricultural Education Division, University of Illinois, to help fill the void in the preparation and experience of in-service secondary and post-secondary teachers of agricultural occupations. The program, consisting of three modules, focused on problems commonly encountered by employees of agricultural firms. The modules were concerned with moving products into agricultural firms, handling personnel and products within agricultural firms, and moving products from the agricultural firm to the customer.

Each module constituted a course with the last module of the three-course sequence being taught during the summer of 1970. Each course provided structured, on-the-job occupational experience under the supervision of both the training station manager and the University coordinator, plus related classroom instruction. For a period of four weeks, teachers worked in a cooperating business during the morning hours and attended two-hour class sessions in the afternoons.

Structured occupational experience. Teachers were placed for structured experience in agricultural firms within daily commuting distance of the University. Cooperating businesses included agricultural supply firms, agricultural product firms, agricultural mechanics firms, and ornamental horticulture firms which were recommended by a consulting group acquainted with agricultural firms in the area. Work sheets were used to direct the structured experiences and served as a means for the teachers to record information about the operation of the firm.

The structured, on-the-job experiences were planned to provide the teachers with an overall understanding of the operation of a nonfarm agricultural business and to acquaint them in a realistic way with the knowledge and skills needed by employees. A sample of the skills experienced by teachers working in the specialized agricultural firms are as follows:



Agricultural Occupations Teacher Gene Morgan (center) receives instruction on the use of agricultural chemicals as a part of his structured, on-the-job occupational experience. The instruction is provided by the sales manager of an agricultural supply firm during a coordination visit to the cooperating business by David L. Williams (right), Assistant Professor of Vocational and Technical Education, University of Illinois, Urbana-Champaign. (Photo by Robert W. Walker)

Agricultural Supply
- Mixing bulk fertilizer
- Calibrating a sprayer
- Cleaning, bagging and labeling certified seed
- Formulating feed

Ornamental Horticulture
- Fertilizing greenhouse plants
- Making corsages
- Mixing and sterilizing soil
- Merchandizing flowers

(Continued on next page)

Structured Occupational Experience

(Continued from page 157)

Agricultural Products

Sampling and inspecting grain
Calculating grain dockage and shrinkage
Operating truck scales
Operating automatic grain handling equipment

Agricultural Mechanics

Assembling new machinery
Adjusting tractor engine valves
Repairing tractor transmission
Inventorying machinery parts

Classroom activities. Concurrent activities in the classroom focused upon analyzing the experiences of the teachers. Emphasis was placed on intellectualizing experiences in terms of implications for secondary and post-secondary agricultural occupations training programs. Information recorded on the work sheets during the structured experience phase was used as a basis for discussion in the classroom. Teachers had an opportunity to compare and discuss organization, management, and operation of different types of nonfarm agricultural firms. The level of skill and ability required for entry into various jobs frequently highlighted the discussion. Using the experiences gained and selected references, the teachers prepared workable teaching units for use in their instructional programs.

Evaluation

Participants generally concluded that the concept of using structured, on-the-job occupational experience is the best substitute for full-time employment and the most feasible method for obtaining comprehensive work experience in a short period of time. Some specific statements made by teachers in evaluating their experience in the program are as follows:

". . . developed competencies in areas where I did not feel confident."

". . . invaluable experience for teaching agricultural occupations."

". . . developed a much better understanding of the operation of a nonfarm agricultural business."

". . . the content of my courses will change as a result of the experience."

". . . provided firsthand experience in a nonfarm agricultural firm without having to leave the teaching profession."

Businessmen were receptive to the program and expressed a willingness to cooperate in any way possible for the improvement of vocational education. Cooperating businessmen commonly related that the on-the-job experience gained by teachers should result in better trained employees for nonfarm agricultural firms.

Summary

In conducting programs in agricultural occupations to meet the present and emerging responsibilities of secondary education, and post-secondary education, teachers must have a realistic understanding of the jobs for which they are preparing students. Teachers have always relied on in-service teacher education programs to assist them in keeping programs up-to-date. Agricultural occupations teachers are charged to develop innovative approaches to prepare students for the world of work, and teacher educators are challenged to assist them by providing relevant occupational experiences through in-service teacher education programs.

Page 1

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BOOK REVIEW

AGRICULTURAL, FORESTRY AND OCEANOGRAPHIC TECHNICIANS edited by Howard Sidney. Chicago, Illinois: J. G. Furguson Publishing Co., 1969, 344 pp. $12.00.

The authors briefly explain what the fields of agriculture, forestry and oceanography are, how they relate to man's modern society and the role fulfilled by technicians. The major portion of the book is devoted, in a very structured manner, to explaining the following concerning various careers for technicians in the above named fields: type of work done, necessary personal qualifications, educational requirements, list of typical courses that might be taken in a two-year college program, list of entry level jobs, list of advancement possibilities within field, license or certification requirements, working conditions, possible salary ranges, and the future of the particular field. The final portion of the book is a list of two-year colleges offering technical programs in the above listed areas.

Five prominent agricultural educators plus a former assistant Secretary of Agriculture wrote the general area of interest sections. The 25 job description sections were written by educators at the college level who are specialists in the particular field of concern or business executives of firms hiring such technicians.

The book is directed to high school students seeking information relative to possible careers or schools offering specialized curricula for specific career preparation. It is recommended that single copies be available to high school students in school libraries, vocational education offices and/or guidance offices. This would be more appropriately labeled a reference rather than a classroom text book.

Gerald A. Donovan
University of Vermont

News and Views of NVATA

JAMES WALL
Executive Secretary

Outstanding Young Member Awards

Vocational agriculture is continually faced with a shortage of qualified teachers. Even with increasing college enrollments in teacher education programs, the teacher shortage will continue unless those who have been prepared as teachers enter and remain in the profession. To encourage young men to remain in the profession of teaching vocational agriculture and to encourage and recognize participation in the activities of the National Vocational Agricultural Teachers' Association, an awards program is sponsored by United States Steel Corporation in cooperation with the NVATA. United States Steel Corporation provides a certificate to each state association for presentation to its outstanding young teacher at the annual meeting of the association. Each of the six regional winners receives an engraved plaque and an expense paid trip to the NVATA and AVA conventions. The winners in 1970 are:

Region I
John P. Mundt, Boise, Idaho

Region II
Ronald N. Mayeux, Hessmer, Louisiana

Region III
Marvin L. Sitorius, West Point, Nebraska

Region IV
Robert Jay Benham, Troy, Ohio

Region V
Georgia L. Terrell, Citronelle, Alabama

Region VI
J. W. Thomasson, Danville, Virginia

Career Orientation Awards

There's a big, changing, and challenging world awaiting today's high school graduates. It is a world filled with exciting and rewarding careers. If we as vocational agriculture teachers haven't provided students with all of the facts on agribusiness opportunities, the chances are the glitter of the big city may draw these valuable assets away from agriculture.

The NVATA Agricultural Orientation Awards program was conceived jointly by the NVATA Executive Committee and by New Holland to encourage vocational agricultural teachers to put continuing emphasis on informing students about the opportunities in agribusiness and to recognize teachers whose programs are especially worthy of note. The winners of these awards are vocational agriculture teachers whose interest in their students and the future of American agriculture has caused them to devise and conduct strong, innovative career orientation programs. The 1970 winners of the Agricultural Career Orientation Award receiving expense-paid trips to the New Orleans Convention are:

Region I
Donald O. Owen, Columbus, Montana

Region II
Robert V. Arceneaux, Thibodaux, Louisiana

Region III
Layton G. Peters, New Ulm, Minnesota

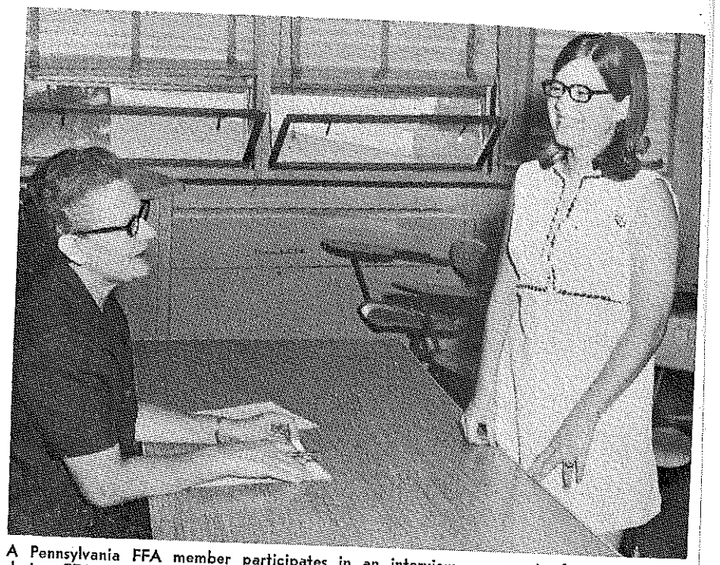
Region IV
Lowell M. McLear, Greenville, Ohio

Region V
William H. Teague, Ashville, North Carolina

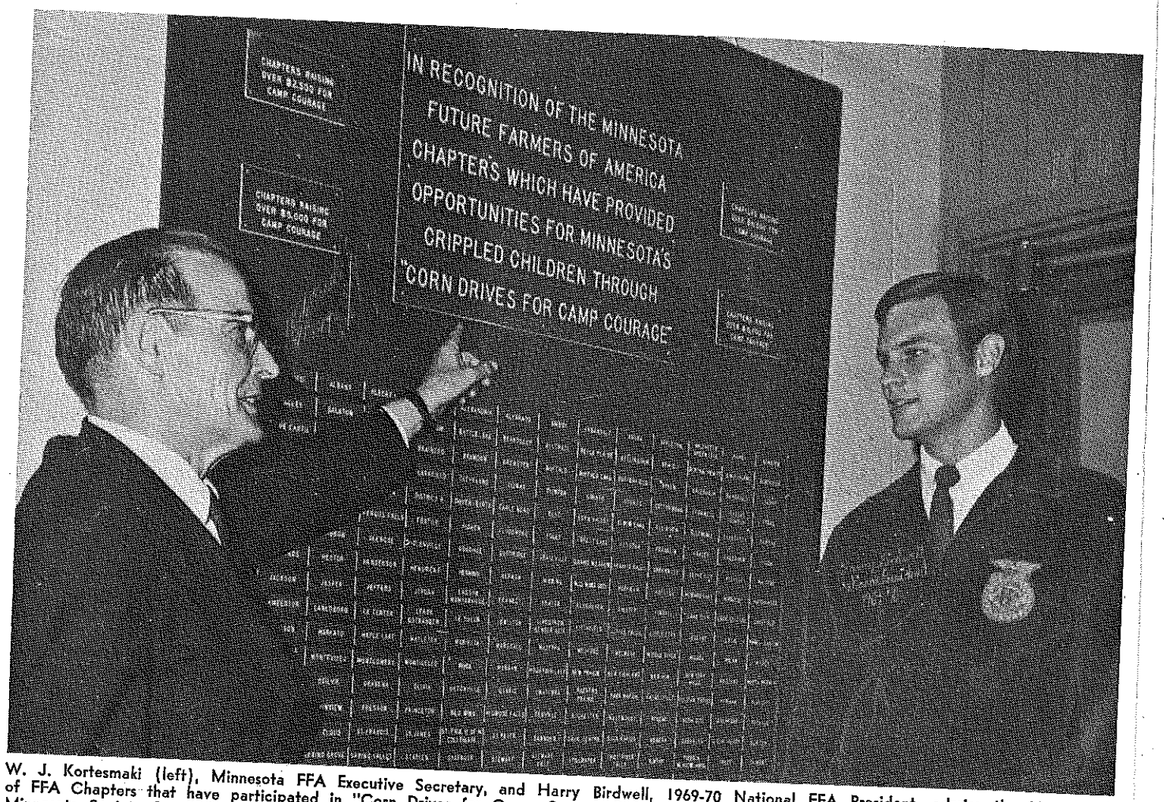
Region VI
Harry T. Miller, Frederick, Maryland

Stories in Pictures

ROBERT W. WALKER
University of Illinois



A Pennsylvania FFA member participates in an interview as a part of a new contest during FFA Week at The Pennsylvania State University. The contest also involves completing an application for employment and writing a letter of application for a specific job. (Photo by Rodney W. Tulloch, Graduate Assistant, The Pennsylvania State University)



W. J. Kortesmaki (left), Minnesota FFA Executive Secretary, and Harry Birdwell, 1969-70 National FFA President, admire the Honor Roll of FFA Chapters that have participated in "Corn Drives for Camp Courage." Camp Courage, Maple Lake, Minnesota, is a service of the Minnesota Society for Crippled Children and Adults, a United Fund agency.