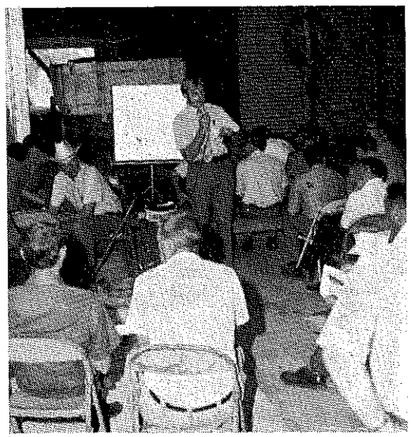
Professional organizations play a key role in In-Service Education. To supply the increasing demand for Agricultural Professional Personnel, NVATA operates a Career Booth each year in conjunction with the National FFA Convention. Sam Stenzel, new Assistant NVATA Executive Secretary, assisted with last year's booth. (photo from Sam Stenzel)

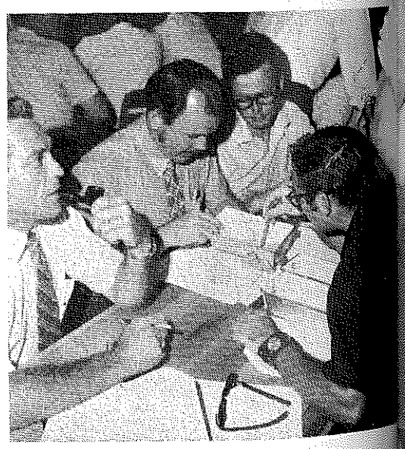
Stories in Pictures

by Richard Douglass

"Career Education" The theme of many In-Service Workshops in 1972. Dr. Duane Neilsen, Project Manager for Career Education Development Task Force, USOE, helped the Nebraska State Department of Education define their role in Career Education. (photo by Richard Douglass)



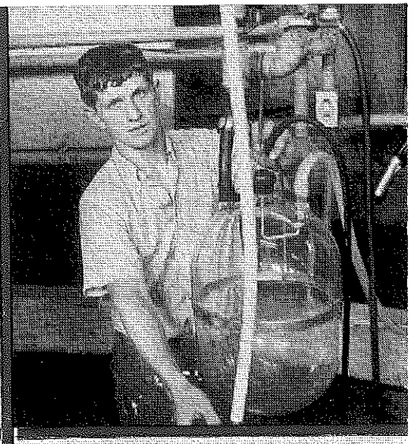
"Being Involved" and "Hands On" are key words for In-Service Education. "Grain Grading" and "How to Set up a Judging Contest" are the topics at this In-Service Workshop. (photo supplied by Richard Bringelson, Coordinator, In-Service Agricultural Teacher Education, University of Nebraska.)



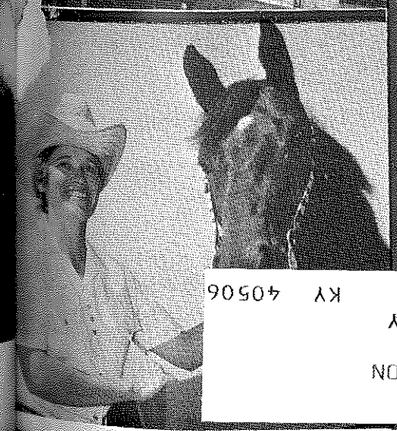
AGRICULTURAL EDUCATION

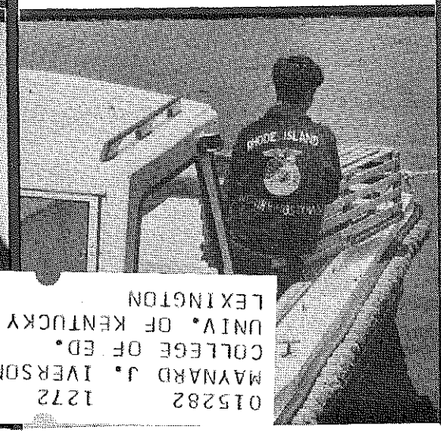
Agricultural Education

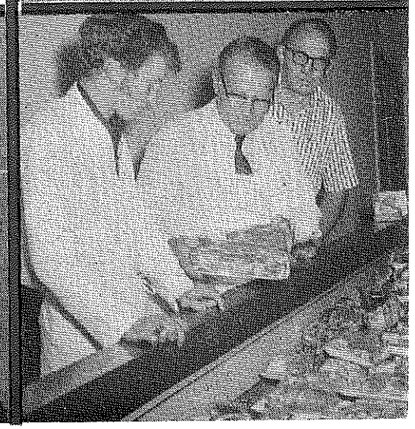
Volume 45 November, 1972 Number 5



THEME: AGRICULTURAL EDUCATION IN TRANSITION







The
Agricultural Education
Magazine

EDPRESS

Vol. 45 November, 1972 No. 5

TABLE OF CONTENTS

This publication is the monthly professional journal of agricultural education. The journal is published by THE AGRICULTURAL EDUCATION MAGAZINE, INC., and is printed at the Lawhead Press, Inc., 900 East State Street, Athens, Ohio 45701.

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Send articles and pictures to the Editor or to the appropriate Special Editor.

Cover Photo:

The transition in Agricultural Education is depicted with the range of Instructional Activities. Starting at the upper corner, Julie Severy inspects the flower bed at Middlebury, Vermont Union High School. Young farmers under the supervision of Mr. William Scott (upper middle) constructed a loose housing dairy building on the Foster Brothers Farm in Addison County Vermont. FFA chapter president, George Foster (upper right) displays their milking equipment. Agri-business and natural resources also has a place for the handicapped (center left). Ron Bart (center right) operates some agricultural construction equipment to illustrate this phase of Agricultural Education in Vermont. (Photos supplied by Gerald R. Fuller, Department of Vocational Education & Technology, University of Vermont.) Outdoor recreation as a part of Agricultural Education, is illustrated by Peggy Ann Nostrant, now a student at the University of California at Berkeley. (Photo supplied by Kenneth W. Jones, Bank of America.) Commercial fishing in Rhode Island (lower center) is illustrated by Marine Resources Student at North Kingstown High School (photo supplied by Dr. Donald E. McCreight, Teacher Education, University of Rhode Island). Agricultural Sales & Service (lower right) is represented by Clifford Sexton, a graduate of Greenbrier East High School, Lewisburg, West Virginia. (Photo by Guy E. Cain, Program Specialist.)

From Your Editor . . . EVERYONE CAN BE "INSIDE LOOKING OUT"

This month's theme suggests there is or should be **transition** in agricultural education. Transition from what to what? I would suggest the meaning lies

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(Continued on next page)

Carlos H. Moore

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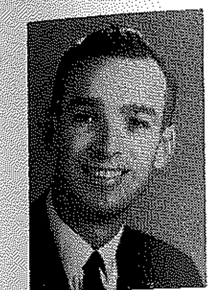
Roy D. Dillon

This month's theme suggests there is or should be **transition** in agricultural education. Transition from what to what? I would suggest the meaning lies in making the local program of vocational education in agriculture **better meet** the occupational preparation needs of youth and adults than it perhaps now does.

The concept of "Career Education" has built into it the idea that the entire educational curriculum should be designed to prepare youth for entry into the world of life and work. Each educational level plays a particular developing role, with the youth being able to observe and understand how his educational experiences are relevant to a "world of life and work goal" he will define and set during his progress through the school's educational program.

It is the purpose of this issue to "open the door" to the concept of "Career Education," in preparation for the 1973 issues which will include more specific themes.

May I suggest one form of transition that may be helpful to you as a local agriculture teacher who may be considering making some changes. Let's identify the persons who know about and work with your program. These include you, the school board, school administration, your advisory committee, fellow teachers, young men and women students, parents, local laymen, and state and national personnel. The *only* persons from these listed who know what is actually being taught and what is being learned "within" your program are (1) you, (2) students already enrolled and (3) perhaps your advisory committee. All the other groups generally observe your program from the "outside looking in," and make judgments and decisions based on the labels you have given the various parts of your program.

If you use Ag 1, Ag 2, etc., to identify the high school courses, how do school board members, school administrators, students, parents, laymen and others know what is inside the courses?

I challenge you, as a quick and easy way of starting an "image transition," to use descriptive course titles that describe the major emphasis in the course. Insist that the descriptive titles be used in all places and situations where the courses are identified. Use action titles, i.e. "Basic Livestock Production," "Small Engine Maintenance and Care," "Farm Business Management," "Home Grounds Horticulture," "Tractor Engine Maintenance and Overhaul," "Agricultural Supplies and Service Occupations," "Agricultural Resources Occupations," or "Greenhouse Horticulture." We know considerable work and decision making goes into developing a meaningful career oriented series of courses for a local school. Why not "advertise" these courses to school boards, administration, laymen and prospective students in the best possible way; with descriptive titles that tell students what is inside the courses!—RDD

Guest Editorial . . . AGRICULTURAL EDUCATION IN TRANSITION

Carlos H. Moore
State Supervisor
Agricultural Education, Arizona


Carlos H. Moore

Every few months one of our national publications prints an article on agriculture in transition. The overexposure of this subject makes it difficult to come up with many new and earth-shaking predictions. The following projections are the result of personal contact with many individuals with a sincere interest in the future of agriculture and agricultural education, and the use of a rather hazy crystal ball. This material is more of a summary of the situation and certainly not original thinking on the part of this guest editor. I will, however, take full responsibility for those predictions you think are out in left field.

Career Education will be the greatest single influencing factor affecting education during the next 10 years. A complete program of Career Education includes awareness of the world of work, exploration of occupations, in-depth exploration of selective clusters, and career preparation for all students. If successful, this program will mark a significant turning point in education which until now has largely provided youngsters a basic education curriculum with little regard for the development of career interests.

One would have to be for sin and against motherhood to discount the influence of a program designed to involve all students, at all ages, all teachers, all parents, all the subject matter being taught and all the jobs in the world of work. In agriculture, this means that our high school, technical school, and community college programs must be prepared to do an even better job of teaching, as these job-oriented students enter our agriculture classes for specialized occupational training. The success of the career education concept depends on the quality of the specialized occupational training, successful placement and the work success of our employed students. The part we are to play in the

(Continued on next page)

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future of Career Education may well depend on how much leadership we provide in the development of teaching materials and the activities to be used in the orientation and exploration phase. The degree of this influence will also depend on the ability and desire of our educational and political system to finance the re-tooling and re-training necessary to achieve this monumental change in the direction of American education.

Opportunities for careers in the broad field of agriculture will continue to increase, but opportunities for a young man to enter full-time production agriculture will continue to decrease, due to capital requirements, mechanization, and fewer but larger farm units. Capital requirements are increasing to the point where, under the present tax structure, it is very difficult to earn and save enough money in one lifetime to pay for a farm or ranch and the inventory.

Increases in population, larger family incomes, more leisure time, and the growing concern for the quality of our environment should improve job opportunities in the natural resources, conservation, and outdoor recreation areas. There seems to be a minor trend among young people toward "getting back to the soil." Small farm units will increase in number as part-time farmers search for a new life style. We will see greater involvement in zoning, land use planning, multiple land use and privately owned businesses which provide facilities for hunting, camping, fishing, water sports, hiking, picnicking, etc.

More courses will be offered for the part-time farmer, hobbyist, retiree, and animal lover. We will see a revival of such courses as gardening, horseshoeing, and floriculture. A host of new courses will be added, catering to the renewed interest in our environment.

Within the next five years the shortage of agriculture teachers will end, and there will be a trend toward a higher degree of specialization; horticulture, mechanics, natural resources, etc.

Teacher certification requirements for vocational teachers will become more realistic. Procedures and policies will change to make it easier for Agriculture Science graduates to meet certification requirements. More consideration will be given in evaluating the practical experience and specialized training of individuals.

There will be a decrease in the number of vocational agriculture teachers on twelve month contracts. The year-around employment of an agriculture teacher will no longer be automatic. Summer employment in many cases will be covered by a separate contract based on very specific assignments, such as summer co-op programs, teaching classes, and involving a detailed written program of supervision of occupational experience at the student's home, in industry, or on the school land laboratory.

There will be an increase in Federal and State support of Career Education; a decrease in direct Federal control; but an increase in Federal influence as funding policies are changed to modify, direct, or initiate programs.

Agriculture will continue to be faced by labor problems, therefore, mechanization of the agriculture industry will continue. There will be a need for more specialized training for employees who will be operating and servicing highly sophisticated equipment. Farm owners and managers in the future will receive more training in labor relations, negotiations, and labor laws.

The school will assume the responsibility for providing occupational experience for an increasing number of students. More schools will use land laboratories, shops, greenhouses and cooperative programs to provide work experience for their students. The number of crop and livestock projects conducted at home will continue to decrease.

We will do a better job of serving students by offering well-developed specialized programs, rather than a list of general course offerings. The opportunity for a student to specialize in the 11th and 12th year will not only increase, but the trend will continue into the 13th and 14th year. Teachers will become better oriented to the needs of the students and more concerned with where the jobs are now and will be in the future. School personnel will assume greater responsibility for placement and follow-up.

We will have more multiple teacher departments with a higher degree of subject matter specialization.

There will be more girls in vocational agriculture but only a slight increase in the number of women teaching agriculture.

The pressure to reduce costs of education will continue, resulting in larger classes and a greater use of the twelve-month school year. School consolidation will eliminate many of our small rural high schools. We must improve accountability. In the future we must know how many students were trained, what did it cost, how many were placed and how successful were they on the job.

Currently many states place a very low priority on adult education, and adult enrollment as reported nationally is decreasing. When we consider the budget problems facing school administrators and the bookkeeping procedures which in many states combine adult with community college enrollment, I anticipate very little increase in adult enrollment.

The popularity of co-op programs and a closer working relationship between the school and the agricultural community will continue.

The FFA

The name of the Future Farmers of America will change. There is a general agreement among the leadership that a change should be made, but as yet we can't get together on what the new name should be. Sooner or later we will face the cold facts that the majority of our vocational agriculture students will never be involved in production agriculture. They do not see themselves as future farmers. An early name change would be healthy for the FFA organization.

The FFA degree system will be modified to allow greater recognition for members not engaged in production agriculture. There will be less emphasis on economic success and more upon personal growth and leadership development.

Rapid growth of the FFA Alumni Association will require dynamic leadership at all levels. Due to reduction

(Concluded on page 102)

DO OUR ATTITUDES RETARD NEEDED TRANSITION?

*Earl B. Russell**
The Center for Vocational and Technical Education
The Ohio State University


Earl B. Russell

Transition has especially characterized agricultural education during the last decade. Many changes in instructional programs have been significant and they continue to spread. But many observers in responsible positions apparently view the changes as inadequate. Agricultural educators, whether they be teachers, teacher educators, or supervisors, are increasingly being asked to assume assignments in areas other than agricultural education. In too many quarters, agricultural education is fighting to survive.

Perhaps examination of some common attitudes held by agricultural educators will help explain some of the current dilemma. There is general agreement that attitudes and beliefs have a way of influencing the way we act. Those attitudes and beliefs tend to remain constant in spite of the overwhelming social change occurring around us each day. Herein lies the crux of the problem: *The things we have learned about agricultural education in the past, either consciously or unconsciously, have kept us from evaluating objectively the proper role of agricultural education in today's modern world.* We are blinded by our own experiences.

I would say to leaders setting out to reform agricultural education that "ten idea funerals" are essential first. Certain commonly held, conservative notions about the nature of agricultural education must be buried. The "funerals" essential to the reform of agricultural education are as follows:

1. **Bury the notion of the perhaps never correct rural ethic that "rural life" is somehow superior to any other way of living.** No empirical evidence exists to support this notion. Its continued presence in the thinking of some agricultural educators creates a subconscious attitude that agricultural education really has little to offer urban students. We need only to look at our dismal performance in urban areas to see the possible effect of this notion. How often have you heard our leaders refer to "rural" America as though agricultural education does not or should not exist in "urban" America?
2. **Bury the notion that production agriculture must continue to occupy "center stage" in agricultural education programs.** Numerous studies show that careers in production agriculture are a *minority* of the total career spectrum in agriculture. Yet most of the students enrolled in vocational agriculture nationally are still in production type programs. We have our priorities reversed. Unfortunately, the FFA name and activities help maintain this outmoded idea.
3. **Bury the notion that a broad knowledge of production agriculture is basic to one's performance in most agricultural careers.** Although research is contradictory on this point, logic suggests that agricultural production is *no more basic* to the performance of most agricultural jobs than is, for example, ornamental horticulture or agricultural resources. Each classification of agricultural occupations should be supported by its own body of knowledge and practice. Increasingly, leaders in the broad agricultural industry are saying that a knowledge of business principles and practices is essential for success in agricultural careers.
4. **Bury the notion that agricultural education no longer has a production agriculture (farmer) image.** The agricultural educator who believes in this notion is either naive or sadly out-of-touch with the majority of opinions of the general public and students. Particularly distressing is the fact that many agricultural educators are reluctant to make objective research studies on this issue, apparently for fear of what may be discovered. As long as the "FFA" letters represent our youth organization, efforts to change the image will be hampered.
5. **Bury the notion that only rural people are interested in agricultural careers.** This does not mean that agricultural education programs now in existence are attractive to urban dwellers in large numbers. Only a few, far too few, agricultural education programs which attract urban students are in existence. The fallacy of the above notion is evident when we examine the home origins of college students enrolled in ornamental horticulture, landscape architecture, forestry, and veterinary medicine. A very large percentage of these students come from cities and not from farms.
6. **Bury the notion that only a small proportion of agricultural careers are available to women and consequently enrollment of girls in agricultural education programs should remain low.** The present male-female proportion in agricultural careers in no way should be interpreted to mean the proportion of women workers should remain low. Studies in technical education reveal that women are often superior to men in many technical areas. Use of the Walker Agricultural Interest Inventory with suburban eighth graders in Illinois revealed as many girls as boys were interested in plant and animal sciences.
7. **Bury the notion that students who excel in vocational agriculture classes and youth organization activities do so BECAUSE of vocational agriculture.** Agricultural educators have been notoriously eager to claim credit for "producing" successful students. It is likely that, in a vast majority of these cases, the same

(Concluded on page 111)

WHAT DOES AGRICULTURAL EDUCATION IN TRANSITION MEAN TO YOU?

Jack E. McClaskey
Vocational Agriculture Instructor
Girard High School
Girard, Kansas


Jack E. McClaskey

What does Agricultural Education in Transition mean to you?

To the Teacher Educator who is responsible for training future agricultural teachers it has created many challenges. The new teacher going to his first assignment has the problem of organizing his program to fit the geographic location in which he is employed. No state is able to formulate a program that will fit all the vocational agricultural departments within its boundaries.

The agricultural educator realizes that he is no longer developing an ag program that trains the majority of his students to return to the farm. Yet in many areas we haven't educated our city friends, and yes, some of our country cousins, that the ag program now deals with all areas of agribusiness as well as production agriculture. Yes, production agriculture in transition. Webster has a definition for production that should be used for our production ag program and I quote, "The creation of economic value, producing of goods or services."

If everyone understood our production program in this concept there would be little doubt as to the value of a good basic production agricultural program.

Production agriculture defined in this manner would eliminate many of the divisions we now have under our high school agri-business program. This would require considerable transition in the vo-ag program from the national level down through the local high school. This would appear to simplify the reporting of the local program and eliminate the guess work in number coding the different agriculture interests of the students.

The ag teacher in the single teacher department cannot overlook the different interests of the students that face him each day, and must plan a program that will satisfy these interests even though he would like to channel his assignments into fewer streams. Using the definition I previously quoted all of these interests could be placed under one of the two categories: (1) Goods or (2) Services. I realize it is not governmental policy to simplify programs, but perhaps a little transition in this direction would be worthwhile.

What about the transition of the present vo-ag program in your department? The following are a few suggestions that might be considered for the implementation of transition in the vo-ag program in your school:

1. Make a survey of the community to determine the agriculture needs both in production and agribusiness. The advisory council is invaluable for this information.
2. Give the students the opportunity to express their ideas and then measure them against the existing program.
3. Formulate a program that correlates the needs of the community and the students interests.
4. Present and discuss the program with the school administration and advisory committee.
5. New ideas are useless if they are not put to work.
6. If you find you are having problems selling new ideas don't be discouraged. Incorporate one new idea in your present program and by continuing this procedure of transition for a few years your program will be accepted and appreciated.

In closing don't forget to keep growing, once "you go to seed" you and your department are ready to harvest.◆

(Agricultural Education In Transition, Moore — from page 100)

of state staff and the changing concept of the functions of state departments of education personnel, this leadership will not be available in many states.

Growth of the post high school FFA program nationally will be less than dramatic and will not exist in many states.

The local chapter program will remain fairly constant, and the strength on the local level will continue to depend on the teacher and the quality of the leadership provided. On the state level there will be more activities involving other vocational clubs and less adult leadership time devoted to the FFA program due to changes in state staffing procedures.

Very little growth will take place in National FFA membership unless we have some dramatic changes in the organization, especially in those areas that make membership more meaningful and more desirable for students interested in agri-business. Distant goals related to success in production agriculture fail to challenge the majority of today's students.

As we look into the future, career opportunities in agriculture will be plentiful, profitable, challenging and above all different. With the increasing demand for food, fiber, agricultural services and the renewed concern for the quality of our environment, success will be limited only by one's initiative and vision. ◆◆◆

TRANSITION IN AGRICULTURAL EDUCATION

H. N. Hunsicker
Agri-business and Natural Resources Occupations
U.S. Office of Education

Mr. Hunsicker is Education Program Specialist for Agribusiness and Natural Resources Occupations in the U.S. Office of Education.


H. N. Hunsicker

Major transitions are taking place in agricultural education under the new Vocational Education Acts. These changes dip into each of the 9,000 high schools and the 400 post secondary institutions which offer vocational preparation for employment in the expanding industry of agriculture. The transitions began in the 1960's and are gaining momentum in the 1970's. A wide range of instructional programs are already being provided for both rural and urban youth in such fields as agricultural mechanics; forestry, conservation and other renewable natural resources; processing of agricultural products; agricultural supplies and services; ornamental horticulture; agricultural production and a host of occupations clustered within these general fields. For example, the field of ornamental horticulture includes the clusters of arboriculture, landscaping, turf management, floriculture, greenhouse operations, and nursery production. Further specialized training in each of these areas will be needed to prepare individuals for specific employment as golf course managers and workers, floral shop employees, tree surgeons, park employees, landscapers, private entrepreneurs and many other kinds of jobs.

The transitions are leading to an entirely new concept of vocational education in agriculture. The name "agricultural education" or "vocational agriculture" which has, for a half century, connoted chiefly production agriculture, such as farming and ranching, is giving way to the broad concept of Vocational Education for Agribusiness Occupations, increasingly referred to as "Agribusiness Education." This new title includes the preparation of individuals for employment in both agricultural production and the off-farm related businesses. The word "agribusiness" was inserted for the first time in the 1966 edition of major dictionaries and glossaries. The definition not only provides the authority but also establishes the occupational range for which training in this field is needed. The new title "agribusiness" is now defined as (a) a blend of agriculture and business, and (b) a combination of the producing operations of a farm (ranch, greenhouse or nursery) and, in varying degrees, the services associated with them; the manufacturing and distribution of farm equipment, fertilizers and supplies; the processing, storage, marketing and distribution of farm commodities including food and fiber; and, the conservation, preservation and use of renewable natural resources.

The demand for vocational education in agri-business, including agriculture, off-farm agri-business and renewable natural resources will increase rapidly as employment opportunities in this field are recognized.

It will be appropriate education in both rural and urban communities. Agribusiness will be included in career awareness and exploration studies in elementary schools, as pre-vocational courses at the junior high school level and in-depth occupational training and work experience at the senior high and post secondary levels. Increased numbers of adults in agribusiness will be served in specialized courses in management, mechanics and technology.

Involvement of students in FFA will continue as an integral part of the vocational agribusiness program at the pre-vocational and occupational training levels. Professional educators are becoming more aware that FFA is a significant motivating force. It attracts attention, serves as a public relations media, adds prestige and importance to the total instructional program and serves as an indispensable laboratory in developing human relationships, leadership, citizenship and occupational pride.

As a tribute to vocational education in agriculture and the FFA, President Nixon has stated: "I know of no group that has in its hands more the strength, the power, not only to feed America, and clothe America, but to lead America, than the Future Farmers of America." These and other basic manpower, citizenship and leadership purposes are being re-emphasized and accomplished in the new agribusiness vocational education program. ◆◆◆

Themes For 1973

January — Career Education: Elementary Programs
February — Career Education: Junior High Programs
March — Career Education: Secondary Program Vision
April — Career Education: Youth Organizations as an Instructional Tool
May — Career Education: Supervised Agricultural Experience Programs
June — Career Education: The School's Responsibility For Placement and Followup
July — Career Education: Unique Instructional Programs and Materials
August — Career Education: For More Effective Teacher Education and Supervision
September — Career Education: Articulation Among Local, Area and State Programs
October — Career Education: Upgrading Adults
November — NVATA Silver Anniversary Issue
December — Career Education: Accountability In Evaluation

CAREER EDUCATION: What Is It?-Why Is It Important?

Harold R. Matteson
International Agricultural Programs
University of Wisconsin, Madison

H. R. Matteson

Since becoming the United States Commissioner of Education, Dr. Sidney P. Marlin, Jr., has vigorously promoted a new emphasis in education — an emphasis he calls career education. Through his efforts, considerable interest has been stimulated throughout the United States regarding the development of K-12 career education programs in our public school systems. This increased interest has given rise to many questions, among which are:

1. What is career education and how is it different from vocational education?
2. Why should a K-12 school system initiate a career education program?

This article will be devoted primarily to the discussion of these two questions.

Career Education — What Is It?

When Dr. Marlin was asked to define career education and describe the difference between education and vocational education, he responded:

> "Speaking just in terms of the schools, career education — as I see it — would embrace vocational education but would go a good deal further . . . What I would hope for is a new orientation of education — starting with the earliest grades and continuing through high school that would expose the students to the range of career opportunities, help him narrow down the choices in terms of his own aptitudes and interests, and provide him with education and training appropriate to his ambition. In many cases his training would certainly involve the 'manipulative' skills commonly associated with vocational education. It would be strongly and relevantly undergirded by education in the traditional academic subjects."[1]

An interpretation of Marlin's explanation of career education indicates that the differences between career education and vocational education are:

1. Vocational education has traditionally provided students with manipulative skills. Career education, on the other hand, includes not only these skills, but also provides students with an opportunity to become acquainted with and to some degree explore a wide range of job opportunities. Also, it provides them with an opportunity to relate their interests, attitudes, and abilities to these jobs.
2. Vocational education has been available only to students at certain grade levels; career education, however, is for students at all grade levels (K-12).
3. Vocational education has been primarily the responsibility of vocational teachers, whereas career education is a task for all teachers in both general and vocational educational areas.
4. Vocational education tends to prepare students for a specific occupation or occupational area, but career education prepares students for employment in a wide range of occupations.

Career Education — Why?

Given our present state of austerity, school board members, parents, and other members of a community will undoubtedly question the introduction of a new program in their public school system. Some of the arguments which an administration can use to justify a career education program are:

1. Students presently graduating from high school often possess some type of salable skill but have very little understanding of the jobs in which they can employ this skill. Also students very often have not been given the opportunity in their educational program to understand themselves in terms of their interests, aptitudes, and abilities. Nor have they had an opportunity to relate these interests, attitudes, and abilities to various occupations which might be of interest to them. A career development program is designed to alleviate this problem.
2. General educational teachers, in many instances, do not believe they have a responsibility for a student's vocational development. Conversely, vocational educational teachers very often do not assist students in relating content provided in general education courses (i.e., English, mathematics, science) to the vocational areas they are teaching. A career education program would provide a "focus" whereby vocational and general education could be related and integrated in a meaningful manner.
3. Often the classroom instruction in both general and vocational education is quite unrealistic. Consequently, the student has difficulty relating his classroom instruction to a real-life situation. A career education program, however, would not only allow a student to relate his classroom instruction to the "real world of work" but also help him examine and relate interest, attitude, and ability to future employment opportunities.
4. A number of students graduating from our high schools today are either unemployed or underemployed. An effective career education program would hopefully alleviate or at least reduce this problem.

Concluding Remarks

A number of students drop out of our public school system each day. Some educators maintain that students do not "drop out" but rather are "pushed out." Schools push students out because these students do not perceive the curriculum as being relevant to their needs or interests. Career education is an attempt to make curriculum more relevant to all students. This means not only for college bound students (which is often the present situation in our schools) but also for those students who will become employed after high school graduation or enroll in a post secondary vocational or technical school.

Vocational agriculture instructors can either be very helpful and influential in the development of this program, or they can employ every means possible to resist it. Which role will you choose? ◆◆◆

1. Sidney P. Marlin, "Marlin on Career Education," *American Education* (November, 1971), pp. 25-28.

FROM TWENTY-TWO TO SIXTY-FIVE STUDENTS IN FIVE YEARS!

Tom Hammer
Agricultural Occupations Instructor
Erie, Illinois

Tom Hammer

The Erie High School Agriculture Department has grown from 22 to 65 students from 1967-68 to 1972-73, and the main reason is the replacement of the traditionally yearly program with a series of semester classes.

The industry we call agriculture is so rapidly changing that many present yearly agriculture programs are not successful in meeting todays needs for technical agriculture.

With this premise in mind, I set out to develop a semester program to meet the needs of the local community as well as offering areas for those students wanting to go on to college.

I should tell you a little about my community first. Erie, Illinois, is a rural area in northwestern Illinois. The major crops are corn and soybeans and the major livestock are hogs and feeder cattle.

I came to Erie five years ago and took over an agriculture department that had twenty-two students and no Advisory Council or Adult program. With three hundred and twenty-five students it seemed that twenty-two was a rather low total, so after a year to get my feet wet, I started to formulate a plan to improve my enrollment. An agriculture Advisory Council was formed and proved very useful. The council not only helped me set up our semester program but also organizes our adult farm program each winter.

Through the cooperation and advice of the council, my first attempt was to increase my enrollment through recruitment. Each year I have used the *'Interest Inventory'* on all eighth graders and sent letters to those who scored high enough. This procedure helped somewhat as my enrollment rose to thirty-six by my fourth year.

Since enrollments were not high enough, the council and I felt the yearly program was too rigid for many students, so during my fourth year of teaching we decided to set up a semester program. I decided to survey all of the agriculture businesses in our school district to see what type of person they wanted to hire, and then reviewed these findings with my agriculture Advisory Council. I obtained their opinions before finalizing the semester courses.

After observations were made and suggestions compiled, we proceeded to develop thirteen semester courses. These courses were basically drawn from the old four year program. Areas such as soil and water conservation and agriculture business management, that were three or four-week areas of study are now full semester courses.

Following is a list of the courses developed:

1. **Orientation to Agriculture and FFA**
2. **Basic Animal Science**
3. **Advanced Animal Science**
4. **Soils and Agriculture Chemicals**
5. **Crops**
6. **Farm Management**
7. **Agriculture Business Management.**
8. **Marketing Agriculture Products**
9. **Basic Agriculture Mechanics**
10. **Basic Agriculture Construction**
11. **Advanced Agriculture Mechanics (tractor overhaul)**
12. **Farm Machinery Maintenance**
13. **Soil, Water and Air Conservation**

Each of these courses is offered at least twice during a four year period so the student can have more than one opportunity to take a course that interests him.

Only one restriction has been put in the semester program. All freshmen must take *Orientation to Agriculture and FFA* the first semester and *Basic Animal Science* the second semester. *Orientation to Agriculture and FFA* gives the student a background in FFA and a survey of agriculture occupations which may help direct a student into a specific agricultural area. Also *Basic Animal Science* is required because it too is a stepping stone to advanced animal study. From that point a student can take any course he wants whenever it is offered. With this type of a program, one will draw some students for one or two specific courses only. This may affect the FFA and project requirements. We changed the project requirement from agriculture enrollment to FFA membership with little difficulty. Erie has a very active FFA that takes part in bowling, swimming, camping trips at the Ozarks in Missouri and all section and State FFA activities. This is an important factor in keeping membership up.

The semester course most effectively meets the need of providing special training in farming, agricultural business and technical courses for college bound.

Teacher and layman Marvin Hunt review the community survey of agriculture, important to planning the semesterized course program.

The present enrollment justifies changing to a semester program. This year our enrollment has been forty-nine students the first semester and fifty-seven the second semester. Of the total of fifty-seven students, forty-five are FFA members. Nine students are taking two courses this semester so that leaves only a few non-members. The '72-'73 enrollment has now been finalized and sixty-five have signed up for the four agriculture classes being offered. With this fact, one must remember that five years ago with the traditional Ag I, II, III, and IV there were only twenty-two students.

In the future we in agriculture education on the high school level must offer special training in farming, agricultural business and technical courses for the college bound. At Erie, Illinois, I sincerely feel the semester program more effectively meets this need. ◆◆

THE PRINCIPLES OF VOCATIONAL EDUCATION— And Their Relationship To The Emerging Concepts In Career Education

Parker V. Foster
Education Professions Development Act Fellow
Leadership Development Program
Vocational Education
University of California

During the vocational movement of the early part of this century, which culminated with the Smith-Hughes Act of 1917, a number of basic principles or foundation elements were "discovered." These principles have remained useful over the past 60 years and have generally been accepted as sound by vocational educators. From time to time since 1917, it has become expedient to re-interpret these principles in light of social and economic conditions that have existed. These interpretations have manifested themselves in various pieces of federal legislation, the latest of which is the Vocational Education Act of 1968.

It is timely to look at these principles again now in view of the fact that vocational education has rapidly become so central to the total purposes of public education in this country. The 1968 Act represents a mandate from the American people — a mandate which was expressed by the Congress to provide vocational education to "all people of all ages in all communities of the state." Throughout the nation we have heard comments to the effect that the educational system is failing the youth and is providing them with inadequate preparation in skills or attitudes to enter the world of work in an occupation appropriate to their interests and abilities. It is true that the educational system, and particularly the vocational education segment, will not be able to offer a total panacea for the alleviation of our social problems. It is, however, the one institution to which all young people have exposure, so it does seem important to look at the basic conceptual foundations in the context of present educational movements such as career education.

We have heard comments that the educational system is failing the youth and is providing them with inadequate preparation in skills or attitudes to enter the world in an occupation appropriate to their interests and abilities.

We may now have a new national mandate — although not get legally framed as in the VEA Acts of 1963 and 1968. During the last two years or so we have begun to hear this phrase *Career Education,* and it has caught the fancy of American educators. It appears to hold a great deal of promise but it does need to be analyzed very critically by those persons responsible for programs at the local school district level. Before implementation can take place, a new set of principles or foundations elements may have to be specified.

Career Education implies the need for a new kind of educational mix — one that is neither all vocational or all academic, one that erases the unfortunate dichotomy of views currently existing between vocationally oriented and academically oriented educators. This new mix employs the traditional vocational education in a very vital role within the career education continuum. It will provide the capstone of in-depth job preparation during the latter high school years. It's role is in no way diminished and it's principles — with possible new interpretations — are as significant as ever.

While there has in fact existed a divergence of views between academic and vocational, there is certainly no real dichotomy between career and academic education. Those of us who believe in the career concept don't want one or the other; we want both. It is a rare high school that equips the majority of its students to successfully make a choice upon graduation of entering the job market with a salable skill, or of continuing their education.

Career Education represents a viable alternative to present curriculum formats.

Too often the graduate has neither option. We see students failing in Mathematics, English, and Social Studies. This is indicative that something might be wrong with the educational system. It should be said, also, that there are many social problems that affect a students' ability to achieve success in school, and the educational system should in no way receive the full blame for our failures.

In the Career Education concept we are not suggesting that academic courses be abolished, or in any way de-emphasized. No one wishes to deprive a student of his cultural heritage. The goal must be to relate that heritage to the real world the student must face throughout what we would hope will be his successful working life.

Career Education represents a viable alternative to present curriculum formats. It involves a tremendous investment in time; initial changeover costs, and personal commitment on the part of any district considering career education. For if done properly it infiltrates all classes, both vocational and academic, and extends in a longitudinal pattern from "womb to tomb." A new set of principles for career education, using as a starting point the time-tested principles of vocational education, needs to be developed. This will be the task of those most directly concerned at the local level, including educators, parents, and employers. The road ahead will be exciting and perhaps stormy at times, but the enthusiasm that is being expressed throughout the country at this time would seem to point to ultimate success. ◆◆◆

1. This article is an abstract of a presentation made by Dr. Foster at the University of Hawaii Practical Arts and Vocational Association Convention, July 26, 1972.

THE NEXT STEP

J. C. Atherton
Teacher Education
Louisiana State University

J. C. Atherton

Some persons have rejected vocational training in the secondary school as they feel it cannot be saved. Past and present shortcomings are presented as evidence that this view is correct. It is said by certain critics that the program is bound by tradition, that it is controlled by individuals with vested interests and that much of its leadership is of such quality that it cannot do the task which needs to be done in modern American society.

With no attempt to cover up the various flaws which it may possess, the writer still contends that there is much good to be accomplished through occupational training and that the profession can and will renew itself. Organizational structure must and will change from time to time, but this is not bad. In fact it is essential that ways and means be kept current and in so doing patterns of organization must be modified to keep them in tune with the times.

Currently, career education is the "in thing." From the highest level of government to the grassroots this is being given at least lip service, and some efforts are being made toward its implementation. In a recent issue of the American Vocational Journal one finds the headlines, *Career Education Means "An Entirely New Curriculum."* In this same issue one finds among other items in the table of contents the following:

"Career Education Performance Goals Discussed."
"Career Education: Facts and Expectations."
"New Breed of Teacher."
"New Interpretation of Guidance Role."

Each of these discusses possible innovation and change; but this is expected to occur within the confines of the public school system rather than through some outside agency. However, one should recognize that research and development are needed aspects of the educational venture. Without them occupational education will flounder, largely directionless and with no foundation upon which it can plan properly or defend actions projected or taken.

This research should be on a scale small enough to be flexible yet large enough to examine reality. It should be free to fail as well as to be successful and in so doing may pinpoint approaches the profession may desire to follow. Pitfalls and detours of various sorts may be discovered also. These are important in program building. Appropriate dissemination of results of this research may stimulate the profession and challenge it to more nearly meet needs of contemporary society.

Vocational education, as indicated earlier, can and will adjust to the challenges it faces. Within its ranks are found a tremendous reservoir of persons committed to providing occupational training which is relevant in the lives of their students. Here one may find numerous individuals who are sensitive to the need for keeping educational practice and theory updated so that they may make a significant impact upon the world of work.

The above belief is held in spite of numerous attacks one hears directed toward the entire field of vocational education. Some of these criticisms are:

1. The program is irrelevant.
2. The program is introverted in that it is more concerned with its own welfare than it is with that of its product — the worker.
3. There is excessive indifference, apathy, and general neglect within the profession.
4. There is a lack of dedication on the part of too many vocational educators.
5. Some educators have deserted the profession due to their becoming disillusioned.

Although recognizing that there is an element of truth in these criticisms, it is still believed strongly that there will be made adequate adjustments to keep vocational education viable and meaningful in the lives of the American work force. The temptation may arise to desert the profession and turn to other approaches to the educational program. Various possibilities are being suggested and fostered by numerous groups of critics. Many of these have some potential and have been analyzed in detail. One should hasten to add that it is healthy to examine options available. But when these proposals are scrutinized in light of what may be accomplished if and when vocational education awakens fully to its role, there is no comparison.

The writer is firmly convinced that what happens to vocational education in the public schools is of paramount importance. Its ongoing is dependent in the final analysis on what takes place on the local level in the school community.

The ongoing of career education is dependent in the final analysis, on what takes place on the local level in the school community.

For the sake of occupational education nationwide, it is essential to concentrate upon the local program. This is not a selfish nor a short-sighted view because what happens to vocational education nationwide is dependent to a large degree upon what took place first at the grassroots level. Any movement at the regional or national level can be kept alive and functioning only so long as the local units embrace its principles and incorporate them into their daily operations. The individual departments within the schools form the base or foundation upon which any major venture must rest.

The easy way out would be to throw up one's hands and to call it quits. However, this would solve nothing constructively. Now is the time for hope not despair. There is a chance (and a good one I am convinced) to recapture the cutting edge vocational agriculture once had when the task was much simpler and society less complex. One has only to review history of the vocational education movement in America during the current century to note that the profession has been through crises on several occasions and weathered the storm, coming out of difficult circum-

(Concluded on page 118)

PLANNING A HIGH SCHOOL VO-AG PROGRAM FOR THE 70's AND 80's

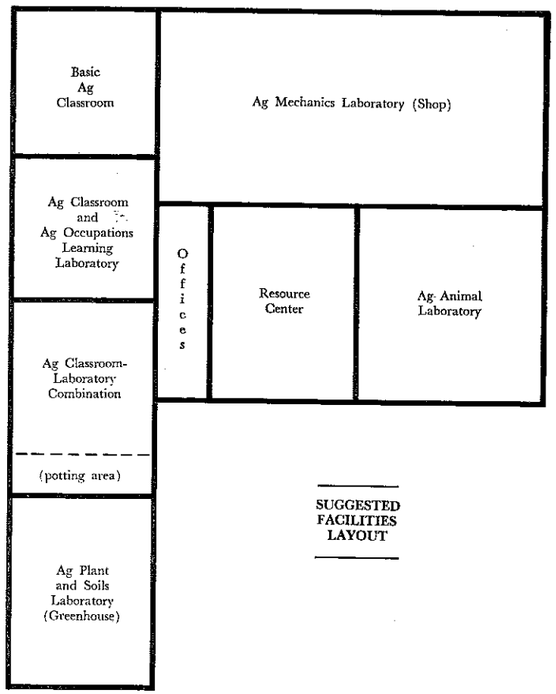
Travis N. Nelson

Travis N. Nelson
Vo-Ag Instructor
Winona Sr. High School
Winona, Minnesota

Vocational Agriculture and the FFA have served students well in years past. Are Vo-Ag and FFA serving todays needs as well as they could?

My ideas would no doubt be best implemented in larger school systems. However, with consolidation, more schools would fit into this category. I would hope to provoke a little thought from each reader with these ideas.

Let's talk about an ideal instructional program in agricultural education. The basic facility layout needed to conduct an "ideal" program could look something like this:



SUGGESTED FACILITIES LAYOUT

Your first thought is probably, "too expensive." It no doubt is more elaborate than most departments. However, if we intend to provide meaningful instruction in agriculture today, this basic plan is within reason.

This "ideal" department for high school instruction would require three or more teachers to be efficient and to provide the expertise in each specialized area.

We have all heard much about providing individualized instruction in the classroom based on the student's occupational work experience program. I believe the only way we can provide **quality** individualized instruction in most of the areas in agriculture is to provide specialized facilities and specialized instructors. If our schools will permit class sizes of from 5 to 10 students, we can still "get by" with our present system of one instructor serving several areas. However, if your class size is 20 to 30 students, I think most would agree that individualized instruction in the classroom is *very* difficult, if not impossible. However, the individualized instruction provided on-the-farm or on-the-job cannot and should not be taken away.

With specialized courses, I believe a curriculum can be made broad enough in a relatively large school to enable a student (with the help of the instructor or counselor) to select an individualized program.

Each specialty area would offer specific courses. However, one specialty area may need to use a different area for a short time, (i.e., a course in landscaping and turf management may include a short unit on the care and maintenance of small engines and horticultural equipment, which could be taught in the Ag shop). Also, a course in flowers and vegetables may use the classroom-laboratory combination to study specific insects and diseases under microscopes.

The classroom for Ag occupations would include specific equipment such as a cash register, file cabinets, adding machines, calculators, typewriters, and mock telephone system for simulating on-the-job experiences.

The Ag classroom-laboratory combination would be a departure from the small labs used for testing milk and soils. This facility, with proper teaching materials and equipment, would permit individual study of plant and animal diseases, soils, insects, and plant seeds. I believe this room should have individual work stations, with each station having a microscope, soil testing kit, plant tissue testing kit, seed analysis kit, dissecting kit, etc. In other words, each student can be "discovering" on his own (with guidelines from the instructor).

I see a need for an animal laboratory instructional area because of increased class size, increased number of urban students, difficulty in scheduling a *good* field trip in a one hour period, and increased interest in pets and other animals.

Some of the activities that should be handled in the lab would be: pig castration, ear notching, marking animals, iron shots for pigs, branding, hoof trimming and foot care for all animals, dehorning, calf castration, sheep shearing, farrowing, lambing, calving, foaling, small animal care and grooming, animal restraint methods, A.I. work, judging classes for hogs, sheep, cattle, and horses, fitting livestock for show, cow clipping, feeding experiments with rats, chickens, and other animals, fitting and general care of small animals.

This lab would provide students with an opportunity

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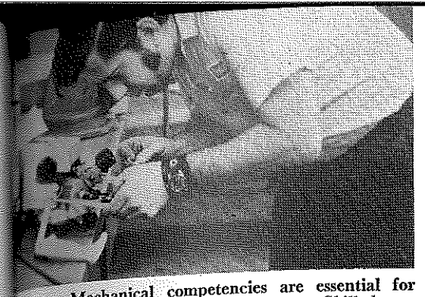
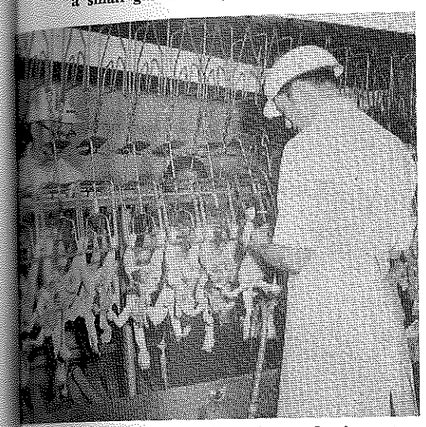


Mechanical competencies are essential for numerous agri-business careers. Skilled mechanics are needed to maintain and repair numerous recreational and horticultural equipment. This mechanic is busily tuning a small gasoline engine.



Some students will aspire to be inspectors in food products plants. What competencies will they need?

An instructor and students discuss problems in a Rhode Island potato field. Plant and Soil competencies are required by many agri-business occupations.

IDENTIFYING COMPETENCIES FOR CAREER EDUCATION

Donald E. McCreight
Assistant Professor
University of Rhode Island, Kingston

D. E. McCreight

What competencies do students need to know to prepare for entry into a specific occupation or a cluster of occupations? What will teachers of agribusiness and natural resources need to do to prepare for career education programs?

Career Education

Career education, Commissioner Marland[1] writes, is ". . . designed to prepare students for the attache case professions as well as the lunch box occupations — to give every youngster a genuine choice, as well as the intellectual and occupational skills necessary to back it up—it is the blending of — vocational education, general education and college preparatory . . . into an entirely new curriculum."

Career education logically falls into four phases:

K-6 — Career orientation
7-8 (9) — Career exploration
(9) 10-12 — Occupational preparation for a cluster of occupations
13-14, Adult — Intensive occupational preparation

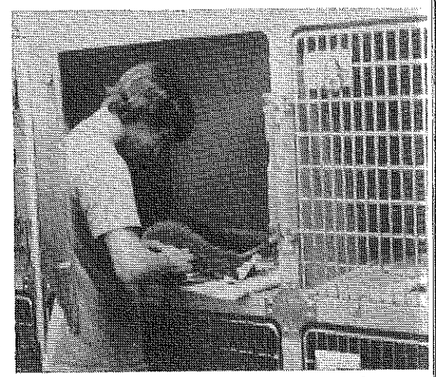
Teacher Preparation for Career Education

For phases one and two, teachers of agri-business and natural resources will need to take a leadership role and provide elementary and junior high teachers with information on agri-business and natural resources careers. In many school systems teachers will also need to avail themselves as resource persons for phases I and II.

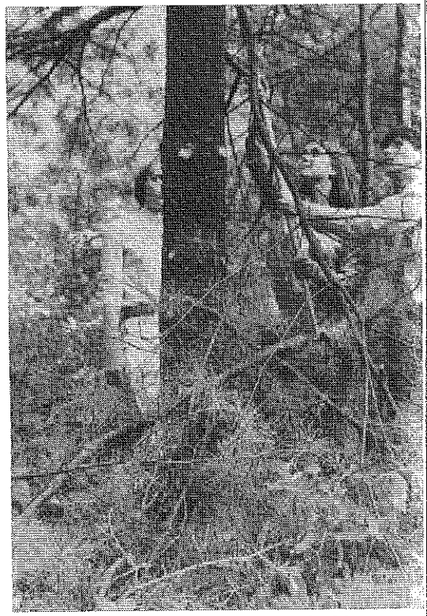
Some teachers are currently doing an excellent job on the performance of

(Concluded on page 115)

Business management competencies are important to store clerks. Do these clerks also need to know competencies concerned with product knowledge and quality? The provision of such competencies could be a definite part of the agri-business program.



Career opportunities exist in the care of small animals. What competencies will this individual need to successfully perform his job?



Environmental competencies are required by many emerging careers. Above, students are performing competencies related to forestry.

Contributions To Agricultural Education: HENRY S. BRUNNER

Henry S. Brunner

In the 1940's Henry S. Brunner obtained national recognition both as a national leader in agricultural education and as the skilled director of the National FFA Band. His tenure at The Pennsylvania State University spanned 25 years, 1934 to 1959. For 22 years he served as head of the Department of Agricultural Education.

Henry Sherman Brunner was born March 12, 1898, in Berks County, Pennsylvania, received a B.S. degree in Agronomy from The Pennsylvania State University in 1920, a Master of Science degree in Agricultural Education from the same institution in 1935, and the Doctor of Philosophy degree from Ohio State University in 1943. While an undergraduate, his college education was interrupted by military service during World War I at which time he attained the rank of Second Lieutenant in the Infantry of the U.S. Army. After being graduated from Penn State, he was an owner-operator of a farm in Berks County, Pennsylvania, for ten years. During this period, Dr. Brunner, a charter member of the Reading Symphony Orchestra, was a violinist for the orchestra and served as a supervisor and teacher of music in Reading. In 1930 he was named teacher of agriculture in Oley Township High School, Berks County, Pennsylvania, and continued in that position until his appointment in Agricultural Education at The Pennsylvania State University in 1934.

Dr. Brunner believed the course of study should be based upon the supervised farming programs of the high school students enrolled in vocational agriculture. He said, "The supervised farming programs enrolled in the classes constitute the basis for instruction in vocational agriculture. It must be understood, therefore, that the plan for instruction will differ in some respects in every school and may differ for the several classes or groups in the same school. It may be said, generally, that the teacher develops his teaching plans on the basis of the pupils' needs in their supervised farming programs, with constant regard for the nature of the agriculture in a particular community. The primary responsibility of the teacher is to assist and encourage his boys with the planning and development of supervised farming programs which are suitable to the home farm or other available farming facilities, and suitable also in terms of the agricultural background of the community." Thus Dr. Brunner was an early advocate of the "cross-section" plan of course organization. His philosophy in this respect spread nation-wide.

He also often quoted the statement, "The use of realia is specific." His encouragement to young teachers to employ the use of real objects in their teaching was emphasized over and over.

Dr. Brunner with Dr. W. A. Smith of Cornell were the early leaders in the North Atlantic Region in developing the Directed Participating Experience Check List for student teachers, now widely used by many teacher education departments in the nation. Dr. Brunner strongly believed the student teaching part of a young man's preservice preparation for teaching was extremely important. He felt that only the very best teachers should be selected to be cooperating or supervising teachers. The student teaching experience should be a cross-section of all teacher responsibilities and activities.

Dr. Brunner insisted upon perfection — not only with the music he so ably played and directed, but upon the performance of undergraduates and graduates in their studies, theses, and subsequent performance. He attempted to set an example of perfection in his work and in life in general.

At Penn State, Dr. Brunner's contributions to the program of vocational education in agriculture were many. He organized the Collegiate Chapter of FFA in 1935; organized the Pennsylvania State FFA Band in 1937 and was its director from 1937 to 1949; organized the National FFA Band in 1949 and was the director from 1949 through 1958; was special editor of the Agricultural Education Magazine, chairman of the North Atlantic Regional Committee on Research in Agricultural Education; was a member and chairman of the AVA Committee on Research in Agricultural Education; developed an outstanding program of participating experience for students preparing to teach vocational agriculture; developed an extensive in-service education program for teachers of agriculture; and in many ways assisted in the development of a strong supervised farming program for students in vocational agriculture. In connection with the latter, many former students will remember him for his philosophy based on two premises which lead to a conclusion — "Un-

(Continued on next page)

David R. McClay

Norman K. Hoover

The article was prepared by David R. McClay and Norman K. Hoover of the Department of Agricultural Education, The Pennsylvania State University, University Park, Pennsylvania.

(McClay & Hoover—from page 110)

less there is learning, there is no teaching — Students will learn only those things in which they are interested — Therefore, the primary purpose of the teacher is to make students want to learn."

In the broader phases of campus life and agricultural education, Dr. Brunner has filled two assignments to Germany, in 1950 and 1955, as expert consultant in agricultural education to the U.S. high commissioner; was a visiting professor at the University of Maine, University of Arizona, and the Colorado State University; is a member of the national advisory committee for the Danforth Foundation; was on the American board of trustees for Lingnan University in China; was for a number of years a director of the Penn State Christian Association; was secretary-treasurer of the Pennsylvania Vocational Association from 1945-1951; and holds membership in the major agricultural and educational fraternities and organizations pertaining to his field of work.

Dr. Brunner retired with the rank of Professor Emeritus of Agricultural Education on December 31, 1959. However, he has continued his work in the field of education in several important assignments in the decade following "retirement."

Dr. Brunner's writings include: "Criteria for Evaluating Programs of Preparation for Teachers of Vocational Agriculture," "Teaching Rural Law" (with Simmons); "Production Goals for Livestock Enterprise Projects in Vocational Agriculture" (with Hoover); "Production Goals for Crop Enterprise Projects in Vocational Agriculture" (with Hoover and McCurdy), and many articles in the "Agricultural Education" magazine and other professional papers.

Dr. Brunner has received many professional and honorary awards during his very active life including being listed in most of the "Who's Who" publications in the nation.

Currently Dr. and Mrs. Brunner are residing at 2420 Sonoita Place, Las Villas de Granada, Tucson, Arizona 85716. ◆◆◆

(Russell—from page 101)

students could have done equally as well in some other field of study. Our frequent confusion over this mistaken cause-effect relationship makes us appear somewhat immature in the eyes of other educators, particularly non-vocational educators.

8. **Bury the notion that agricultural educators in general have been really committed to helping those students who need help most.** With rare exceptions, agricultural educators have tended to concentrate their efforts on those students who could win the largest number of awards and activities. Such a system for teachers and students to receive recognition does more harm than good for the average and below-average students.
9. **Bury the notion that a good public image of agricultural education will result quickly if we concentrate only on improving the "substance" of agricultural education.** The effect on action of such a notion is that we only "fight half the battle." Agricultural educators who hold to this belief are in effect saying we have a good product, so aggressive public relations is unnecessary. Business and industry are constantly and effectively changing public opinion by changing names and labels, sometimes even without changing "substance." If the business and industry analogy is valid, aren't we very unrealistic with this notion? What does our chief public relations tool, the FFA, tell the public about the "substance" of agricultural education?
10. **Bury the notion that agricultural education is changing rapidly and, given a few years, it will catch up with the times.** Persons holding onto this notion are probably out of touch with reality. Agricultural education has made some significant changes in the last ten years, but it is not changing as rapidly as the rest of society. Perhaps no other segment of education is more tradition-bound (tradition-strangled) than agricultural education. In spite of some encouraging trends, persons in vocational service areas other than agricultural education, as well as other educators, feel that agricultural education is exceedingly slow to change.

If leaders hoping to change agricultural education can successfully perform the "ten idea funerals" recommended here, some fresh, long overdue approaches to improvement may emerge. Too often in the past, members of the profession have been incapable of looking beyond their own experiences and seeing the potential and responsibility which exists for agricultural education.

**Earl B. Russell is Research and Development Specialist in The Center's Instructional Systems Design Program. Much of this article was originally presented by Dr. Russell at a special agricultural education seminar at Michigan State University, East Lansing, in March, 1971. Views expressed do not necessarily reflect those of The Center.*

BOOK REVIEW

AGRICULTURAL WIRING HANDBOOK, Agricultural Marketing Division, Edison Electric Institute, 90 Park Avenue, New York, N.Y., 10016, 1971, 4th Edition, 75pp, $2.50.

This publication is the 4th revision of the book formerly titled "Farmstead Wiring Handbook." The publication is divided into two main sections, covering the areas of interior wiring design of agricultural buildings and electrical distribution.

There are 28 sections in the two areas dealing with topics such as, general wiring requirements, dairy structures, field crop storage and processing, exterior lighting, farm residence and water supply. There are also 16 pages of tables of electrical data which are used in the planning of wiring systems.

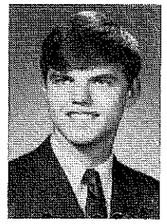
The book is on how to plan wiring. In general, it is not concerned with the type of materials, methods of wiring and so forth, as these are the concern of the National Electric Code and any local utility ordinances which are in effect.

This 4th edition is an attempt to incorporate the latest changes in the 1971 National Electrical Code.

The handbook was prepared by the Technical Subcommittee on Farmstead Wiring of the American Society of Agricultural Engineers and the Wiring Committee of the Agricultural Marketing group of the Edison Electrical Institute. The two groups consulted with many farm electrification specialists throughout the United States.

The handbook is designed to serve agricultural colleges, power suppliers, architects, consulting engineers, builders, electrical contractors, and farmers as a resource book to be used as an aid in planning for agricultural electrical wiring needs. Agricultural teachers will find this an excellent reference for teaching the planning of agricultural wiring needs.

Robert T. Benson
Vocational Education Media Center
Clemson University



Thomas M. Archer

STEP FORWARD FOR TOMORROW

Thomas M. Archer
Vocational Agriculture Instructor
The Rutherford B. Hayes High School
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Not all innovations in Vocational Agriculture curricula come from the agricultural educators or vocational agriculture instructors. Such is the case at Delaware Hayes High School in Delaware, Ohio, where a new look in High School curriculum has taken shape for the 1972-73 school year.

In the summer of 1971, Superintendent Robert Schultz and High School Principal Richard Snouffer surveyed the changing needs of their students and community. After analyzing several ways in which the high school curricula could be modified, it was decided that a program dividing the school year into four, nine week terms would be most suitable for Hayes High. That is, all high school educational departments would revise their course content into nine week term courses, with more specific course content, and more in-depth study.

The Vocational Agriculture Department at Hayes had been suffering in past years from the dying farm sector of the student population. At the close of the 1969-70 school year, course titles such as 'Animal Science,' 'Crop Science,' and Farm Management had dwindled the Department to a student enrollment of less than thirty, and the City Board of Education seriously considered deleting Vocational Agriculture from the high school program.

The next year, Jerome Donovan took the reins with a shift of emphasis to agri-business and the philosophy of the expanding agriculture. The enrollment increased to fifty-five for the 1971-72 school year, and a new unit and additional instructor were added. With two instructors and fifty-five students, ideas flowed for the new term courses, forty-one of which were developed and offered to the student body. The preliminary enrollment for the 1972-73 school year has ninety-two individuals in Vocational Agriculture.

A sample of the expanded curricula include such course titles as:

—Oxy-Acetylene welding
—Pollution Control and Waste Utilization
—Conservation of Natural Resources
—Turf Management
—Structures, Fencing, and Corrals
—Salesmanship
—Agricultural Equipment
—Engineering Surveying
—Multiple Cylinder Engine and Repair
—Agricultural Power Tools
—Landscape Planning

Specific advantages for the new presentation of the curriculum are as follows:

From thirty to ninety-two students and two teachers in two years!

Never before has such a radical change in high school curriculum been made with the speed, ease, direction, and purpose.

1. Allows more students to take advantage of the Vocational Agriculture Program.
2. Allows the student to take a greater part in shaping his own program. If he is interested in shop, he may take more shop courses. If he enjoys animal science, this is where he should and can spend more time.
3. Flexibility from year to year. New courses can be easily added, unpopular ones deleted.
4. Allows experimental courses in such areas as Conservation, Forestry, Horticulture, Environmental Science, and Food Processing.
5. Interests a higher quality student in the Vocational Agriculture Program.
6. It is easier to obtain resource people for a condensed-type course.
7. Time is not wasted in reviewing old material.

It is not meant to say that this type of an arrangement is not without disadvantages or problems. With only nine weeks for the complete course, it seemed that one problem area would be Supervised Occupational Experience Programs. How could a student who was enrolled in only one nine week course develop and complete a concrete Experience Program, especially in a city school system?

This problem is being met in the following ways. **First** of all, sign-up for Vocational Agriculture except in special cases is made in blocks of four term courses. That is, when a student chooses Vocational Agriculture, he must enroll in four term courses, one for each of the four terms in the school year. This solidifies the program, but still allows flexibility in course choice, for at most the student can only enroll in 16 of 41 offered courses during his four years in high school.

Secondly, first term students, no matter what their school year, are required to take the "Introduction to Vocational Agriculture and Agriculture Opportunities" course. This course explains the program in more detail, develops an experience program for each individual student, teaches students the basis of record keeping, and delineates on the many opportunities in Agri-Business and Related Industries.

A second possible problem which many teachers who have gone to similar term courses will admit is that the FFA program will suffer. Dividing the school year and constantly mixing the classes tends to weaken an FFA organization. Also, it becomes increasingly difficult to incorporate such things as two weeks of parliamentary procedure into a nine week arc welding course.

(Concluded on page 119)

Lloyd H. Blanton

TEACHERS IN A STRATEGY OF CHANGE?

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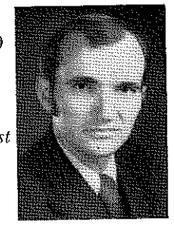
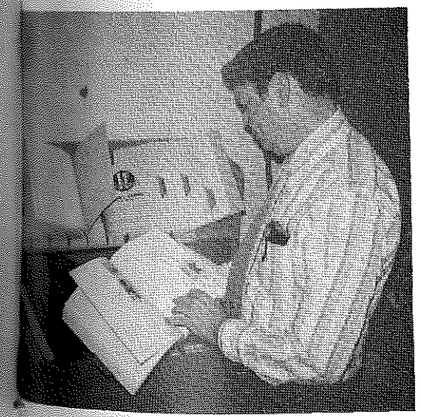


E. B. Russell

How do teachers view innovative practices and programs?

Even the competent, dedicated teacher of vocational agriculture often feels a wave of paranoia sweeping over him in the face of "emerging innovative programs." Competitive curricula featuring "Madison Avenue eye-appeal" directed at prospective students, modular and quarter-systems of scheduling, accountability boards, technological advancements, computer assisted instruction, and other situations such as updated laboratory facilities and equipment along with new concepts such as career education and exploratory prevocational education represent only a few of the "innovations" in education. Add to these the pervasive feeling that teachers are constantly being told, "install innovative programs," or "try it; you'll like it," and one can readily understand the sometimes negative reactions.

The mere fact that a teacher is working in an environment of various innovations does not insure that the teacher has adopted those innovations. The teacher may in fact be plotting the demise of a given innovation or circumventing the purpose of that innovation rather than adopting it as outer appearances would indicate. Diffusion of innovations is a complex phenomenon; it is complete only when the target user has actually realized the merits of the innovation and successfully implemented that innovation.



A new tractor specification reference in Ed Stower's Ag Power and Machinery laboratory led to improved tractor maintenance in senior's supervised experience programs.

Is the teacher who constantly tries something new an innovator?

Agricultural teachers who feel that too often they are used to install or try new programs or practices as pilot efforts may find an ego builder in the recent study which suggests that certain teachers of agriculture are "opinion leaders" and are "valued information sources" among peers.[2] The very fact that certain teachers are frequently asked to try selected innovations may be an indicator that supervisors, administrators, and peers rely heavily upon their judgements and recommendations. Those teachers may, in fact, be "opinion leaders."

Opinion Leader Characteristics were recently studied in relation to those of their fellow teachers. Investigation of professional characteristics revealed that opinion leaders held particular interest and competence in certain instructional areas; achieved higher educational levels; used more impersonal, technically accurate, cosmopolitan sources of information; exhibited higher levels and lengths of professional performance when compared to peers.

Other characteristics of opinion leaders included the following: greater conformity to social norms, older, higher status, higher income, greater service to the community, greater exposure to mass media, more innovative, and more held offices in formal organizations than other teachers. A previous study by Hensel and Johnson involving teachers of vocational agriculture supported these general characteristics of opinion leaders.[3]

Peers reported that their basis for selecting teachers to whom they turned for information and advice were, first, if they were "willing to discuss problems and issues," and second, if the teacher's "program had been recommended by others." Therefore, the two factors playing the greatest role in determining a teacher's chance at being named an opinion leader by peers were (1) the teacher's psychological assessability, and (2) the teacher's performance.

A logical conclusion could be that teachers with greatest professional preparation and experience plus a sympathetic ear become recognized as exceptional professional performers, willing to share the benefits of their experiences with colleagues — thus becoming opinion leaders.

Persons Desiring Educational Change would do well, it appears, to seriously consider including opinion leaders in effecting new programs and practices. Hearn recently described an innovation as ". . . something that is perceived as new by an individual at any given time in any given community."[4] Administrators and supervisors could probably reduce apprehension of teachers and school systems toward innovation by identifying opinion leaders and soliciting opinion leaders' trial and evaluation of innovations before advocating wholesale adoption. Chances are that the opinion leaders' appraisal would indicate the probable success of the innovation in the system as well as its probable reception by other teachers. It is unlikely that an innovation can be successful in a system where the opinion leader proves to be an obstacle.

How do opinion leaders become a part of the strategy for change?

Communication Patterns between opinion leaders and state level leaders such as supervisors and teacher educators appear to be an important element in effecting educational change and innovation among teachers of vocational agriculture. This is true particularly in those instances when given innova-

(Concluded on page 119)

DIVERSIFIED AGRICULTURAL OCCUPATIONS (DAO) —Instructional Programs To Meet The Challenge In Agribusiness Education

Harold Binkley
Teacher Education
University of Kentucky


Harold R. Binkley

Diversified and individualized instructional programs in agribusiness is one of the major challenges that has not been met. There are students in the same class with such occupational objectives as farming, nursery employee, feed store employee, garden center employee, forestry aide, custom spray operator, small engine repairman, and many others. Even if it were possible to offer a fair number of "specialized" courses, there would still be a variety of occupational objectives among students in a class which could not be met. The profession must develop ways to meet a wide variety of occupational objectives, in agriculture, in the same class. DAO — Diversified Agricultural Occupations may be an appropriate name for such programs. The *need for* diversified and individualized instructional programs in agribusiness shall be discussed, followed by a *conceptualized model* of such a program, under the following six headings:

1. The agricultural resources of the community
2. The course of study
3. Individual-student study-guides
4. Training plans
5. Adequate student references
6. Orientation of students to individual study

The Need for Individualized Instructional Programs

The profession must continue to provide training in and for farming for those who are to farm. The pattern of instruction and procedure for such training should remain about the same as it has been in the past — the command is: "continue to march." However, the training for farming must be better, dealing with larger and more complex farming operations.

It is apparent to all that an instructional program geared to preparing all students for farming *does not* and *will not* meet the needs of those students desiring to go into the many diverse occupations in agribusiness.

In certain metropolitan areas there are enough training station possibilities to support training in one or more of such specialized areas of agriculture, such as: 1) Agricultural Business — Sales and Service, 2) Agricultural Mechanics, or 3) Vocational Horticulture. But these communities represent a very small percentage of all the communities where vocational agriculture is and should be taught.

There are thousands of school districts (communities) with a need for a diversified and individualized training program in agribusiness, which *utilizes the total agricultural resources* of the community. In a community of 3,000 to 5,000 population the resources for training in agribusiness might include: opportunities in farming (home farm and placement for farm experience), a veterinary clinic, a nursery, a SCS office, a butcher shop, an agricultural machinery business, an agricultural supply business, a milk processing plant, and many others.

The "center of the battle" for the decade of the 70's is: How can teachers of agriculture provide high quality diversified agricultural occupational (DAO) experience programs in agribusiness: 1) *making use of* (managing if you please) all the agricultural resources of the community? And, 2) at the same time, make the class instruction relate to the diversity of the occupational experience programs of the students.

The need for diversified and individualized instructional programs in agribusiness education is clear and definite. The challenge is significant.

1. The agricultural resources of the community. — Where does the teacher start? A complete local survey of the agricultural resources *is needed* to determine the total *training possibilities* in agriculture in the community. Here is where the students are — where they reside, so training possibilities at the local level are **a must** — the training possibilities determine the training program that can be provided. After the students are trained they may move to where the job opportunities are or move on to more advanced study in agriculture at the technical or professional level.

As an example, a local survey might reveal the following *training possibilities* in agribusiness:

1. Farming (establishment or training in)	4
2. Placement for experience in farming	4
3. Agricultural supply businesses	2
4. Garden center	1
5. Nursery	1
6. Veterinary clinic	1
7. Butcher shop	1
8. Farm building supplies	2
9. Grain elevator — feed mill	2
10. Custom spray operator	1
11. Forestry service	1
Total	20

2. The course of study. — The class instruction for a class in diversified and individualized agricultural occupations should be made up of two major parts: a) group instruction, and b) individual (or individualized) instruction. For a typical school, the *group instruction* might include such instructional units as:

1. **Opportunities in Agricultural Occupations (advanced level)**
2. **Orientation to the Training Program**
3. **Selecting and Arranging for Experience Programs**
4. **Carry out the Experience Programs**
5. **Keeping Records on the Experience Programs**
6. **Summarizing and Evaluating Experience Programs**
7. **Organization and Operation of Agricultural Businesses**
8. **Agricultural Mathematics**
9. **Human Relations and Personality Traits**

By dealing with these units with the entire class, the teacher should secure those *learnings needed by all students*, regardless of the type of agricultural

(Continued on next page)

(Binkley—from page 114)

occupation they desire training for. The teacher might devote from 50 to 60 percent of the total instructional class time during the year to dealing with the nine (9) group instructional units. And, these should be dealt with at the appropriate time during the year. The remaining 40 to 50 percent of the class time should be devoted to *individualized study*, during which time each student would follow an individual-student study-guide in his day-to-day study. The individual guides would enable each individual student to study and *to learn* the knowledges and understandings needed *to perform* the jobs and to carry out the responsibilities he would have where he is placed for his occupational experience program.

3. Individual-student study-guides. What should be included in (or make up) the individual-student study-guides? Briefly, the individual-study guides might be made up of the following parts:

A. A cover page, giving the title of the study guide, the major objective, and a list of learnings (knowledges and understandings) to be developed, and a table of contents.

B. A second page dealing with: Understanding the Unit, which might include two parts: 1) *Introduction* and 2) *Instruction* for using the unit.

C. On each of the remaining pages, a learning is stated, followed by: 1) *The Situation*, which when read, hopefully, will cause the student to have a problem, 2) a place for writing in the problem-question or area of study, 3) *Content* to be used in analyzing the problem or area of study, and 4) *References* to be read.

D. The last page should list references needed for studying the guide, giving names of publishers and address of each.

The teacher should select a second and a third study guide for each student which are related to the first one and the occupational experience program of the student. This is to make sure each student has a related guide to study when he has completed the first one, and the second one.

4. Training plans. — Each student dent should have a training plan developed cooperatively by the student, the teacher, and the cooperating employer, which states the *terms of employment and training* and spells out *the jobs* the student will perform and *the responsibilities* he will have at his training station in his experience program. The individual study (at school) for each student, following his specific study guide, should *focus on developing the knowledges and understandings needed* to perform the jobs and responsibilities which the student is to have at the training station.

5. Adequate student references. — Before the teacher launches the students on their individual study, he should have ordered and have on hand all the references — books, bulletins, circulars, and pamphlets needed by (preferably placed in a package) each student appropriate to his area of individual study. Students cannot make brick without clay and straw.

6. Orientation of students to individual study. — This point is most important. Teachers and students must develop an enthusiastic "know how" if they are to make effective use of the time set aside for individual study. The teacher *must* provide guidance and instruction in terms of *how the guides are to be used* in order that the students will succeed, and "from the start," in the use of the individual-study guides. Certain study guides will need to be modified, to more logically coincide with the jobs and responsibilities the students will perform at their training stations.

A Summary Challenge

Developing student skill in individual study is a significant challenge, which if teachers meet, will make a major contribution to the *future success* of students as adults. If teachers can develop in students the *ability to identify significant problems* for study related to their occupational experience programs and then *to solve them individually*, they will be making a significant contribution to their being able to *adjust to the changes* in agricultural occupations down through the years. Much of student success in agriculture, in the years ahead, will be dependent upon their ability to identify and solve problems individually.

Agribusiness education has a significant and challenging future with many opportunities for the development of improved programs to meet the needs of students, who desire and need good training in the broad and diverse fields of agriculture. ◆◆◆

(McCreight—from page 109)

phase III. In general, teachers of agriculture have been quite concerned and have provided students in grades 10, 11, and 12 with necessary skills for preparation to enter various occupations after the twelfth grade. To prepare students for occupational entry, we must first properly identify the competencies required for successful entry and performance.

Agri-Business and Natural Resource Competencies for Rhode Island

In Rhode Island we have identified 6 general competency areas with 178 specific competencies. The list of competencies was developed by the following process: (1) competency lists from other states were reviewed; (2) University specialists reviewed and contributed to preliminary lists; (3) job task analyses were completed by industry personnel; and (4) advisory councils served as a sounding board for the development of the final list of competencies.

Conclusions

After complete lists of competencies are developed, the next step is to determine what entry competencies are needed by the students we are training for agri-business careers. The completeness of the competency list can't be overemphasized, since the effectiveness of the survey will depend directly upon a comprehensive competency list.

Comprehensive competency surveys can serve as the foundation of curriculum that centers around the career education concept of preparing students for specific occupations or a cluster of occupations. Competency lists that identify the needs related to specific occupations can also serve as check lists for cooperative work experience programs.

In conclusion, comprehensive competency surveys can contribute greatly to a successful career education program. Career education must be focused on people; contribute to successful employment; provide for good citizenship; and provide for continuous education. ◆◆◆

1. Speech on "Career Education" given at the Thirty-third Session of the International Conference on Education, Geneva, Switzerland, September 15-23, 1971.

Editors Note: Lists of competencies described may be obtained from the author; areas include Environmental Science, Mechanical, Agricultural Leadership, Agricultural Business Management, Food Technology, Animal Science and Plant and Soil Science.

"YOU SHOW ME-I'LL WATCH"-WON'T WORK IN THE 70's!

Isaias Almazan, Jr.
Vocational Agriculture Teacher
Stroman High School
Victoria, Texas

The days of milking the cow and feeding the chickens before school are a thing of the past. Youth of today are not interested in the sad stories of how hard it used to be, but the interest lies now in how simple it can be. Milking and feeding can both be accomplished by automation. Pressing a button or setting a dial seems to be the "in thing" for the agriculturist of today.

Agriculture Education is constantly changing to meet the demands of our progressive society. One must realize that agriculture is the biggest business in the world today, and almost everything necessary for human survival is related to agriculture. Because of its importance, Agriculture Education must be channeled in the direction that will attract today's youth and motivate him to serve society to his maximum.

The concept of opening a book and making an assignment to answer the questions at the end of the chapter is obsolete.

Co-operation among the agricultural leaders is the key to success. Making Agriculture Education appealing is a challenge that has to be accepted by all agricultural personnel, including the agriculture teacher, county agent, high school principal and superintendent, university professor and administrators. Too often, due to a breakdown in communications, these leaders fail to utilize a vast resource of knowledge available by working together and exchanging ideas.

Agriculture Education has set the pace for all fields of vocational training by offering several areas for the student to explore. Production agriculture, for example, offers the student an opportunity to become familiar with five major areas: animal science, soil science, plant science, agriculture mechanics and the supervised farming program.

A supplement to production agriculture is co-operative part-time training. This program has become extremely popular because the student learns a trade that can benefit him financially while going to school, and he simultaneously can establish his career. The success of this program depends on the relationship between the department and the agri-business community. Careful examination of the training station by the teacher, to see that the job is suitable for the student, can insure a good relationship for the program's future. For example, a student that becomes nauseated at the sight of blood will be unable to adapt himself as a veterinarian assistant. In most cases the program will sell itself if given an opportunity to do so.

Pre-employment lab is another alternative available to the agriculture student of today. If differs from co-operative part-time training in that the student is trained for a particular job by his teacher at school. These students are not financially reimbursed. Although the program is not found in all departments, the number of units continue to grow year after year.

Regardless of the program in operation, it is imperative that the teacher realize the constant changes that do occur and should carefully analyze his program to see if it is keeping pace with the modern educational trend. As is true of most professionals, one has a tendency to become a slave to the "status quo." Although a drastic change in any program is not advisable, a moderate shift with a day-to-day analysis of the outcome has proven to be effective.

The concept of opening a book and making an assignment to answer the questions at the end of the chapter is all but obsolete. Today's students are eager to learn by practical experience, not by "you show me, I'll watch." Allowing the student to "learn by doing," with supervision when necessary, will most likely produce an individual who is able to go out into the world and solve his own problems. On the other hand, some students are overprotected by their parents and teachers, and as a result, have never been given the opportunity to prove themselves.

There will always be problems, but they can be minimized if they are approached with objectivity. Keeping innovation in mind is necessary in obtaining a progressive and successful Agriculture Education program in the future. ◆◆◆

PUBLIC RELATIONS-AN ASSET

Ray Weigand
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Evansville High School
Evansville, Wisconsin

Public relations are a vital part of a vocational program. Many instructors differ on this point. They think that publishing articles about our chapter activities are too time consuming, considered to be a way of bragging, are not worth the effort, or are in poor taste. However, I definitely think that we, as vocational instructors and F.F.A. Advisors, must acquaint the community with what we are doing and what F.F.A. members are achieving in our local chapter.

I think that there is much benefit to be derived from doing an outstanding job of public relations. After all, if we do not inform our community as to what our local chapter is doing, many taxpayers will have no information or understanding of the value of our FFA Chapter and vocational program. We must inform the public of the inspirations, motivations and accomplishments of the young people which belong to the F.F.A. in our community.

Public relations are even more important in our summer program, because when school is not in session, the public tends to forget the purpose of our program. Some of the very important activities of our summer program are as follows: officer leadership meetings; educational learning workshops for students and instructors; land and livestock judging contest; local, county and state fair activities; chapter meetings and picnics; and becoming actively involved in 'Building Our American Communities' (BOAC). Therefore, it is up to we as agriculture instructors and F.F.A. Advisors to keep our young agriculture people moving in the right direction through public relations.

AGRICULTURE TEACHER GOES EXOTIC

Evert C. Hunsicker
Creston Community School
Creston, Iowa

E. C. Hunsicker

'Exotics' have appeared in the United States comparable to the force of a jet landing on an air strip at a major terminal. If it isn't your flight you probably just go back to reading your magazine. On second thought, you may possibly take another look before you resume reading. That's the way it is with the 'exotics.'

During my teaching career many vocational agriculture students and adult farmers have confronted me with the problem of the desirability of raising purebred beef cattle vs. crossbreeding. Until fairly recently it hasn't been too difficult to weigh the merits of one over the other after careful evaluation of the quality of the herd, the facilities, market possibilities, and experiences of the breeder and arrive at a sensible decision.

With the avalanche of the 'exotics', it is much more complicated to choose the best alternative as the questions arise. Since I had seen only a few of the breeds, my valid information was far too sparse to give proper guidance. After a conference with my wife, daughter, and son-in-law we decided that to go to Europe and see the cattle in their natural habitats was the next item on the agenda.

This past summer the four of us jetted to Frankfurt, Germany where our rented car awaited to carry us out to the cattle areas to search for the answer to 'exotics' in America. The European cattlemen were wonderful to us, and spent much time showing us around their areas.

We saw the Fleckvieh (German Simmental) in Germany, and the Gelbvieh (German Yellow). The Gelbvieh bulls weighed up to 3000 pounds. In Switzerland we saw hundreds of Simmental on both government and private farms. They are a large, dual purpose breed with excellent milk production. They carry heavy bone and a thick hide. Some of these traits are not desirable in crossbreeding with our cattle. The heavy milking qualities would improve some of the weaknesses in our beef herds. The Simmental are also very docile.

In France we saw Simmental near the border, then saw the Blonde d' Aquitaine, a breed which is not as common as the other French breeds. They have some possibilities, but not to be a great improver.

We visited the top breeders of Charolais in France. These cattle were not too different from our American version, except not as modern a type. They are heavy and coarse in the front quarters and are exceptionally large in size. Milking quality is not exceptional. Their disposition could be improved.

In the Chateau country of France we saw the Maine Anjou, the largest breed in France. Again, it is a dual purpose breed, red and white, and extremely gentle. We saw several bulls that weighed over 3000 pounds and some that topped 3400 pounds. The cows weighed over a ton and were milked twice a day. These animals could be used in crossbreeding to improve both size and temperament, but it would be very unadvisable to cross them on our small American cows.

In the Limoges area of France we saw the straw-colored Limousin breed. This breed impressed us. It is the only breed in France that was bred for beef alone. They are able to make a good quality beef from grass with little or no grain. These cattle are wide and deep in the hind quarters and narrower in the front to help eliminate calving problems. We feel this is the most important breed to improve our American beef.

Pastures on the continent and the islands were unbelievable. Small herds were confined in small pastures, with the herd was moved periodically, and the pasture clipped and fertilized. The pastures were lush with a dense cover of grasses.

We attended the Royal Show (from which our American Royal was named) at Kenilworth in England where we saw English breeds we had never heard of and others we knew little about. The Royal Show was very different from our type of livestock show. It lacked the side shows and the chorus girls. It pertained mostly to livestock and machinery and was very interesting.

Besides the herds of Hereford, Shorthorn, and Angus on the island, we saw Lincoln Red, Red Poll, Sussex, and South Devon. They are gentle cattle with great size.

The Welsh Black were prominent in Wales, western England, and Ireland. They carry size and modern conformation. The Belted and Dun Galloway were very much like their counterparts in America.

After visiting with top breeders and with the breed association personnel we have come home with some definite ideas about crossbreeding improvement. On the British Isles they are doing an excellent job with the three-way cross using Hereford, Shorthorn, and Angus. Their cattle are not as modern type as ours, but they are doing a very good job in their pastures and feedlots.

In Scotland we saw thousands of acres of heather land which had been renovated and fertilized into lush pastures. We could well use their example on much of our pasture land in the United States.

With these most enlightening and exciting experiences and observations in the background, we came home and launched a new approach to crossbreeding on our own farm and with our own beef cow herd. The Europeans have given us endless ideas and incentives which we intend to utilize and demonstrate in the United States. ◆◆◆

BOOK REVIEW

SHOPWORK TEACHING TRICKS, by Michael O'Brien, Elwood M. Juergenson, and Ernest A. Tarone. Danville, Illinois: The Interstate Printers & Publishers, Inc., 1971, 342 p. $6.75.

This is a book that will stimulate a shop teacher's imagination and will show him how to add color to his daily presentation. SHOPWORK TEACHING TRICKS contains suggestions in the specific areas of shopwork, including shop drawing, planning jobs, carpentry, painting, soldering and sheet metal, welding, pipework, concrete, and many others. This book supplements recognized methods and techniques in education.

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Frank R. Stover
Book Review Editor

(Atherton—from page 107)

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For example, it seems that we cannot continue to spread thinner the agricultural occupations program by continually adding new areas of endeavor and continuing to cling tenaciously to all that seemed good and successful during the preceding several decades. The original goal was to train present and prospective farmers for proficiency in farming; along with this pre-professional preparation was given for those aspiring for the agricultural professions. Then agribusiness became the "in thing" and was added to the educational program. Along came natural resources training and now emphasis is being placed upon career education. This proliferation of areas of emphasis has compounded the need for multiple teacher departments and for these instructors to be proficient in differing specialties so that someone will be capable of working intelligently in each of the areas of major concern. A new set of objectives and priorities is called for also so that emphasis may be placed in those places considered most vital. No doubt, research on a sizeable scale will be essential for the development of models and guidelines. Teaching materials for use by those implementing this broadened program are a must. The average teacher will not have time to develop them in addition to carrying out his regular teaching activities.

Despite the difficulties encountered in the implementation of this diverse program, this is no time for despair. Rather, it is a time for hope and expectation. The opportunity presents itself for the recapturing of the spirit of the early agricultural educators. We are coming to realize that in order to adequately provide youth for job entry there must be an adequate program of career orientation and vocational guidance. Providing career education from K-12 and even beyond should provide the agricultural educator with ample opportunity to provide job information and counsel to those students who have an interest, vocational or avocational, and those with a desire to choose a career in some phase of agriculture. Students enrolling in the high school agricultural program will be much more knowledgeable of the world of work and should have some definite views relative to the occupational objectives they pursue.

The profession has risen to its greatest heights in times of crises and uncertainty. The challenges presented are turned into opportunity. It seems that we stand on the threshold of accomplishment and advancement. It should be a great challenge and privilege to become a part of this movement. ◆◆◆

(Nelson—from page 108)

to do some of the things that could be done on a school farm. Most of the animals brought into the lab would stay only a few hours up to a few days. Animals brought in before parturition may stay about a week.

Many of our readers may say that all these jobs can be discussed, demonstrated, and taught on a farm visit. I agree, but I believe we must start practicing what we have been preaching concerning job efficiency and materials handling as it involves farming and agribusiness. Assuming 2 sections of 25 students (50 total) enrolled in animal science, and realizing that some students live in town, how much time would it take for you to instruct each of these students in just one of the previously mentioned jobs on an instructional visit?

A field trip could be used instead of instructional visits, but it is difficult to have a farm set up to handle 25 students at a time and have each student have a "hands on" experience with the job for the day. I believe it is more efficient use of time to move the animals than it is to move the students. However, if your classes are still at the 5 to 10 student level, a field trip may be considered the "way to go."

The physical facilities of a vo-ag department may logically include the following outdoor laboratories near the ag facility:

Arboretum
Turf plots
Crops plots
Ponds and wooded areas for wildlife and natural resources

In Summary:

1) Efficiency and quality of instruction should have top priority when planning facilities and programs for the 70's and 80's.

2) Dedicated instructors who are trained in specific fields, working in specialized laboratories and classrooms, would provide quality instruction and efficient utilization of facilities and equipment.

3) The high school vo-ag program should provide students with "hands on" experiences in many occupational areas in agriculture.

4) Our high school vo-ag and FFA program should be planned with the goal of 100% participation in learning activities in each vo-ag course.

5) A program with specialized facilities and specialized instructors would permit grouping of students by specialty areas in the FFA.

6) A vo-ag program such as I have outlined would require careful scheduling and close cooperation of the staff. ◆◆◆

(Blanton & Russell—from page 113)

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After scheduling was completed, but before the end of the 1971-72 school year, detailed outlines of each course were written. The purpose of these final outlines was twofold. First of all, combined with behavioral objectives and course descriptions, these outlines provided a course of study handbook for the new Vocational Agriculture Department. These handbooks are kept on file in the school administration office, as well as the guidance and Vocational Agriculture offices, for reference or observation by anyone so desiring. Secondly, these outlines provided a week by week description of course content, an indication of the amount of time and depth of study to be given in the new nine week courses.

The last preparational phase of the transition to this new look in vocational agriculture was the adoption of textbooks to fit the course. Based on recommendation of possible texts made by the Department of Agriculture Education, The Ohio State University, the Vocational Agriculture instructors selected fourteen additional texts which were needed to properly conduct the new courses. The texts were presented to and adopted by the Delaware High School Board of Education.

Probably never before has such a radical change in high school curriculum been made with the speed, ease, direction, and purpose that it has been made this past year at Delaware High School. The cooperation of teachers, parents, students, and administrators is totally gratifying. This transition has provided Vocational Agriculture a means by which to 'Show Off' its diversified possibilities, and the 1972-73 school year will no doubt prove to be a step forward for tomorrow. ◆◆◆

BOOK REVIEW

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Is there really a place for the teacher in educational change?

One senses that monumental blunders have occurred in recent years when countless innovations in programs, practices, and equipment have been introduced to states from the federal level and from research and development centers. Instances can be recalled when blanket directives have been made relative to installation of programs and practices. Those directives often took on the appearances of "top-down communication patterns." In those cases where innovation diffusion attempts failed, perhaps failure resulted because those at the top levels failed to identify and solicit the valued experience and judgement of those who could have functioned as opinion leaders among the target audiences.

Identification of Opinion Leaders appears to be achievable with tight planning and relatively simple instruments.

In sociometry, teachers are asked to name other teachers who are information sources to them; in the key-informant technique, key persons from outside the group, such as district and state supervisors, are asked to name those teachers considered to be opinion leaders in certain instructional areas.

What is the pay-off of opinion leader utilization in innovation?

It is conceivable that hundreds of thousands of dollars and hours could be saved — or at least more efficiently used — if those planning educational innovation and change would identify and utilize opinion leaders in innovation trial, evaluation, and diffusion. More important, the energy and abilities of teachers could be husbanded and expended on meaningful effort *and* the democratic-participative method of decision-making would be implemented and preserved. ◆◆◆

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(Thomas M. Archer—from page 112)

Hayes' solution to this was fundamental — incorporate Leadership Development and FFA course into the curriculum. At present, four such leadership courses are available, including two weeks of the introductory course devoted entirely to the FFA. Putting leadership responsibilities on students during class time has proven to be one of the most practical forms of education.

TRANSITION

The Administration at Delaware again played an important role in the transition for a year-type curriculum to one that incorporates nine-week terms. Format outlines and a timetable were developed that provided the various instructors the 1971-72 school year in which to develop and prepare the new course curriculum.

Forty-one nine-week term courses make up the Agriculture Department Program.

The first step in the development of new courses for the Vocational Agriculture Department was to brainstorm on the various possible courses which could be offered. Factors such as student ideas, teacher capabilities, and community needs were all considered, which made this new program unique from the beginning.

The next step was one of combining, improving, and deleting course ideas. Over sixty courses were originally listed as possibilities for the Vocational Agriculture program. This number proved to be unwieldy for even projected student enrollment, additional units, or available facilities. Also, it was found that there was overlapping of ideas, repetition of material, or lack of sufficient interest in various course ideas to warrant further development of some term course outlines. At the end of this combining and deletion stage, thirty-two Production Agriculture term courses and nine junior-senior level Agri-Business courses were left for further development.

As time progressed, a more detailed outline was prepared for each course. Using a form developed by the administration, specific behavioral objectives were written for each course. Also included on this form was a fifty word course description as well as a brief outline of the content of each course.

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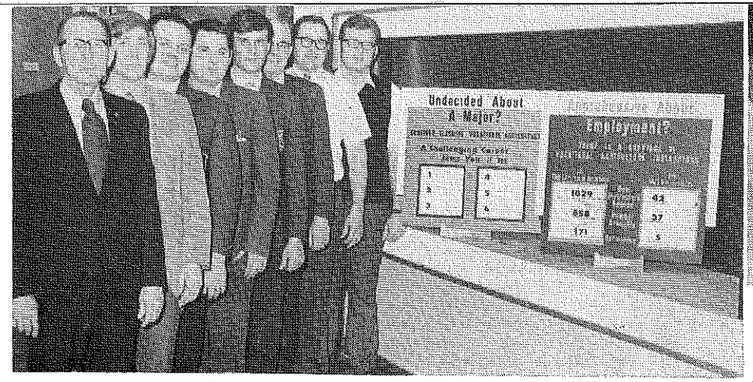
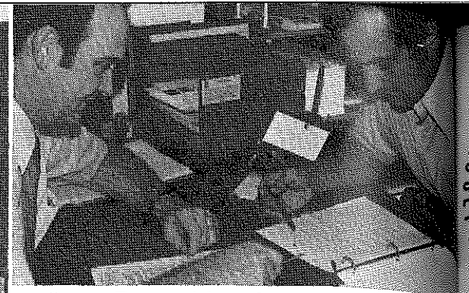


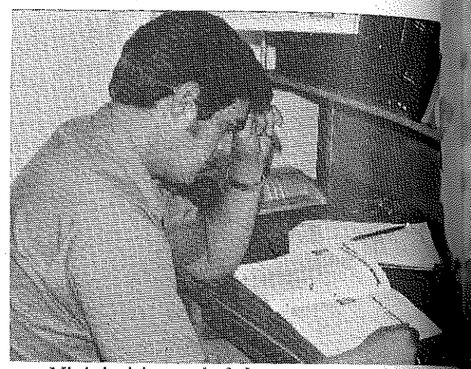
Dr. Robert Campbell, associate professor of agricultural education, addressed the agriculture section of the 40th annual Southwest Wisconsin Education Association convention held on the campus of the University of Wisconsin-Platteville. Area vocational agriculture teachers in attendance were Don Kolar, Fennimore; Dale Herbers, Potosi; Richard Morris, Iowa-Grant; Jerry Sherwin, Cuba City; Jack Trzebiatiwski, Cassville; Paul Oehrlien, Lancaster; Bob Ray, Belmont and Gene Medeke, Platteville. (Photo supplied by Department of Agricultural Education, University of Wisconsin-Platteville.)

Stories in Pictures

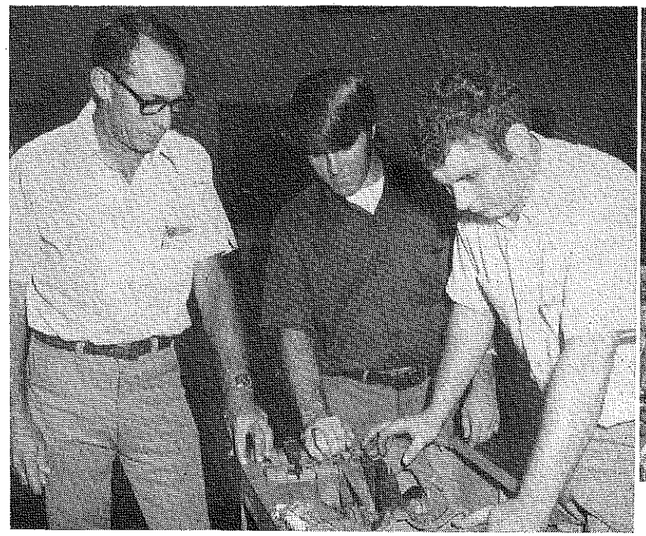
by Richard Douglass



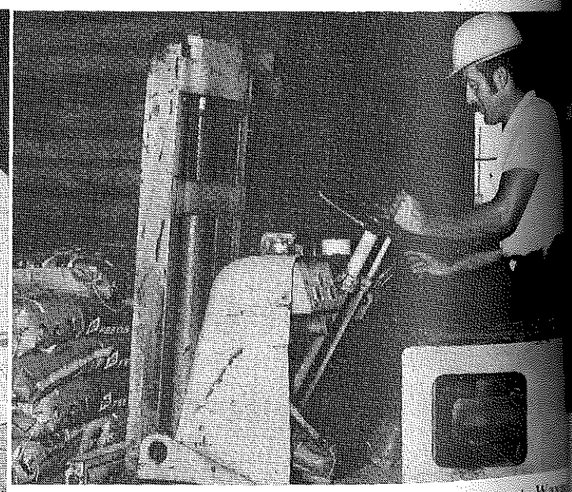
Eugene Trotter, right, a doctoral student at the Univ sity of Illinois, seeks advice concerning proposed rese from his advisor Dr. David L. Williams. The prepara of persons for leadership roles in vocational educatio agriculture is an important function of the Divisi Agricultural Education, University of Illinois, Ur Champaign. (Photo by Robert W. Walker, Univ of Illinois.)



Mississippi is proud of the progress made in Vocati Education. Pictured above is Ronald A. Brown, a for Mississippi agriculture teacher, studying at the Univers of Illinois for a doctoral degree in Vocational Educa in Agriculture. (Photo by Robert W. Walker, Univers of Illinois.)



POWER TOOLS WORKSHOP — Ron Taylor, center, representative of Rockwell Manufacturing in Atlanta, directs Alabama agri-business teachers E. G. Hendrix, Jasper, and S. A. Watson, Curry, in repair of a shop circular saw. (Photo supplied by Cecil Gant, Agri-business Division, Alabama State Department of Education.)



Roger Johnson, Agricultural Occupations Instructor at Way City High School, operating a tow motor in the process of loadi feed. This is one of the operations Mr. Johnson become famil with during his two week internship at Marion-Jefferson Serv Company at Mt. Vernon. Mr. Johnson's internship was part an intensive four week course, Ag. Ind. 512 at SIU with Thomas R. Stitt as instructor. (Photo supplied by Thomas Stitt, Department of Agricultural Industries, Southern Illi University.)

Agricultural Education

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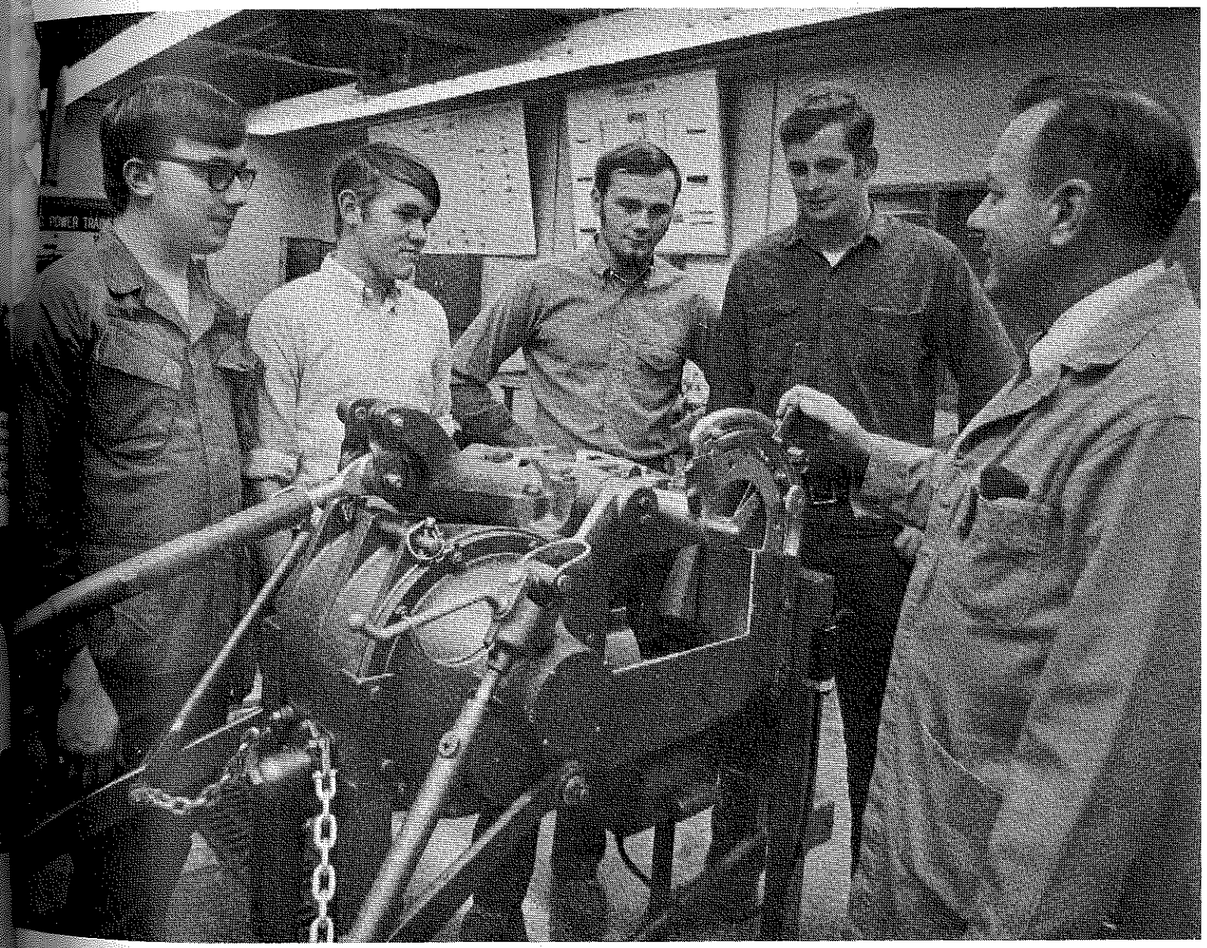

Theme — POST-SECONDARY EDUCATION

Do Your Students View Post-Secondary Education As An Advanced Step In Their Planning Toward A Career?