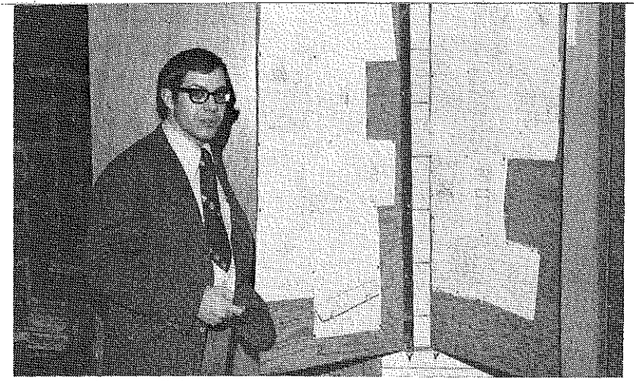
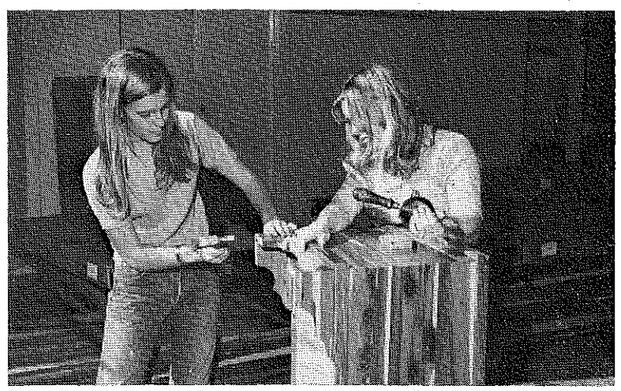


SHOP PROJECT PLANS—Posting a third copy of each student's plans helps Ainsworth, Nebraska Vo-Ag students build better projects. Roger Gerdes requires each student to prepare three copies of each plan—one for the student's notebook, one for the instructor's file, and one to be posted on a hinged display board in the shop. Any design changes agreed upon are recorded on the posted copy. Roger also uses "hide glue" to increase the life of projects that are used outside. (Photo by Richard Douglass)

SUMMER'S THE TIME TO LEARN NEW SKILLS—Arkansas Vo-Ag Instructors received in-service training last summer at Camp Couchdale. The Head of the Engineering Department at the University of Arkansas, Professor Billy Bryan, provided the instruction on the use of the transit. This type of in-service instruction results when groups of teachers identify common needs and request specific programs. (Photo by Marion D. Fletcher, Assistant Supervisor, Ag. Ed., Arkansas)



Stories in Pictures

by Richard Douglass

POWDER PUFF SHOP—Harold Johns, Vo-Ag Instructor at Bassett, Nebraska, trades classes for a short time with the Home Economics Instructor. He has searched for a number of years for a suitable way to develop the shop skills needed by the modern homemaker. Harold uses a cedar chest assembly kit as a teaching tool. The gals develop basic hand tool and finishing skills while producing an attractive and useful product. The students are enthusiastic about the project, which can be completed quickly. (Photo by Richard Douglass)

IDEAS UNLIMITED CONTEST—The NVATA sponsors an "Ideas Unlimited" contest annually during their national convention. It is designed to give classroom teachers attending the convention an opportunity to share their ideas. Ruritan National sponsored the award plaques for the 1972 winners. Ruritan National is a rural civic organization who's aim is to create a better understanding between people and communities. Larry Statler, Vocational Agriculture teacher at Amana, Iowa, shown receiving the large plaque, was selected National Winner. His idea was "Kiddies Go Farming and More" which described the tours they give kindergarten students on their school farm.

Pictured left to right are the winners of the 1972 contest: Donald Glazier, Groveland, Massachusetts; Gary Propp, Big Timer, Montana; Larry L. Statler, Amana, Iowa; Richard J. Klyne, Ruritan National; James Braziel, Jr., Lyons, Georgia; Bobby Viertel, Eaton, Colorado; and Gary Moore, Beverly, Ohio.

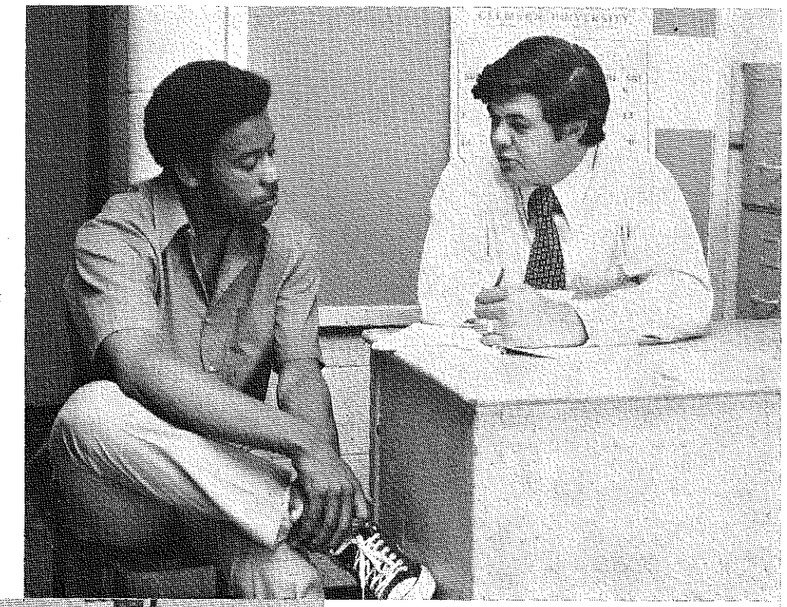
The 12 best ideas have been sent to each State President and Newsletter Editor. Watch your State Vo-Ag Association Newsletter or contact your State President. If you will be going to AVA next December, plan to share your "best idea." (Photo supplied by Sam Stenzel, Assistant Executive Secretary, NVAA Photo by H. J. Sier)

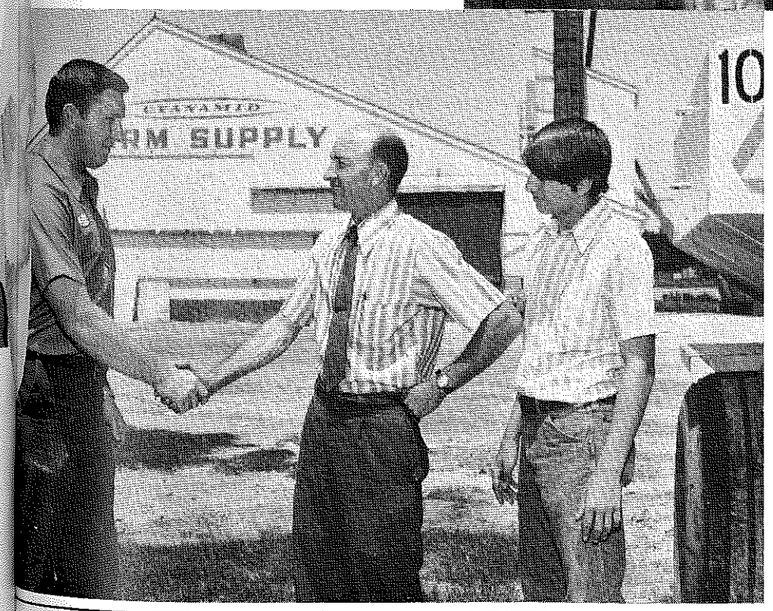
Agricultural Education

Volume 45 June, 1973 Number 12

Theme— CAREER EDUCATION:

THE SCHOOL'S RESPONSIBILITY FOR





PLACEMENT AND FOLLOW-UP

The
Agricultural Education
Magazine

EDPRESS Vol. 45 June, 1973 No. 12

THEME—CAREER EDUCATION: THE SCHOOL'S RESPONSIBILITY FOR PLACEMENT AND FOLLOW-UP

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

COVER PHOTO

UPPER — Vo-Ag teacher, Jason Lynch, Jr., right, Pendleton High school, South Carolina, counsels senior Curtis Johnson, left, on post high school educational opportunities. Some of these include Clemson University and Tri County Technical Education Center. Both of these institutions are located within three miles of Curtis' home. LOWER — Harold S. Clinkscales, center, Vo-Ag teacher, Crescent High, South Carolina, introduces junior David Simpson to Eddie Brown, manager of Cyanamid Farm Supply. Mr. Clinkscales is helping David obtain supervised work experience and employment during the summer with an agricultural business firm. (Photos by J. Alex Hash, Associate Professor of Agricultural Education Clemson University).

Editorials

From Your Editor . . . WHO'S JOB IS IT?


Roy D. Dillon

Traditionally, the secondary school's objectives have limited the program to educational curriculums designed to prepare young people for "their future." The highly structured daily classroom, laboratory, and activity oriented schedule is followed dutifully by thousands of secondary school students across our nation.

Consider for a moment the change that occurs in the daily schedule of the high school graduate the day after graduation. All of a sudden, the school is no longer making daily decisions for him, scheduling his time, following his movements, or evaluating his behavior. The moment of truth arrives at that point in time. All the experiences gained by the high school graduate are called upon to help him begin to make decisions about his short, intermediate, and long range goals. Home, church, and school programs impact on the youth's decisions. depending on the quality and blend of experiences in each.

The success each youth has in the transition from secondary school to post-graduation life is dependent on the extent to which he is able to make judgements and set goals for himself. The "content oriented" educational program is designed to challenge youth to think "now" rather than "future," while the career education curriculum challenges the youth to think "future," using the content as a vehicle.

If the school is to fulfill its proper role as an institution to prepare young people for their life after graduation, the school's responsibility must not stop abruptly at the end of grade 12 for those students who plan to begin working upon graduation.

The secondary school should commit staff and financial resources to providing 1:1 occupational guidance in the junior high and high school for every student, so that personal interest is shown for the welfare and future of each student. The counseling task may be completed by several teachers working as a team with the guidance counselor.

High school courses should be selected based on post-high goals set, a particular job family, technical school program, or university program. For those planning to begin work upon graduation, job openings, and placement information based on employment opportunities locally and in areas where graduates usually migrate, should be available during the senior year. The school, through vocational courses, can assist the student in learning how to properly seek a job, and a placement service can help him identify places to apply.

I believe the secondary school of tomorrow must make a concerted effort to formally assist the young person in locating and obtaining the first job, and maybe later jobs. The demands of our complex society are such that if the school does not accept this major task, other social, labor, and business institutions will perform the responsibilities at a much higher cost, and at the expense of lower levels of employment, a higher job turnover rate, and considerable frustration for the workers involved.

As a vocational teacher, you can take the lead locally in requesting that attention be given to placement activities, and offer to work with guidance counselors, teachers, and administrators. Maybe you are doing a few things now. One thing for sure, the system is not likely to change unless someone works at changing it. —RDD

Guest Editorial . . . PLACEMENT AND FOLLOW-UP: WHO SHOULD BE RESPONSIBLE?


J. Dale Oliver

J. Dale Oliver
Associate Professor

Donald E. Elson
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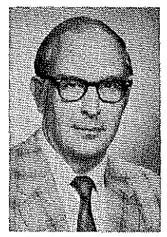

Donald E. Elson

Placement and follow-up activities are an important part of vocational education programs. Former students must be placed in appropriate employment if their training is to be of maximum benefit to them and to society. A follow-up of former students provides information for evaluating programs and keeping the programs in tune with changing conditions in the world of work.

The need for placement and follow-up activities in agricultural education is increasing. When most students were trained in agricultural production, the range of job opportunities was narrower and placement was much simpler. Teachers were able to keep up with the farming situation in their community and usually knew what happened to their students. With the development of programs to prepare students for off-farm agricultural occupations the scope

(Continued on next page)

(Oliver & Elson — from page 267)

and complexity of the situation has greatly increased. In addition, teachers tend to be carrying a heavy load of teaching and supervision of occupational experience programs. Thus it appears that teachers will become increasingly less able to provide a service that is urgently needed. The alternative is for schools or school divisions to establish placement services or provide other assistance to teachers in carrying out this important task.

To what extent are schools now providing assistance in placing their former students? Indications are that insufficient assistance is being given. In a recent follow-up study of a group of former vocational students, there were 1078 responses to the question "Who helped you find your first job?"[1] Guidance counselors provided assistance for 4.1 percent of the respondents and the placement service at school provided assistance for 3.2 percent. Assistance was provided for 22.8 percent of the students by vocational teachers and 1.0 percent by other teachers. The largest group of students, 45.8 percent, answered the question by indicating "found it myself." Other students reported they were helped by the state employment service, relatives and others. If schools accept a major responsibility for placement, one would expect the above percentages indicating school involvement to be considerably higher.

The follow-up of former students has generally been conducted by vocational teachers. The information collected is based largely on the requirements for reporting to the U.S. Office of Education. To meet these requirements,

> The largest group of students, 45.8 percent of the respondents, answered the question "Who helped you find your first job?" by indicating "found it myself!"

teachers must determine for a given date if the former students are employed in the field trained or related field, have other employment or are unemployed. Former students who are continuing their education at a higher level or for some other reason are not available for placement must also be reported. While these data are important they are not sufficient for use in evaluation and program improvement. Other information is needed, both on the students' first job and their present job (if the two are different). The following are suggested questions which may be asked concerning the first job:

—Was your first job in the occupational area of your major vocational program?
—If your first job was not in the field for which you were trained in school, why was it not in that field?
—If it took longer than you expected to find your first job, what was the most important reason?'
—Who helped you find your first job?
—How many hours per week were you required to work on the first job?
What was the title of your first job?
—How well did your vocational training prepare you for your first job?
—How far from your high school was your first job located?
—What was the starting pay (before deductions) on your *first* job?

In many instances, students will have changed jobs before the follow-up is conducted. The following are suggested questions which may be asked concerning the present job?

—What is the title of your present job?
—How many hours per week are you required to work on your present job?
—How do you like your present job?
—Did you get your present job because of your vocational training?
—In your present job how often do you use the knowledge and skills acquired from your vocational training?
—What is the pay (before deductions) on your present job?

These questions should, of course, have multiple-choice answers for the students to check.

A follow-up involving detailed questions lends itself well to a mailed questionnaire which can be sent from and returned to a central office for tabulation and analysis. Such an approach relieves teachers of most of the work involved in conducting follow-up surveys to meet reporting requirements and overall program evaluation and planning needs. They will then be able to conduct other follow-up surveys to meet their specific needs. An example of such a survey is the content-use inventory now being used by agricultural teachers in Virginia.[2] They are interviewing former students to determine the extent to which students are using selected knowledges and abilities they may have learned while studying vocational agriculture.

There has been one major change in Virginia with regard to following-up former students. In 1972, the General Assembly of Virginia enacted a set of standards of quality and objectives for public schools. Below is the standard with regard to follow-up:

> The [division] superintendent shall, as directed by the Board of Education, make annual follow-up studies of former students (dropouts and graduates) who enter employment or who continue their education beyond high school as a means of assessing the effectiveness of the school program.[3]

According to this standard, the school administration at the division level is responsible for following-up all former students.[4] Plans are to design the follow-up for the standards of quality so that it will meet the follow-up needs of vocational education.

In conclusion, placement and follow-up are regarded as important components in a successful vocational program. Schools must assume the responsibility to assist teachers in properly carrying out these activities. ◆◆◆

[1]The follow-up study was conducted in connection with the development of a new vocational education reporting system. The study involved a mail survey of 1985 former students from 16 schools. Approximately 100 forms were undeliverable. Replies were received from 1326 of the remaining 1885 students. The schools included were purposively selected rather than randomly selected. While the results cannot be generalized, it is believed that they provide a good indication of the existing situation. Information on the reporting system is available by contacting the authors.

[2]A. H. Krebs, *Model for Evaluation of Secondary School Programs of Vocational Education in Agriculture,* MP 733, College Park, Maryland: University of Maryland Agricultural Experiment Station, July, 1969. The content-use inventory contained in this publication was field tested and adapted for use in Virginia.

[3]General Assembly of Virginia, *Standards of Quality and Objectives for Public Schools in Virginia 1972-74,* enacted 1972.

[4]A school division in Virginia is either a county or a city.

THE ROLE OF— THE AGRICULTURAL OCCUPATIONS INSTRUCTOR IN PLACEMENT AND FOLLOW-UP

Robert W. Walker
Division of Agricultural Education
University of Illinois, Urbana

Robert W. Walker

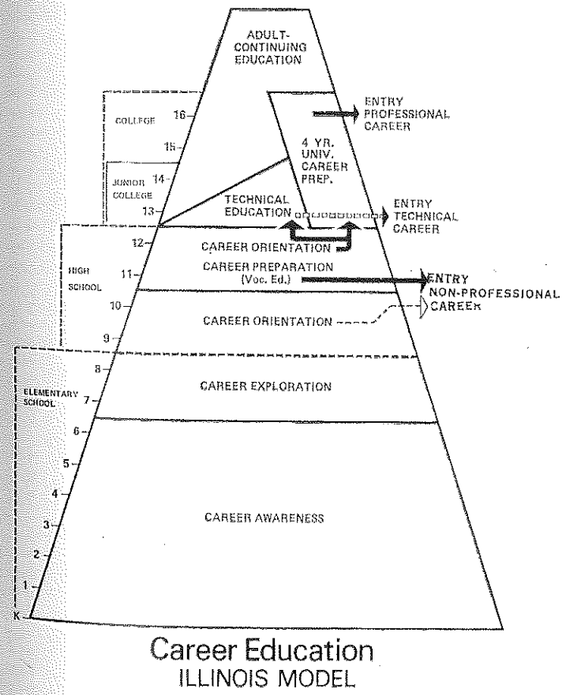
Placement and follow-up are recognized components of guidance; responsibilities of the instructor to initiate.

The secondary school in which most agricultural occupations instructors work should assume the responsibility for placing and following up students. This is especially true if the school subscribes to the career education concept and is implementing a career education program. The career education concept is enthusiastically supported by most agricultural occupations instructors in Illinois. The Illinois Model for Career Education is used by local directors of vocational education to design one- and five-year vocational and technical education plans for their respective schools. Each local plan reflects an educational program that is occupationally oriented. The program is designed to prepare students for job entry or further education leading to job entry.

Career Education, The Illinois Model

A career education model (Figure 1) has been developed for Illinois that focuses on the occupational and educational needs of all students. The model suggests that occupational preparation programs in the senior high school be articulated with instructional programs in the elementary grades as well as programs at the post-secondary level.

Figure 1



Career Education
ILLINOIS MODEL

Guidance, an Integral Part of the Curriculum

Agricultural occupations instructors accept without question responsibility for planning and implementing the curriculum for agricultural occupations students but many do not consider guidance as an integral part of the curriculum. Whereas, the curriculum deals with the subject-matter content of a program, guidance to be most effective focuses on students and deals primarily with their needs. Integrating guidance into the curriculum helps to make it student centered.

The instructor has the responsibility to initiate many activities that can be classified under guidance. One of the components of guidance is placement and another component is follow-up. These two components can be brought into perspective by examining ten suggested components for a teacher-initiated guidance program. The components are as follows:

1. **Informing prospective students, their parents, instructional staff, and lay citizens.**
2. **Identifying students for enrollment in educational programs.**
3. **Collecting, recording, and assimilating personal data on students.**
4. **Informing and orienting students about educational and occupational opportunities.**
5. **Assisting students to develop educational and career plans.**
6. **Advising and counseling to students.**
7. **Cooperating with other instructional and ancillary staff and utilizing community resources.**
8. **Placing students for experience (CVE), and in entry level jobs.**
9. **Following and evaluating students' progress within and beyond the school program.**
10. **Revising existing and planning new curriculum offerings to meet the needs of students.**

The value of the foregoing components of guidance can be determined by assuming the role of a teacher who has recently accepted a teaching position. With each component the teacher identifies activities in which he may engage to accomplish the task that is implied in each.

(Concluded on next page)

(Walker — from page 269)

In many schools the guidance counselor is charged with the responsibility for *coordinating* placement and follow-up activities for all students regardless of the occupational area. Often, the charge is misunderstood and the guidance counselor works alone to assume full responsibility for placement and follow-up activities. This is generally bad. The guidance person charged with many duties cannot give top priority to placement and follow-up and these two areas suffer. A Composite Evaluation Report for Occupational Education in the State of Illinois for the fiscal year 1972 (1) concluded that the development and organization of placement and follow-up programs have only begun. In this report it was recommended that efforts should be exerted to develop formal placement and follow-up programs as quickly as possible. Three actions were suggested in the report:

1. All placement and follow-up programs should be coordinated within the guidance department of each local school.
2. The state Division of Vocational and Technical Education should work with the universities of the state, as well as the local agencies to develop, implement and staff a regional placement service utilizing federal funds.
3. Emphasis should be placed by the universities upon training specialists in placement and follow-up.

The Agricultural Occupations Instructor's Role in Placement

The agricultural occupations instructor should be concerned with the placement of students in entry level jobs or post-high school educational programs. This responsibility is clearly illustrated in the career education model.

Agricultural occupations instructors should encourage and assist each of their students to make a firm or tentative occupational choice prior to leaving school. This commitment will help each student to determine with assistance from the occupations teacher and the guidance counselor, placement alternatives depending on the requirements of the occupation which have been chosen. If a student's choice is immediate entry into the chosen field or job, then alternatives must be examined that will assist the student to enter a job compatible with his interest and training. On the other hand, if the student wishes to enter a field or job that requires additional educational preparation beyond high school, then the student should be helped to identify and select the educational program that will provide the job entry competencies.

Agricultural occupations instructors can and should assist the guidance coordinator to develop a formal placement program at the secondary level so prospective employers and employees can identify one another.

The agricultural occupations instructor can do the following to identify occupational opportunities:

1. Solicit help from his agricultural advisory council.
2. Survey agricultural businesses in the community.
3. Contact the local employment service.
4. Study follow-up employment records of school leavers.

The placement program to be effective must be a legitimate, viable part of the total occupational program of the school. The placement activities should not be limited

The placement program to be effective must be a legitimate, viable part of the total occupational program of the school.

to the agricultural occupations program.

Other areas including Business, Marketing and Management Occupations; Health Occupations; Industrially Oriented Occupations; and Personal and Public Service Occupations should be served by the placement program.

The guidance counselor should coordinate the placement program. All occupational instructors, in fact, all teachers, must be involved in placement. Public awareness of the placement program is important. All teachers should assist in making prospective employers and employees aware of the service.

The Agricultural Occupations Instructor's Role in Follow-up

The formal follow-up of students is limited in many schools to recent graduates and is often accomplished within one year after graduation. Few schools are implementing formal follow-up studies that go beyond the first follow-up. Administrative personnel in small schools state that an informal follow-up of students over a period of years is fairly effective. This may be true but such a follow-up has little value in evaluating the effectiveness of the curriculum.

A formal follow-up of students is needed and should be coordinated by the guidance department in all secondary school programs. The agricultural occupations instructor may initiate the program and then encourage the guidance staff to assist. Hopefully, the guidance staff will assume a coordinating role.

Follow-up of former students serves to help the school make an outcome assessment of performance and progress in their chosen career. Feedback from students can assist occupational instructors and all former teachers to make revisions and additions to the occupational and supportive programs of the school.

A study of Norton and Watley (2) disclosed that the Three Phase System for evaluation of Illinois Occupational Programs has operated from an underlying assumption that if certain conditions judged to be important for an effective program are present, the output from the program will be satisfactory. Actually, without exensive follow-up of students there is no way of knowing whether there is any important relationship between the educational procedure followed in high school and on-the-job effectiveness. Therefore, it is important to know what happens to students (preferably all of them) after they leave school as dropouts or with diplomas. Follow-up should provide information for at least three and preferably five years from course completion.

In summary, placement and follow-up are important components of a career education program. The guidance counselor should coordinate activities associated with a placement service for career education students. Each occupational teacher should lend support to the program and take the responsibility for following up former students. The follow-up data should be used to revise the educational program to improve the on-the-job effectiveness of future graduates. ◆◆◆

1. Composite Evaluation Report for Occupational Education in the State of Illinois, Board of Vocational Education and Rehabilitation, Springfield, 1972.
2. Norton, Daniel P. and Watley, Donavan J. The Efficiency and Efficacy of Evaluation Practices of the Illinois Division of Vocational and Technical Education, Summary Report, Educational Testing Service, Evanston, Illinois, December, 1972.

GRADUATE PLACEMENT: PROOF OF A POST-SECONDARY AGRI-BUSINESS PROGRAM

Richard Tredway
Technical Agriculture Instructor
Cowley County Community College
Arkansas City, Kansas

Richard Tredway

The Agri-Business program at Cowley County Community College & A.V.T.S. at Arkansas City, Kansas provides rural and rural orientated youth with a first choice option in post-secondary education.

The program is developed to prepare students for careers in livestock, feed, seed, fertilizer and agriculture chemical occupations. Midmanagement positions in agriculture and agriculture related occupations are objectives of the Agri-Business Course.

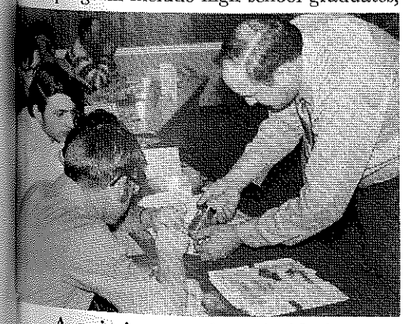
Developed in 1965 to meet the needs of rural youth in post-secondary areas and to fill an employment need, the program was designed to serve a part of the total post-secondary agriculture programs in A.V.T.S. and Junior Colleges in Kansas.

A Team Approach

A team approach is used in the instructional staff. The Agri-Business program teams a vocational agriculture instructor and a business instructor teaching carefully selected units in technical agriculture and agri-business. Each instructor has a specialized background for his particular field.

Counseling Essential

Students entering the post-secondary program include high school graduates, veterans, and persons seeking additional job preparation or retraining for a new occupation. Each potential student is interviewed by a counselor at the College and A.V.T.S. and by program staff, about personal and occupational aspirations and opportunities available in agri-business. Students admitted to the program indicate a strong interest in the specialized fields available for persons completing the course. High school agriculture programs provide an excellent background for the course but many students come from schools where agriculture was not available. Personal conferences are conducted each nine weeks with students to help them evaluate their progress and to meet special individual needs. Individual counseling helps students and staff work together with job placement as students prepare to take jobs upon graduation.



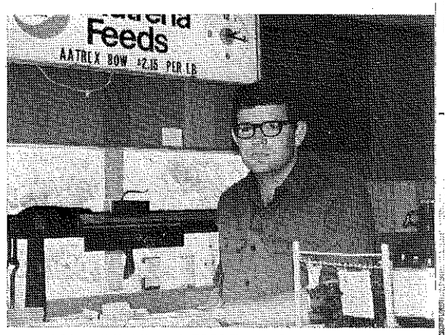
A grain inspector shows Agri-business students grain damage at an industrial school for commercial grain men.

The return of technically trained persons to rural communities is a positive aspect of the post-secondary program.

Supervised On-The-Job Training Vital

Supervised on-the-job training is a vital component of the post-secondary program. Students experience technical and business activities in actual working situations. Students gain experience in varied areas of agriculture business and can specialize in areas of personal interest as they prepare for job entry. Frequently students find jobs in businesses where they have completed one or more blocks of supervised on-the-job training.

Staff members as well as students benefit from supervised on-the-job training. Staff members each teach fifteen hours per week and participate in work experience supervision. Both staff members visit each student and employer during each work block. The constant contact with agriculture industries helps instructors remain sensitive to rapid technical and business changes and new developments in agriculture.



Dan Akin, CCCC & A.V.T.S. graduate, now operates his own grain and feed business.

Agriculture Industry Contacts Essential

Agriculture industry contacts are made through an advisory committee as well as through visits to industry on work station supervision. An advisory committee made up of local agriculture related representatives and persons holding state or regional agri-business positions serve the program. The advisory committee plays a role in program direction and helps staff solve special needs in supervised work stations procurement, field trips, placement and program promotion.

Graduate Success — Proof Of The Program

The success of the graduate is the real proof of the ability of the Agri-Business program to meet students needs.

The staff maintains contact with stu-

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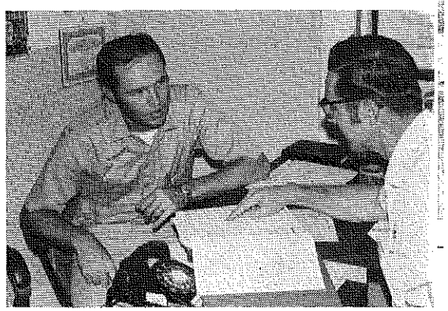
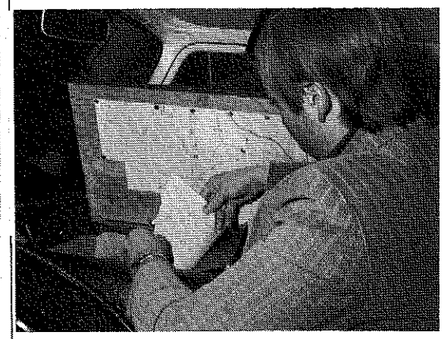


Conrad Jimison, Agri-business Instructor, visits with business manager, Melvin Kennedy about supervised on-the-job training.

EQUIPPED FOR INSTRUCTIONAL VISITS

Gary K. Drake
Vocational Agriculture Instructor
Genoa, Nebraska

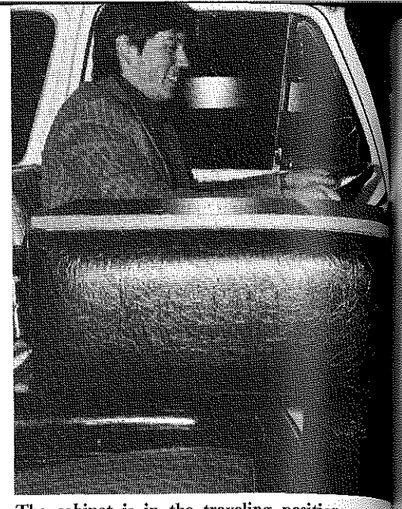
The agricultural educator of today is a person who must not only be knowledgeable about many subject areas but also must be able to know where answers can be found for all those questions. As a first year instructor, I find many simple questions could be answered by having some basic reference materials along when making on-farm instruction. The traveling file cabinet is a partial solution to this problem.



The map in the lid shows locations of students' homes, especially helpful to a new teacher.

The cabinet is constructed from a 6′ x 4′ piece of ¾″ A-C plywood, some dime-store foam, and a piece of vinal upholstery material. It is built in an "L" shape to fit over the seat of the Ag. Dept. pickup. The front compartment is padded inside for camera equipment storage and the main interior is designed for hanging file folders. The top is covered with formica to give a good writing surface.

This is used to have at hand: a weed identification book, student folders, fertilizer and herbicide control guides, contest rules, livestock show entry blanks, and whatever else may be needed during that particular season. In the lid, I attached a map of the district. This is especially helpful in a new community. The map is covered with a plastic sheet for making temporary notes with a felt-tip pen. ◆◆



The cabinet is in the traveling position as Mr. Drake prepares to depart for instructional visits. Notice the deep front compartment for small equipment storage.

(Tredway — from page 271)

dents who have participated in the program. A file is kept on each student including his or her employment status. The staff feels a major need is being met by helping them find success in their chosen field of agriculture related and production agriculture businesses in rural communities at a time when there is an exodus of rural youth from these communities. The return of technically training persons to rural communities is a positive aspect of the post-secondary program, college staff believe.

Evaluation

Evaluation is a constant part of the Agri-Business program at Cowley County Community College & A.V.T.S. School staff, advisory committee, graduate students and agri-business persons involved with the program contribute to continued evaluation of the program.

In 1970 during the fall following the second graduating class an extensive evaluation of the program was conducted by a state advisory committee. The evaluation, called for by the Agri-Business staff, was carried out by a nineteen member advisory group that included college administration and staff, State Department of Education representatives from vocational agriculture and business areas, and businessmen, including training station managers and employers of graduates. Graduates, as well as first and second year students, were represented on the committee.

Participating in an all day meeting, the committee evaluated surveys from work stations and employers, curriculum, supervised work experiences, enrollment, enrollment trends, staff utilization, follow up of all students and success of students participating in the program.

The evaluating group found the program having strengths, including the supervised work experience, the program was geared to the needs of industry, relevant and mature, low attrition rate of students, good student-staff relations and student interest in the Agri-Business program. Equally important, the evaluation committee identified areas for suggested improvement in curriculum, facilities, and work experience that gave a course of action for staff, administration and advisory committee members for continued improvement for the program.

More recently a follow up of the 1971 class of fifteen graduates shows all employed in agri-business occupations. Jobs with grain, feed, and fertilizer businesses included one assistant manager, one branch manager, one office manager, one fertilizer plant manager, fertilizer sales and field man, sales with a flour mill, and three graduates in general business work. One student is in custom fertilizer and chemical work and farming, one in grain transportation and farming, one employed in a feed lot and three in farming. Average salaries were in the seven thousand dollar range.

Agriculture is the number one industry in Kansas and many rural youth desire a career within this industry. At one time persons preparing to enter the industry did so following secondary programs or entered a four year course leading to a career in agriculture. The post secondary Agri-Business program at Cowley County Community College & A.V.T.S. and similar post-secondary programs can provide an educational choice and an opportunity to prepare, enter and successfully progress in agri-business field. ◆◆◆

TECHNICAL EDUCATION IN AGRICULTURE: ITS PROGRESS AND PROBLEMS

Dr. Harold Ecker
Professor and Director
Institute of Agricultural Technology
Michigan State University

Harold Ecker

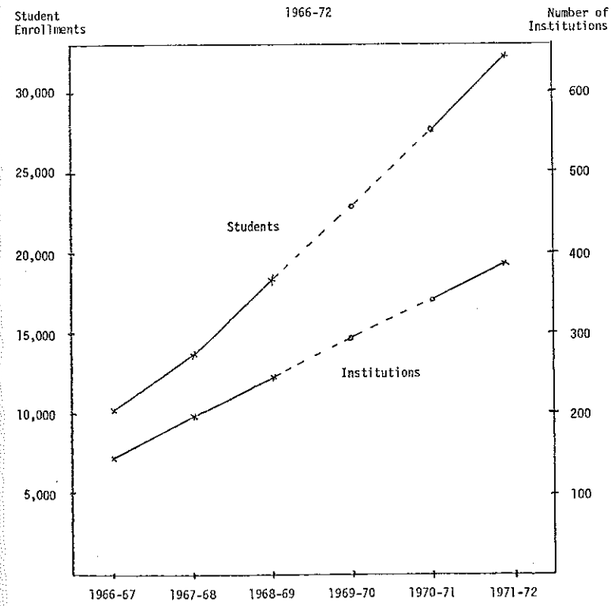
Technical education is not a new phenomenon; the national emphasis on this type of education is new. During the period from Sputnik to the early 1960s, the proponents of technical education were pretty much talking to themselves. Since then, however, technical education has come to be regarded by educators, government officials, taxpayers, and parents as an area of great need.

Prior to the 1960s, a bachelor's degree was the minimum goal that most families were willing to set for their children. In many cases this was an unrealistic goal, both in terms of the child's desires and abilities and in terms of the educational requirements of our society. Today, the majority of the job openings in many fields, including agriculture, are at the technician level.

It appears that this situation will continue through this decade. A recent U.S. Department of Labor study[1] indicates that only 20 percent of the jobs that will be available in the 1970s will require a bachelor's degree or higher. Although this study covers all occupational areas, there are reasons to assume that a similar job situation exists in many agricultural career areas. An A.A.J.C. study[2] estimates that agricultural firms will need three post-high school vocational-technical graduates for every degree graduate in this decade.

FIGURE I

NUMBER OF INSTITUTIONS OFFERING POST-HIGH SCHOOL TECHNICAL PROGRAMS IN AGRICULTURE IN THE U. S. AND NUMBER OF STUDENTS ENROLLED BY YEARS



Source
1966-69 - Mr. Fred Manley, Technical Curriculums in Agriculture, State Board of Education, Raleigh, North Carolina, September 1969
1969-71 - Estimated (Data not available)
1971-72 - Dr. Maynard Iverson, Directory of Post Secondary Education in Agribusiness Occupations, NACTA Journal, March 1972, p. 13

Technical education is in a very strong position today, but unless we are willing to face the problem areas realistically, much of the gain made in the last decade will be lost.

U.S. colleges are currently graduating about the same number of technicians as degree students in agriculture and natural resources. Last year, approximately 10,000 students completed 1-3 year technical programs in agriculture in the U.S. During the 1970-71 school year, there were about 9,000 bachelor's and 2,000 master's and doctoral degrees in agriculture and natural resources awarded by all U.S. colleges.[3]

The job market for technicians in Michigan tends to bear out the need for technicians in agriculture. This year, there were at least 400 known job openings for the 200 technical graduates of the Institute of Agricultural Technology at Michigan State University. Technical program directors from other states indicate the same situation: more job openings than graduates.

Since 1963, the U.S. Office of Education has earmarked millions of dollars to study the need for technicians, develop curricula, and initiate new technical programs in agriculture. This national emphasis has been a major factor in the expansion of technical education. The number of 1-3 year technical programs in agriculture has more than doubled since 1965. Student numbers in these programs have tripled in the same period. National statistics compiled by Manley and Iverson show over 30,000 students in technical programs in agriculture last year as compared with about 10,000 in 1966. (Figure I)

The emphasis on technical education is long overdue. However, rapid expansion in this field has not been without problems. It is always difficult to discuss problems without leaving the reader with the impression that negative aspects outweigh the positive. The author certainly does not want to leave this impression.

Technical education programs in agriculture must exist in response to the

(Concluded on next page)

(Ecker — from page 273)
training needs of the agri-business community. It would be convenient if student interest in technical programs and industries' needs were the same, but they are not. In many cases, the areas of greatest need for manpower are the career areas least attractive to our young people. Institutions are very number-conscious and are tempted to initiate programs in which large enrollments can be expected rather than in areas where the need for trained manpower is greatest. This practice is deceptive to the optimistic but unwary student.

Economists will argue that salary levels will equate supply and demand and that students will not select careers where salaries are low. It appears, though, that today's youth do not follow this theory. They are more idealistic and less materialistic than their parents — at least until they complete an over-enrolled program and discover they can not secure a job!

Technical educators must assume the responsibility of keeping supply and demand for technicians in balance.

Time and money should be invested in public information programs to acquaint students and parents with the job opportunities in specific areas. At the same time, enrollments should be restricted where there are limited employment positions available.

It is also imperative that programs be relevant to the needs of agricultural industry. The fact that technicians are trained for specific jobs or a cluster of jobs makes it critical that they be prepared to perform the jobs well. It is unfortunate when a young man or woman with a bachelor's degree can not find employment in his or her area of specialization. It is tragic when a technical graduate can not find employment. His training is more specialized and he does not have the alternative areas of employment that a degree graduate may have.

Technical education programs are typically "high cost programs."

Another problem facing technical education is its high cost. Technical education is more expensive than the first two years of a degree program, and many college administrators fail to realize this fact. Technical programs are often budgeted at a level that will not permit the type of instruction required in a career-oriented program. The very nature of technical training requires more hands-on type of instruction which not only limits class size but often requires more equipment. For example, in a theory course a teacher may need one microscope to demonstrate a procedure or principle, whereas a vocational-technical course in the same area will require 30 microscopes in order for students to become proficient in using the instruments. A well-designed audio-visual tutorial (AVT) system can help reduce equipment needs. However, due to the high initial cost of developing an AVT program it can only be justified where large numbers of students need to develop the same skills or competencies.

Too many technical programs have been started with too few resources for a quality performance. The theory that "we will worry about funding after we begin" has not proven successful, particularly in the last few years. It is essential that administrators and others responsible for decisions on technical programs have a clear idea on staff, equipment, and other costs that will be incurred before the programs are undertaken. Low budget programs often mean poor quality programs which will not assist the student or the prospective employer. Graduates who are not employable also cause unhappy parents and taxpayers.

An additional major problem facing technical education in agriculture today is the shortage of qualified teachers. In many technical programs teachers and coordinators have deficiencies in the educational and/or work experience requirements for state certification. Colleges of agriculture must increase their emphasis on training for careers in vocational-technical education. The tasks of teachers in the technician-preparation program are not the same as those required of high school teachers because of differences in age and maturity of students, knowledge and skill requirements for technicians, and the institutional environment for the instruction.

Technical education is a legitimate educational activity, and the importance of this level of training can not be overemphasized. The job market now and in the future will demand persons trained as technicians.

All considered, technical education is currently enjoying well-earned public awareness. Local, state, and national emphasis on this type of training is helping to close the employment gap between the professional and the unskilled worker. There is a definite and obvious need to increase technical training in agriculture but only so fast as we can do the job well. ◆◆◆

1. Hodson, J.D., "Manpower Magazine," June 1972, p. 15.
2. American Association of Junior Colleges, "Post Secondary Program in Agriculture and Natural Resources," Washington, D.C. (1971).
3. National Association of State Colleges and Land-grant Universities, *Annual Report* (1971).

Themes For Future Issues

September — Career Education: Articulation Among Local, Area and State Programs	**May — Summer Accountability**
October — Career Education: Upgrading Adults	**June — Administration and Supervision — Local to National**
November — NVATA Silver Anniversary Issue	**July — Program Planning and Evaluation**
December — Career Education: Accountability In Evaluation	**August — Teacher Education**
January 1974 — Supervised Practice	**September — School Organization and Articulation**
February — Staffing Agricultural Programs	**October — Instructional Technology**
March — Looking Ahead in Vocational Agriculture	**November — Improving the Profession — the Job and the Teacher**
April — Production Agriculture — Still in Vogue	**December — Better Teaching and Learning**

RESPONSIBILITY IS... Going All The Way With Placement And Follow-up

Odell C. Miller
NVATA Region IV Vice President
Vocational Agriculture Instructor
Marysville High School
Marysville, Ohio


Odell C. Miller

The question is often asked, "When do you place your students?" I like to think that the placement process is started when I work with the guidance counselor to explain the "World of Work in Agriculture" to the sixth, seventh, and eighth grades.

This is accomplished by the use of films, pamphlets, and any other pertinent materials which will explain the many careers in agriculture. This year, the FFA Alumni members are going to explain their jobs and the related fields in their areas.

Once the eighth grade student has signed up for vocational agriculture, he or she is visited in the home. The Vo-Ag program is further explained. This includes the course of study and the opportunities in agriculture. During the freshman year, field trips are arranged to agri-businesses so that the student can see first hand what is involved in each job.

As each unit is taught, career opportunities are discussed which include the educational requirements and the many related areas where specific training is available.

This year, only 24 of the 82 students are from full-time or part-time farms. There are always students from town or very small acreages; these students need projects and/or work. This is partly accomplished by placing the student with my young or adult farmers for work after school and during the summer. Presently, there are 8 members on the farm placement program.

Members of the Agri-business class hold a demonstration of how to hold an effective committee meeting as part of the youth activities at The Ohio State Fair.

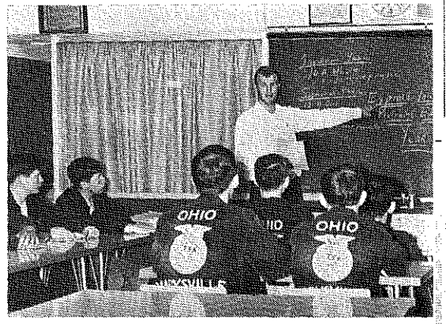
Most of the student placement is with my agri-business program in which the student works for half-days. During February or March of the junior year, the potential job openings are listed on the board. Each student selects his first and second choices. I then talk with each student regarding his vocational objectives and his attitude toward the job. The businesses are then visited and interviews are set up for the students. If the student does not have transportation, I will take him for the interview, but I will not sit in during the talk. Each student must get his job on his own merits. This year, 20 students are working under the agri-business program. The agri-business program has been in operation at Marysville since 1964.

An energetic Young Farmer Chapter is essential in the follow-up process.

The follow-up of the student after placement is most important, or you may have to start the placement process all over again. The supervision of the student may help him develop the proper attitude, help him correct errors, and of course, gives you a chance to discuss the student's progress with his coordinator.

This is also the time to discuss the student's future plans — college or technical school, the service, or becoming a permanent employee of the company. About 80 per cent of my students have remained with their company. Several have advanced to supervisory positions. About 5 per cent of the agri-business students have gone on for more education — agriculture college or technical school. They had no thoughts of more education until they started working and realized the need for it.

Graduation is no time to forget your students. The student needs help in making decisions — should he change jobs; or should he move to another position in the company; or should he go into the service. You can also help him apply for awards in the FFA such as the proficiency awards in agri-business or the American Businessman Degree. Two of my students have been fortunate to win these awards.



Local Young Farmer and American Farmer speaks to the Freshmen Class in vocational agriculture and explains the need for having goals, and plans for obtaining these goals.

The graduate who stays on the farm also needs and wants help. A Young Farmer Chapter can do much to help him keep up to date through the educational meetings. It is most important to visit and supervise the young farmer on his farm. Here you can help him with records or help him with his decisions regarding purchasing new equipment or expanding his operation. He may also be applying for the FFA Awards or the American Farmer Degree. Over 85 per cent of my young farmers have had vocational agriculture under me. Every vo-ag program should have some form of adult education. The young farmer program is especially important. My young farmers are the best PR men in the business of farming. They are willing and able to help my FFA members with their projects or farming programs.

Today, the vocational agriculture teacher must be willing to help place his students either in farming or in an agri-business. It is even more important that he be willing to follow-up and help his graduates. An energetic Young Farmer Chapter is essential in the follow-up process. ◆◆◆

Tom C. Nicholson, Director
Career Education
Orion Community Unit No. 223
Orion, Illinois

PLACEMENT AND FOLLOW-UP....


Tom C. Nicholson

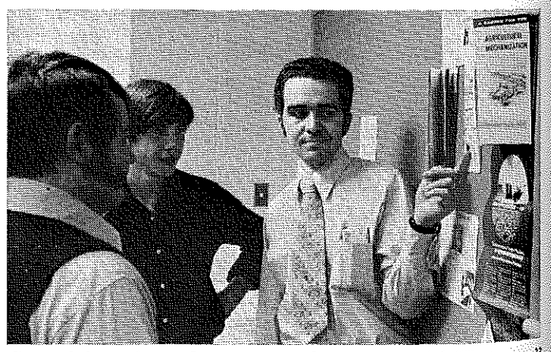
The only way to make a dream come true is to wake up! And unless we wake up to the crying need for placement and follow-up services, all of the "good intentions" of the career education concept are ineffectual. The recent issues of this magazine have pointed to the exciting and fruitful potential of applying the career education concept at every grade and ability level. And yes, the dream is a pleasant one which will come true if we wake up to the school's responsibility for placement and follow-up.

Studies indicate only a small minority of young people utilize the services of a placement agency in finding jobs. They "fall" into their jobs either on recommendation of relatives and friends or by sheer happenstance. Further, there is little evidence that a placement agency can assure job-man congruency. In fact, experts suggest that whenever young people are forced into working out occupational adjustment problems by themselves, the result will generally be inefficient use of human resource.

In his book; *Vocational Education and Guidance,* James A. Rhodes suggests, "that a special service of placement and follow-up is a logical function of the public education system since the graduates are their product."[1] This statement rings with a good deal of common sense. Certainly a wise farmer is as concerned with the marketing of his finished product as he is with raising it. Conversely, the school should be as concerned with placement and follow-up of its students as it is with its curriculum. Surely the school has a recognizable responsibility to its students which transcends caps-and-gowns. It is not, however, the intent of this article to needlessly nag educators as to their global societal responsibilities but rather to relate some very practical and desirable reasons why placement and follow-up should remain in the school's domain. There are five reasons why it is strategically and educationally sound for schools to provide placement and follow-up services:

1) **IMPROVES PUBLIC RELATIONS.** The successful placement of students in occupations relating to their career choice does much to answer the public's questioning of accountability. In addition to the student's career fulfillment, placement and follow-up go a long way towards improving parent-student-school-employer relationships.
2) **INCREASES THE MOTIVATION OF IN-SCHOOL STUDENTS.** If the present in-school students recognize that the school's commitment to them goes beyond graduation, a closer student-curriculum affection will result. The students will care more about school because the school cares more about them.
3) **FACILITATES STUDENT'S OCCUPATIONAL DECISION MAKING ABILITY.** Any school that has attempted to keep abreast of manpower and career trends is a virtual storehouse of career information and data. When such resources are used by competent staff the students can receive personalized professional assistance in making occupational decisions.
4) **FACILITATES STUDENT'S TRANSITION FROM TRAINING TO WORK.** There is very little doubt that the school has a closer working relationship with its students than does a private placement agency. This relationship can gently guide the student into a compatible job. Remember, a private placement agency realizes success when it receives its commission for placing the student. The school realizes success only when the student succeeds.
5) **ADDS A NEW DIMENSION TO EVALUATION PROCEDURES.** Placement and follow-up affords the school a unique opportunity to evaluate itself. The relevency of a school's program can be put to the test if that school actively attempts to place its students in occupations for which they were trained.

The development and organization of an effective placement and follow-up service has only begun in most schools . . . if it has begun at all. It is a slow process. The encouraging aspect is that it can be done to some degree in


Career information and employment data are essential "first steps" in providing effective placement and follow-up services. Mr. Paul Brucker (right) Agricultural Occupations Instructor points out career opportunities to Arlyn Muhleman (left) and Jon Blade (center).

TRANSFORMING A DREAM INTO A REALITY

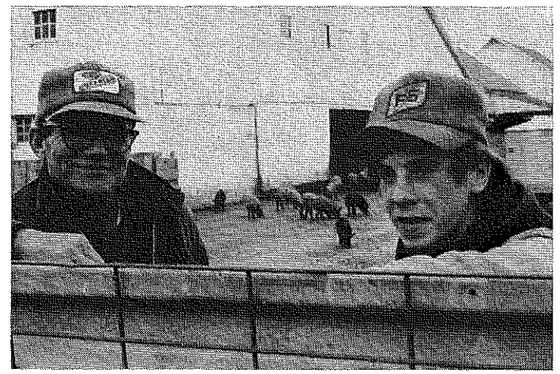

Arlyn Muhleman (left) has been offered a full-time job at the feed mill after he graduates from high school. Mr. Howard Clark (right) provides valuable input as to the relevency of the school's program.

any school, regardless of size. The placement technique or series of techniques that is best will depend on each local educational agency. The following are not by themselves placement services. They can, however, prove to be effective when used together or with other activities.

1) **S.A.E.P. VISITATIONS AND STUDENT CONFERENCES.** Supervised Agricultural Experience Project Visitations and student conferences are invaluable in building the rapport necessary to crystallize the student's real career aspirations. This "technique" is used widely in the teaching of agricultural occupations and needs little adaptation to fit this purpose.
2) **SURVEYS.** A systematic approach to surveying the local employment trends of your community will prove to be most helpful in providing sound placement services. Also, follow-up surveys of graduated students will give a quick check of the program's integrity. A meaningful survey can be made at very little cost . . . usually proportional to the size of the school.
3) **CAREER DAY.** Set aside a day or two in order to bring members of the business and industry community to the school. A Career Day can be organized in the same manner as a College Day. The end result of a Career Day is two-fold. First, the students get a "first-hand" view of what their career opportunities are as well as what will be expected of them. Second, the students will have a head start at being "eyed" by potential employers. Obviously, Career Day can be implemented with very little funds and only minimal effort.
4) **WANT-AD BULLETIN BOARD.** Maintain a help-wanted bulletin board in a centrally located area. Students can be assigned to keep the bulletin board current.
5) **EMPLOYER-SCHOOL HOTLINE.** "Sell" employers on the idea of calling the school when they have manpower needs rather than going to some other agency. You "know" your students and should be able to do a better job of matching man with job than could some other agency.
6) **STUDENT RECORDS.** The records of each student should be in a convenient location and accessible to you if an employer calls.
7) **COOPERATIVE JOB TRAINING PROGRAM.** On-the-job training experience for high school students is perhaps the single best technique that schools can use. Although trainers are not compelled to hire the student past graduation, such situations often result. Even if the student is not hired, most employers are able to supply some valuable "connections" with other businesses.

Some schools may wish to join with other schools in providing a cooperative placement and follow-up service. No doubt there are many techniques that need to be tried. The fact remains, without effective placement and follow-up services we in career education had better enjoy the dream while it lasts. ◆◆◆

1. Rhodes, James A. *Vocational Education and Guidance: A System for the Seventies.* Charles E. Merrill Publishing Company. Columbus, Ohio, 1970.


Both Jon Blade (right) and his employer Mr. Lowell Nelson (left) recognize that a school's commitment to its students must go beyond graduation.

PLACEMENT IS A PART OF CAREER EDUCATION

James L. Becker

James L. Becker
Director of Community Services
Muscatine Community College
Muscatine, Iowa

David L. Williams

David L. Williams
Agricultural Education Division
University of Illinois
Urbana, Illinois

The placement of students who complete vocational and technical programs is an important responsibility of the secondary and postsecondary teacher of agriculture. The agriculture teacher is frequently called upon to help his students make career choices and educational plans. The lack of reliable information to predict training and occupational success of students limits the assistance a teacher can provide.

The problem with which a recent study was concerned is: Can training and occupational success in agricultural mechanics be predicted from high school records, ACT scores, and ACT Student Profiles of students upon their entry into a postsecondary agricultural mechanics program?[1]

Procedure

The population for the study included all students who entered five Illinois community college agricultural mechanics programs during a six-year period, 1964-1969. Eighty percent of the graduates (207) and eighty percent of the dropouts (116) were selected at random from the population groups at each college. All students who entered one of the two-year agricultural mechanics programs but did not complete requirements for graduation in the curriculum were included in the dropout group. The program retention rate, considering all entrants, was sixty-four percent. The student data collected from the respective college records office included: size of high school at graduation, rank in high school graduating class, number of years of high school agriculture courses completed, ACT standard scores, self-reported grades in the ACT Student Profile, presence or absence of a vocational choice, relationship of vocational choice to agricultural mechanics, cumulative college grade point average (GPA), and GPA in college agricultural mechanics courses. Cumulative college GPA and GPA in college agricultural mechanics courses served as measures of training success. Data were also collected from employers to obtain measures of occupational success of graduates. Employers were asked to rate both the quality and the quantity of work of the community college graduates. Stepwise regression, t-tests, and correlations were used to analyze the data.

Findings

Findings pertaining to the high school record were as follows:

1. **The size of the high school at graduation was significantly negatively related to the training success scores of dropouts but had practically no relationship to training success scores of graduates.**
2. **The size of the high school at graduation was not a reliable predictor of the training success scores of graduates or dropouts.**
3. **The graduates came from significantly smaller high schools than dropouts and earned significantly higher training success scores than dropouts.**
4. **The rank in high school graduating class was consistently most closely related to the training success scores of both groups, graduates and dropouts, of all variables studied.**
5. **The rank in high school graduating class was the best single predictor of training success scores of both groups.**
6. **The number of years of high school agricultural occupations courses completed was significantly positively related to training success scores of dropouts but had practically no relationship to training success of graduates.**
7. **The number of years of high school agricultural occupations courses completed was of little value in predicting training success scores of either group.**

Results pertaining to ACT data are as follows:

1. **The composite ACT standard score was significantly positively related to training success scores of both groups, second only to rank in high school graduating class of the variables studies.**
2. **The ACT standard scores for English, mathematics, social science, and natural science were significantly positively related to training success scores but were not reliable predictors of those scores.**
3. **The self-reported high school grades were significantly positively related to training success scores but were not reliable predictors of those scores.**
4. **The graduates were more certain of their vocational goals than dropouts.**
5. **The graduates selected a vocational choice related to agricultural mechanics in significantly greater numbers than dropouts.**

Major findings pertaining to the occupational success of community college agricultural mechanics graduates are as follows:

1. **Cumulative college GPA and GPA in agricultural mechanics courses were the only variables which were significantly positively related to occupational success ratings.**
2. **Cumulative college GPA was the only reliable predictor of occupational success ratings of the variables studied.**

Conclusions

The best single predictor of training success in a community college agricultural mechanics curriculum was an academic variable, percentile rank in high school graduating class. Lunneborg[2] agreed with this conclusion when she stated:

> **"Vocational grades are apparently unwittingly influenced by the student's ability to read, to express himself verbally, to write coherently, etc. Whatever behaviors got good grades in high school get good vocational-technical grades in community colleges."**

The best single, and only, reliable

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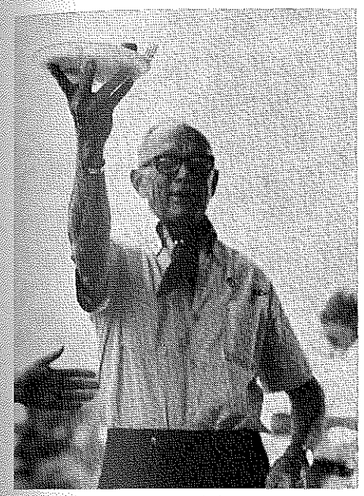
Missouri Pioneer— SHERMAN DICKINSON



Sherman Dickinson

One of the few remaining pioneers in the field of Vocational Agriculture was recently honored by his former agricultural education students at the University of Missouri. Dr. Sherman Dickinson, for twenty-two years Head of the Department of Agricultural Education at that institution, was given unusual recognition by these men and by the MVATA.

Dickinson began teaching Vocational Agriculture in Minnesota in 1914, three years before the passage of the Federal Smith-Hughes Act. While head of agriculture in the Minneapolis public schools, he received his M.A. in Agricultural Education at the University of Minnesota in 1920. He was Professor of Agricultural Education at the University of Idaho during 1920-21, returning to Minnesota to complete his PhD. in 1924.

As Head of Agricultural Education at the University of Missouri, 1924-46, Dr. Dickinson emphasized the development of outstanding teachers through both undergraduate and graduate studies. He was especially active in the inception and development of the Future Farmers of America and of Alpha Tau Alpha. His teaching emphasized the "problem method" and Enterprise-Job curriculum construction. He not only wrote and co-authored several text and reference books used in vocational agriculture classes, but was Editor-in-Chief of THE AGRICULTURAL EDUCATION MAGAZINE during its third and fourth years. He instituted the All Graduate Four Week summer courses for vocational agriculture teachers at the U. of Mo. and taught graduate summer sessions at Colorado State and at the University of Hawaii.

Resigning in 1946, Dickinson was sent — as Chief of Party — to Brazil to assist that government in establishing a program of Vocational Agriculture in its secondary schools. He returned to the states in late 1948 and purchased a 600 acre turkey and cattle ranch in California's beautiful Valley of the Moon near Santa Rosa. Joined by his two sons, the family developed an enviable reputation for top-quality turkeys and "Turkiproducts." Selling Roads End Ranch in 1960, Dickinson bought a luxury hotel in Palm Springs. Here he gave considerable attention to Rotary Club and Chamber of Commerce activities and was President of the Hotel Association for two years.

In 1963, Dr. and Mrs. Dickinson settled in Capistrano Beach. Each is in good health and he occupies his time in writing, painting and swimming.

During the July meeting of the MVATA, about 150 of Dickinson's former students invited he and his wife to return as their guests during the conference. Among these students were all six current members of the state Agricultural Education staff, staff from the University of Missouri, and others prominent in education, business and government. Dr. Dickinson was given recognition as a Master Teacher of Teachers and for other educational and civic services. He was honored with a life-time membership in the MVATA and he and Mrs. Dickinson were the recipients of several standing ovations and generous gifts. ◆◆◆

C. V. Roderick

George Ekstrom

Authors are C. V. Roderick, Associate Professor, Agricultural Education and George Ekstrom, Professor Emeritus, University of Missouri.

(Becker & Williams — from page 278)

predictor of occupational success of graduates, as indicated by an employer rating, was cumulative college GPA.

It would appear then that, based upon the findings of this study, educators should look first to academic variables, especially cumulative college GPA, when assisting students in choosing a career and predicting the occupational success of graduates of postsecondary agricultural mechanics programs. Systematic follow-up procedures should be used to determine the success of placement and the value of the preceding vocational and technical training. ◆◆◆

1. Becker, James L. "A Study of Illinois Junior College Agricultural Mechanics Students: Identification of Selected Characteristics and Their Prediction of Training and Occupational Success." (Unpublished Doctoral Dissertation, University of Illinois, Urbana, Illinois, 1972.)
2. Lunneborg, Patricia W. "Predicting Criteria Other Than Grades for Community Colleges." Bureau of Testing, Washington University, Seattle, April, 1970.

James H. Hutchinson
Teacher Education
Louisiana State University

JOB SUCCESS - Are We On The Right Track?

J. H. Hutchinson

Harry is a bright, energetic young high school graduate in vocational agriculture. He is now in a state of frustration and depression after having just been fired from his third job since graduation. This happened in spite of the fact that his mechanical skills and workmanship as a mechanic in the Rogers' Brothers Farm Equipment Company were recognized as excellent.

Richard is an honest, hard-working, enthusiastic vocational agriculture graduate of another high school. He is the Farm Credit representative in the Titusville Bank and Trust Company — that is he *was* **until** a couple of hours ago when the president had a little conference with him and discharged him "for good of the organization."

Both Harry and Richard had been highly recommended by their respective vocational agriculture teachers after having finished demanding Cooperative Agricultural Educational programs. They had participated in work experience programs geared to their interests and capabilities. Their teachers will register shock and disbelief at their dismissal. They were thought to be competent and well qualified — but they were fired!

What happened to Harry and Richard? Perhaps it would be more appropriate to ask what *failed* to happen? Each year untold thousands of young, technically competent workers like Richard and Harry lose their jobs. Few persons are aware of the *real* reasons, but potential employers become increasingly more skeptical of hiring the Richards and Harrys after each failure. A sad, but inescapable fact is that those of us who are designing and implementing C.A.E. programs seem to be oblivious of certain basic competencies needed by all workers. Consequently, many graduates of these programs fail to fully meet career requirements for which they were supposedly trained.

Harry and Richard *had* progressed nicely through carefully structured traditional training plans which were cooperatively developed by their teachers and the training station representative. Supportive classroom assignments reinforced actual on-the-job experiences identified as "essential" in the training plan. Technical competencies and skills were mastered — but job success was thwarted by unknown forces.

A sad, but inescapable fact is that those of us who are designing and implementing C.A.E. programs seem to be oblivious of certain basic competencies needed by all workers.

What *is* important is that the vast majority of beginning workers — seven out of ten perhaps — are being fired because they are apparently unable to "get along" with co-workers and supervisors. We in the business of career education through C.A.E. programs desperately need insight into these "hang-ups." Further complex, statistically oriented research may help to refine the exact numbers of youngsters losing their jobs, but it can fail to feature the human and interpersonal relationships so critical to people working in an interdependent productive group. Social competency is now every bit as important as technical competency. Does C.A.E. recognize and prepare vo-ag students for this reality?

"If a guy can't get along then I can't use him — and I don't care how good he is at his job" is the way the owner of a farm supply business phrases it. "Sure, I always like to see these youngsters with a lot of initiative, skill, and dependability. But what good are these things if he 'turns everybody off' before he has a chance to use them?"

Employers are becoming more acutely aware of "survival forces" at work within their businesses. Employee morale ranks highest of all in these forces. Disturbing, agitating workers in the organization often make the difference between profit and loss as competition becomes keener in agricultural businesses. A single disgruntled, dissident worker is a potential disaster to group productivity. Somewhere along the line this fact was not properly impressed upon Harry or Richard.

Not all persons believe that vocational agriculture, or even the secondary schools for that matter, should accept responsibility for providing social skills. Those who object to the school being concerned with the social development do not belittle this phase of human growth. They merely proclaim that the school has enough to do if it stresses intellectual and technical development. But to say that the teaching of such skills is the responsibility of the home does not solve the problem. In all too many instances the home has long since abdicated from this responsibility. If the schools through their various career education programs decline to "bell this particular cat," then who *will* do it?

Actually we have very little *recent* information about vo ag students being enrolled in C.A.E. programs. We do know that a large portion of these students live in suburbia. Opportunities for home visits for the purpose of supervising projects are much fewer. Parents of even the advanced students may be complete strangers to the teacher-coordinator. Family and home conditions are unknown. Interests are diverse, hobbies uncertain or non-existent. Broken homes with either the father or mother missing for parental counsel are frequent. Chores and division of responsibility with the family working as a unit are unknown to millions of youngsters. They are no longer an economic asset, but rather are an economic liability to the family. Tens of thousands have no opportunity to live with either *adversity* nor *diversity*. The so-called "antiseptic" way of life in suburbia has divested vocational education of its major claim to fame — namely, work experience within the family unit.

We have within recent months begun to hear the term "work ethic" bandied about in career education journals with increasing frequency. It is quite probable that many high school students are gaining a totally unrealistic picture of the broad and true meaning of the term — and of the role of worker. In the suburbs the income earners go to another section of the community to earn their living. Aside from housework, the only real work many youngsters see being performed is done by the service and maintenance personnel who are called in to repair the television or

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James E. Cummins

A FOLLOW-UP OF TECHNICAL AGRICULTURE STUDENTS AND PROGRAMS IN OHIO

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Ohio technical, post-secondary education in agriculture began in 1963 with one program and 17 students. Since that time, a total of 654 students have graduated from twelve technical agricultural programs at seven institutions in Ohio.

Continued substantial growth in numbers of students, graduates, and programs is indicated for the future. Eleven new programs involving 257 enrollees were established at three new institutions during 1972. Agricultural technologies were offered for the first time at the Agricultural Technical Institute, Wooster; the Cincinnati Technical College, Cincinnati; and the Belmont Technical College, St. Clairsville.

First year enrollment for all agricultural technology programs in Ohio for 1972-73 totals 676 students. This figure represents a 98 per cent increase in the number of first year students over the 1971-72 first year enrollment. The total enrollment in Technical Agriculture programs in Ohio for 1972-73 is 928 students. This is a 61 per cent increase in total enrollment over the previous year.

Projections based on the numbers of second year students indicates a potential of 264 graduates in 1973 from twelve technologies at eight institutions. Table 1 includes specific data concerning the number of graduates of the various technologies.

TABLE 1
GRADUATES FROM TECHNICAL AGRICULTURE PROGRAMS BY YEAR

Programs	Graduates								
	1965	1966	1967	1968	1969	1970	1971	1972	Total
Agri-Business	12	18	25	16	23	46	37	35	212
Ag. Mgmt. and Acctg.	—	—	—	—	—	—	14	18	32
Ag. Equipment	—	9	11	15	18	13	16	10	92
Diesel Mechanics	—	—	—	—	—	—	—	—	—
Food Processing	—	—	11	12	10	5	—	—	38
Forestry	—	—	—	—	—	15	19	25	59
Horticulture	—	—	—	12	6	8	7	2	35
Natural Resources	—	—	—	—	—	—	15	14	29
Recreation and Wildlife	—	—	—	—	—	20	25	50	95
Laboratory Animal	—	—	—	—	—	—	—	19	19
Turf-Nursery	—	—	—	—	—	—	—	7	7
Water Pollution	—	—	—	—	—	—	14	22	36
All Programs	12	27	47	55	57	107	147	202	654

The Study

Since 1968, a continuing effort to evaluate Ohio technician education programs in agriculture has been undertaken by the Department of Agricultural Education, The Ohio State University, in conjunction with the Ohio Agricultural Research and Development Center. The primary purpose of this research has been to identify the characteristics of students in technical agriculture programs and to determine the association between selected student characteristics, their success in the program, and their later success in the world of work.

The population of the 1971-72 study included all students and dropouts in the eleven agricultural technology programs conducted at seven schools in Ohio, plus the 1971 spring graduates of seven programs and their employers. Figure 1 shows institutions, locations, and programs offered.

First Year Students

The typical first year enrollee was 19.4 years of age, a high school graduate with a 105.9 intelligence quotient, who had achieved a 2.24 grade point average in high school. Twenty-eight per cent of the enrollees were from farm homes, and 45 per cent listed urban residences; over 66 per cent of the fathers of enrollees were employed in non-agricultural business while most of the remainder were engaged in farming.

Approximately 47 per cent of the first year students lived within 50 miles of their institution, and 36 per cent lived beyond 100 miles. Nearly all enrollees worked during high school and the summer before entering technical school. Enrollees favored outdoor, manipulative, and managerial positions when considering future work conditions.

Second Year Students

Students graduating in 1972 accumulated a 2.71 grade point average. Over 56 per cent of the students worked during technical school — an average of 25 hours per week and 29 weeks per year. The majority were employed in agricultural jobs.

Desirable employment, training opportunities, advancement and beginning at a higher wage were rated highest as reasons for completing technical school. Advancement, working conditions, training opportunities, and employer were rated highest influences in selecting a position.

On-the-job training and student contacts were rated as the most useful to future jobs; students also rated technical school classwork in agriculture and counseling of students as average or higher in value to future work. Incidentally, vocational agriculture was rated by the students as the most valuable course in preparations for technical school and future employment.

Graduates

After one year, 24 per cent of those completing the programs had seen military service. Fifty-five per cent of the remainder were employed as agricultural technicians with starting monthly

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(Cummins & Bender—from page 281)

salaries averaging $471.00. One year later, monthly salaries averaged $527.-00.

Over 74 per cent of the graduates reported satisfaction with their jobs and 70 per cent indicated they would again enroll in the technical program.

Dropouts

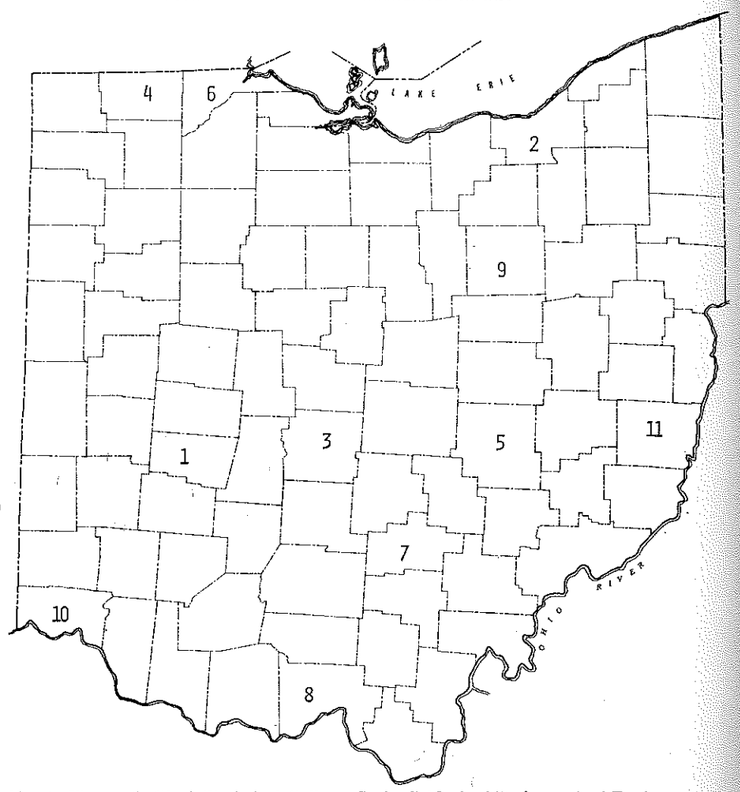
Dropouts indicated a variety of reasons for discontinuing the programs: dissatisfaction with the program; lack of money; low grades; military service. Of the 29 dropouts who responded, 20 said technical school was helpful.

In response to the question, "What can be done to reduce the number of students who leave Ohio technical education programs prior to graduation?", six dropouts urged improvement in teaching; four suggested restructuring curriculums and improving the counseling; three indicated reducing costs to students; and two recommended increased social activities be available to students.

Employer Response

The 37 employers returning the questionnaire rated most graduate employees as above average. All graduates were considered to be average or better in skills appropriate to their technologies. This finding is similar to that in previous studies. Employer approval was further substantiated by the willingness to hire other graduates. Employers indicated that graduates need to develop: personal and job organization, more confidence and initiative in dealing with people, and the realization that increased employee income comes from increasing company profit. ◆◆

FIGURE 1 - AGRICULTURAL TECHNOLOGIES IN OHIO



Key to Figure: 1. Clark Technical College, Springfield: Agri-Business, Agri-Equipment, and Turf-Nursery. 2. Cleveland Technical School, Cleveland: Horticulture. 3. Columbus Technical Institute, Columbus: Laboratory Animal. 4. Northwest Technical College, Archbold: Agri-Management and Accounting. 5. Muskingum Area Technical College, Zanesville: Natural Resource Conservation and Water Pollution. 6. Michael J. Owens Technical College, Perrysburg: Agri-Business. 7. Hocking Technical College, Nelsonville: Forestry and Outdoor Recreation and Wildlife. 8. Scioto Technical College, Lucasville: Water and Outdoor Recreation. 9. Agricultural Technical Institute, Wooster: New Programs of Soil Fertility and Plant Health, Crop Production, Landscape Design, Floriculture and Greenhouse Management, Dairy Cattle Production, Horse Production, Nursery Management, Wood Science, and Agricultural Research and Laboratory Science. 10. Cincinnati Technical Institute, Cincinnati: Ornamental Horticulture. 11. Belmont Technical College, St. Clairsville: Land Stabilization and Reclamation.

(Hutchinson — from page 280)

washing machine. Some technical skills may be observed, but where are the models of the *social* forces working within the group, at the office, in the plant, to be observed.

Then too perhaps another concern of research we need as C.A.E. matures is the type which would articulate the place of such programs in the establishment of value patterns of today's vo ag students. The church no longer plays the role that it formerly did in establishing value patterns for many of our generation — and our former students of even a decade ago. One recent survey found that only one of three children goes to any church. Our generation really had it good! We weren't confronted with the multitude of value patterns available to youth today. Today, youngsters may hear one type of behavior praised in the church. Books and magazines portray other ways of living — and working. So do movies and TV. Families within the community believe differently. Even parents in the same family, working apart from each other at totally different jobs, have conficting values. Students in many cases are forced to work out their own decisions as to what is acceptable — morally as well as socially. Perhaps this may have been where Harry or Richard could have erred! What are the implications for C.A.E. in helping young men and women establish moral codes of conduct?

What our C.A.E. programs become will depend upon the degree of dissatisfaction with the present, the originality and intuitiveness of our researchers, and the adaptability and professional vision of the thousands of teachers of vocational agriculture embarked upon this new venture. Research is desperately needed *now* as to the urgent, the inobvious, the *less* tangible social and human competencies required for job success. These illusive career requirements must be identified — and taught. ◆◆◆

DOES THE SUMMER PROGRAM REALLY MAKE A DIFFERENCE?

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Warren G. Noland

"Does the summer program really make a difference?" This seems to be an appropriate question for teachers to ask as they review their summers' activities. Boards of education, school administrators, and taxpayers are asking a similar question as they attempt to allocate financial resources for maximum educational returns. It becomes a particularly relevant question, asked with increasing frequency, as more and more pressure is placed on funds for public education.

In an effort to determine if the summer program does make a difference, 75 teachers, 68 school administrators and the FFA Chapter president and FFA Chapter secretary in the 68 vocational agriculture departments in New Mexico were given an opportunity to express their opinions concerning the value of the summer program in a recent survey.

The results of the survey seem to indicate that summer programs and extended contracts for teachers are a justifiable expenditure of funds. Teachers indicated they were involved an average of 67.5 days with vocational agriculture activities during the months of June, July and August.

It is no surprise that both teachers and administrators felt that supervision of students occupational experience programs required the greatest portion of the teachers' time. This is probably the most important summer activity. Of major interest was the difference between the per cent of time devoted to FFA activities as reported by teachers and that reported by administrators. The fact that administrators estimated that their teachers devoted considerably more of their summer work time on FFA activities than teachers themselves reported suggests that the administrators felt that youth organization activities require a considerable part of a teacher's time during the summer months. It also suggests that administrators may be better informed about FFA activities than they are about other facets of the summer program. This is due, in part at least, to the coverage these kinds of activities usually receive in the news media.

Teachers indicated they spent equally as much time planning the instructional program and improving facilities and equipment. Administrators seemed to be in fairly close agreement with teachers on the amount of time devoted to these two areas. Recently, the question has been raised concerning the justification for planning instruction and improving facilities and equipment as a part of the summer program when teachers in many other areas of public education do not enjoy the same advantage. However, this question was not brought out in this survey.

Somewhat surprising was the amount of time reported for vacation. Even though teachers on 12-month contracts are permitted a two-week vacation and those with 11-month contracts supposedly have one month away from their jobs during the summer, the average vacation time reported for all teachers was 9.9 per cent or 6.7 days. Administrators concurred by estimating teachers used 10.5 per cent or 6.8 of their professional work days as vacation time during the summer.

The major focus of any educational program should be the students. In this study the students were represented by the Chapter presidents and Chapter secretaries. They were asked to rank the activities that are normally a part of the summer program according to the amount of time they believed their teachers spent on each activity during the summer months. These activities, ranked accordingly, were as follows:

1. **Helping students with farming or work experience programs (Supervising occupational experience).**
2. **Learning more about teaching and agriculture (Professional improvement).**
3. **Preparing instructional material.**
4. **Supervising FFA activities.**
5. **Repairing and improving shop equipment.**
6. **Taking vacation.**

The students seemed to be in agreement with the teachers and administrators in terms of the activity that required the most time. They rated the supervision of occupational experience programs first. It is interesting to note that professional improvement activities were ranked second. This seems to indicate that students believed teachers spend considerable time during the summer attending conferences, going to workshops or attending summer school. The FFA officers indicated they believed vacations required the least time of the teacher during the summer months.

The Chapter officers were also asked to rank the summer activities in the order of importance for bringing the most effective improvement in the summer program. These activities are:

1. **Spend more time working with students on their farming**

(Concluded on next page)

TABLE 1
PER CENT OF TEACHER'S TIME DEVOTED TO VARIOUS SUMMER ACTIVITIES AS INDICATED BY TEACHERS AND ADMINISTRATORS

Activity	Per Cent of Time	
	Teachers	Administrators
Supervising Occupational Experience Programs	30.6	25.4
Planning and Preparing Instructional Program	15.4	13.1
Improving Facilities and Equipment	15.4	12.0
Professional Improvement	10.6	9.8
Vacation	9.9	10.5
FFA Program Activities	8.7	14.3
Student Recruitment	6.1	8.0
Public Information Activities	3.4	6.3

Frank B. Killough
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TWO BLACK STUDENTS GET INTO COLLEGE

Eight Are Forgotten

Frank B. Killough

The Vocational Teacher must be prepared to fill the vacuum created in the guidance office. This vacuum consists of the lack of guidance for the non-college bound black student.

Special considerations are made to get blacks into college. The counselor does not hesitate to assist the black counselee in making several applications to college entrance. Out in the hall roams the non-college bound black boy without a rudder and no one cares. He knows it won't do any good to ask about a trade in the guidance office as all of the counselor's time is spent keeping college entrance bulletins current and filed for easy access by the "top" student.

When you, as a vocational teacher, look up from your chair and see a black student coming at you with his vocational problem, forget everything except how best you can help the individual make the best of his opportunities. Quickly, thumb mentally through the U.S. Office of Labor Occupational Outlook Handbook in an effort to fit him to one of several thousand job descriptions.

Check the qualifications for the job and if the black student meets them, offer him a word of encouragement. Inform him of the possibility that he may have to move to another locale to find his job. Try to get him ready to display some determination to get the job of his choice.

As a vocational teacher, you will want to do a counseling job as to the dignity of work. Once you have got him doing something well, the feeling of being someone will emerge.

Convince him that all of the "someone's" are not doctor's, lawyer's and professional's. Teach the black student that there is something good and wholesome about being a butcher, painter and so on.

Maybe you can point out that a good trade preparation doesn't take five to eight years of preparations. Also point out that the trades offer good pay; for example, during two workshops that I attended in Alabama this summer, we were told that:

1. **A small motor repair man in Connecticut makes $17.50 per hour.**
2. **A mason in St. Louis earns better than $13.00 per hour.**

Carry your counseling from your office desk to the classroom. Teach the dignity of work to all races. Peer pressure has led many disadvantaged youth to say he is going to college even though from his limited experience he hardly knows what the word college means. He simply knows that the socially acceptable thing to say is, "I'm going to college." I have heard many black boys say this when I know they are sixteen to nineteen years of age and cannot work fractions or write a complete sentence.

Let's take a look at the ten black students considered in this article. The two that the traditional counselor gets into college will likely make social and economic gains for their race. What about the forgotten eight whose counseling needs were not considered? Will the lack of counseling and resulting lack of career preparation result in a net loss of social and economic gains for the ten?

My answer to the above question is a challenge to Vocational Educators. PROVIDE THE COUNSELING FOR THE FORGOTTEN EIGHT.

(Noland — from page 283)

or work experience programs.
2. **Devote more time to FFA activities.**
3. **Devote more time to improving the shop and repairing equipment.**
4. **Devote more time to planning the instructional program.**
5. **Visit more with community leaders.**
6. **Devote more time going to conferences and meetings to become a better informed teacher.**

Spend more time working with students on their farming or work experience programs was the top priority item designated by Chapter officers for improving the summer program. More time for FFA activities was also given a high priority rating. Several of the Chapter officers suggested that these FFA activities include more formal leadership training.

The student officers were asked for their overall appraisal of the effectiveness of the summer program. Over 93 per cent of officers responding rated the summer program as very important, four per cent thought it was of moderate importance, and three per cent indicated they thought the summer program to be of only slight importance.

Implications

The summer program in vocational agriculture *does* make a difference if the results of this survey, designed and conducted by a graduate class on program evaluation, are any indication. It seems that this information, plus the demand for effective education and efficient use of educational resources have several clearcut implications for summer programs.

***Those individuals responsible for planning, initiating, conducting and evaluating programs of vocational education in agriculture must develop the accountability capability to justify the *total* program, including the summer activities.**
***Program objectives should include realistic, measurable objectives designed specifically for the summer program. Students, school administrators, and taxpayers should be informed of the nature of the these objectives.**
***The teacher's efforts, during the summer, should be directed toward attainment of these objectives.**
***Supervised occupational experiences in agriculture should be given top priority during the summer. Supervision and instruction should be provided on-the-farm or on-the-job. More consideration should be given to work experience for students throughout the summer months with related instruction scheduled for the school year.**
***The summer program should be conducted on a systematic organized basis. Sufficient records should be maintained to help tell the story of summer activities.**
***Evaluation of the summer program should be carried on by the teacher on a continuing basis throughout the summer months to attain maximum effectiveness.** ◆◆◆

MOTIVATION — The Primary Student Need For Success

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H. Christensen

A two year study has just been completed which identified student characteristics and the factors of most importance for success in the Associate Degree Program in Agriculture. The study was an analysis of all students who had enrolled from 1965 to 1970 in Agriculture at the University of Nevada Reno. A three pronged approach was used as follows:

First, all available records, such as, college grades, high school transcripts, A.C.T. scores were statistically analyzed.

Second, student and parent input was obtained. This included reasons for enrolling in the program, or withdrawing before graduation.

Third, all of the instructors who had taught courses assisted in determining the factors for student success. Successful teaching methods were also identified.

Findings

Tests (chi square at the five per cent level) showed the students who indicated upon entrance they expected to earn the Associate Degree received significantly higher grades in college than those who enrolled for other reasons. It was found that A.C.T. scores above the tenth percentile, age upon entrance to the program, the location of the high school from which the students graduated were of little value in predicting student success in the program.

No student had graduated from the program who had grades from high school less than a D+ or 1.50, on a four point scale, and was below the tenth percentile on the A.C.T. scores. This appeared to be a rather fixed lower limit for students to achieve success. The high school grade point average of all students who had enrolled in the Associate Degree program was 1.86 and the mean A.C.T. score was at the 28th percentile compared to a high school grade point average of 2.50 and 61st percentile for all University of Nevada Reno freshmen.

Student motivation for success begins with a sound vocational guidance and counseling program.

Identifiable characteristics of students making satisfactory progress

Identifiable characteristics, listed by the instructors, of students who had graduated or were making satisfactory progress were as follows:

1. A goal to graduate or continue in the program until certain saleable skills were learned.
2. Perseverance to keep trying to achieve in spite of certain academic limitations and low grades in some classes.
3. Drive, enthusiasm, and desire to try on their own rather than sit and "get by."
4. A concern for the quality and timeliness of assignments.
5. A wholesome attitude towards learning, such as paying attention, following directions, and attempting to understand and follow through on the problems.
6. Mentally curious enough to ask questions and participate in discussion.
7. Reasonably proficient in reading, writing, and simple mathematics, but more importantly they use and progress in the development of these skills.
8. Punctual and regular class attenders.

Characteristics of poor achievers or those who were likely to fail

1. Lack the characteristics listed above for students who have graduated or making satisfactory progress.
2. Do not have a specific occupational or educational objective compatible to the majors provided in the Associate Degree program. They are typically students who are enrolled to make up grade-points in the Bachelor's degree program or they are enrolled to avoid the military service.
3. They have poor scholastic habits and attitudes. They avoid reading, writing, mathematics and the usage of academic skills. Their attitudes and habits have been developed through the years because the student has learned the art of "getting by" so they can remain with their peer group. They have a fear of failing and thus are unwilling to try anything new. Rather than be creative they curtail their educational experience and follow the practice of "getting by."

Summary

To conduct a successful Associate Degree program it appears the following three points must be achieved.

Solicit students who have an interest to achieve success in the Associate Degree program in agriculture.

Provide counseling early in the student's program and enhance the urgency of his need for determining an occupational objective.

Provide instruction and experience that is designed more to the ability of the students enrolled, so a higher percentage will complete the training provided and gain the competence needed to enter and advance in jobs in the skilled, technical, and management-supervisory levels of employment. ◆◆

FACTS ON TEACHER SUPPLY AND DEMAND IN VOCATIONAL AGRICULTURE IN 1972*

There were 10,716 positions in teaching vocational agriculture in the United States in 1972, an increase of 278 for the year. Replacements were needed for 1,206, and state supervisors predict that 11,977 teachers will be needed by 1975. An additional 953 persons taught agricultural technicians in technical institutes and community colleges.

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States adding the largest number of new teaching positions in vocational agriculture last year included Minnesota with 40, Florida with 36, Texas with 33, Ohio with 33, and California with 30.

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The teacher shortage continued. Seventy-four departments of vocational agriculture in the United States could not open this year because of a shortage of qualified persons to teach them. There were 134 more teachers needed than were qualified.

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The most acute shortages of teachers reported in 1972 were Florida, Virginia, Washington, North Carolina, Georgia, Ohio, Indiana, and California.

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A record-breaking number of college graduates were qualified for teaching vocational agriculture last year. In 1972 there were 1,759 graduates majoring in Agricultural Education who were qualified as compared to 1,743 in 1971 and to only 1,038 in 1965.

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The seven universities with the largest number of qualified graduates in agricultural education in 1972 were Oklahoma State University with 80, Ohio State University with 64, East Texas State University with 56, Tarleton State College with 54, Purdue University (Indiana) with 53, Iowa State University with 52.

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Only 54.8% of the graduates qualified for teaching vocational agriculture in the United States entered the profession last year. Another 11% entered other work, 5% the military, and 7.9% graduate study. Of the total number of graduates, only 132, or less than 8%, were employed outside their own state.

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The state with the largest number of teachers of vo-ag in 1972 was Texas with 1,254, followed by North Carolina with 518, Ohio with 509, California with 489, Illinois with 473, Minnesota with 445, and Alabama with 400.

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About one-half of all teachers were teaching one or more classes for students preparing for off-farm agricultural occupations.

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Mini-Courses in agriculture of a semester or less were reported by 2,151 teachers in some 36 states. In 36 states, 1,534 teachers assisted other teachers in some aspect of Career Education. Only 768 teachers of a total 10,716 taught special units on the consumer education in agriculture in 20 states. Only 1,008 teachers in 40 states taught special classes in agriculture for disadvantaged students.

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Of all teachers, 40% taught in multiple teacher departments.

***Source: "Supply and Demand for Teachers of Vocational Agriculture in the United States for the 1971-72 School Year," by Ralph J. Woodin Department of Vocational-Technical Education, The University of Tennessee, Knoxville, February, 1973.**

From the Book Review Editors Desk...

BOOKS TO BE REVIEWED

FROM THE NETS OF A SALMON FISHERMAN
By Eric Forrer
Doubleday & Company, Inc. (1972)

DESIGN INFORMATION FOR LARGE TURF IRRIGATION SYSTEMS
The Toro Company (1972)

THE LIVING OCEANS
By Alec Laurie
Doubleday & Company (1973)

A SELECTED LIST OF EDUCATIONAL MATERIAL AVAILABLE FROM COMMERCE AND INDUSTRY
By John F. Deasy
Cornell University

FUNGI IN AGRICULTURAL SOILS
By K. H. Domsch and W. Gams
Halsted Press, A Division of
John Wiley & Sons, Inc. (1972)

RED ROCK COUNTRY
By Donald L. Baars
Doubleday & Company (1972)

HERITAGE OF PLENTY
By Harold D. Guither
The Interstate Printers & Publishers, Inc. (1972)

IMPROVEMENT OF LIVESTOCK PRODUCTION IN WARM CLIMATES
By R. E. McDowell
W. H. Freeman and Company (1972)

DISEASES OF CROP PLANTS
By J. H. Western
Halsted Press, A Division of
John Wiley & Sons, Inc. (1971)

DRAINAGE OF AGRICULTURAL LAND
By Soil Conservation Service,
U.S. Department of Agriculture
Water Information Center, Inc. (1973)

OPERATION RHINO
By John Gordon Davis
Doubleday & Company, Inc. (1972)

SOILS AND SOIL FERTILITY
By L. M. Thompson and F. R. Troeh
McGraw-Hill Book Company (1973)

PLANT GROWTH SUBSTANCES IN AGRICULTURE
By Robert J. Weaver
W. H. Freeman and Company (1972)

FUNDAMENTALS OF BIOMETRY
By L. N. Balaam
Halsted Press, A Division of
John Wiley & Sons, Inc. (1972)

SUGAR-BEET NUTRITION
By A. P. Draycott
Halsted Press, A Division of
John Wiley & Sons, Inc. (1972)

AMERICAN COOPERATION
American Institute of Cooperation (1971)

ELECTRIC MOTORS
By Harold Parady, Turner, and Wren
American Association for Vocational Instructional Materials (1972)

POPULATION, RESOURCES, ENVIRONMENT
By Paul R. Ehrlich and Anne H. Ehrlich
W. H. Freeman and Company (1972)

MAIZE ROUGH DWARF
By Isaac Harpaz
Halsted Press, A Division of
John Wiley & Sons, Inc. (1972)

1972 EDUCATORS GUIDE TO FREE TAPES, SCRIPTS AND TRANSCRIPTIONS
Educators Progress Service, Inc.

1972 EDUCATORS GUIDE TO FREE SOCIAL STUDIES MATERIALS
Educators Progress Service, Inc.

RUSSIAN AGRICULTURE
By Leslie Symons
Halsted Press, A Division of
John Wiley & Sons, Inc. (1972)

If you find one of these book titles interesting, send the Book Review Editor a card and he will send you a book to review. The book will be yours to keep. The address is: James P. Key, Agricultural Education Department, Oklahoma State University, Stillwater, Oklahoma 74074.

BOOK REVIEWS

SELLING FARM AND GARDEN SUPPLIES, by Walsh, Joy and Hoover. New York: Gregg Division, McGraw-Hill Book Company, 1971, 140 pp.

Technical knowledge and merchandising skills are cleverly combined by an agricultural educator and a distributive educator in this book which is suitable for independent or group study.

The book is well illustrated by charts, graphs, drawings, product labels, etc., many of which are suitable for overhead transparency masters. All the pages are perforated for easy removal.

Following each section of information is a self-assessment instrument similar to those found in programmed instruction books. Workbook-type questions concerning technical information and human relations appear in each chapter. Nine project sheets for such projects as collecting and interpreting feed and seed labels and preparing fertilizer prescriptions are included.

Chapters Two through Eight are organized around product information. The chapter headings are: Feed and Animal Nutrition; Seeds. Plants, Shrubs, and Trees; Fertilizers: What They Are; Fertilizers: How to Choose and Use Them; Pesticides; and Petroleum Products. Chapter One is devoted to career opportunities and the last chapter covers customer services.

The three authors contribute from their respective backgrounds as book company editor for occupational education, professor of Agricultural Education, and director of Distributive Education.

This book is best suited for high school students of agriculture and for distribution in cooperative education programs.

Martin B. McMillion
Virginia Polytechnic Institute and State University

CAREER EDUCATION: WHAT IT IS AND HOW TO DO IT, by Kenneth B. Hoyt, Rupert N. Evans, Edward F. Mackin, and Garth L. Mangum. Salt Lake City, Utah: Olympus Publishing Co. 1972, 190 pp., paperback, price $4.00.

The monograph provides answers to four questions:

1. What are the key concepts of career education?
2. Why is career education needed?
3. How is career education being implemented in practice?
4. What are the appropriate strategies of implementation for a school system interested in the concept.

In order to provide answers to these questions in chapter one, Career Education: What it is, the following concepts were presented: 1) Philosophy for career education, 2) Concepts, components, phases, and 3) career education issues. Chapter two, Career Education: Why We Need it, discussed education and social ills, achievements of education in the United States, and deficiencies in American Education.

In Chapter Three the authors presented Career Education: How It Developed, by talking about changing objectives in career preparation, precursers of career education, and USOE implementation efforts.

After talking about the background of career education in the first three chapters, they really got down to the heart of the subject in chapter four, Career Education: How To Do It. Here they discussed exploring the definitions of career education, implementing career education components, changes required and question of commitment. In Chapter five, Career Education: How To Get It, the authors continued this train of thought by considering the need for national leadership in career education, the role of the state board and department of education and action steps for implementation. The idea was summarized by considering the potential contribution of career education.

The authors represent a variety of backgrounds, most well known to vocational educators, and a crossection of the country from Maryland and Illinois to Utah. The book was a by-product of the preparation of *Career Education: A Handbook for Implementation*, a handbook to accompany a film and slide-tape presentation for a series of USOE sponsored national conferences.

This book seems well suited for use by local administrators, supervisors, and teachers as well as state department personnel. It would appear to be most useful as a resource or text for teacher education programs and graduate programs.

James P. Key
Book Review Editor

WHAT VOCATIONAL EDUCATION TEACHERS SHOULD KNOW ABOUT INDIVIDUALIZING INSTRUCTION, David Bjorkquist, Columbus, Ohio: ERIC Clearing House on Vocational and Technical Education, 1971, Information series No. 49, VT 013 713, 10 pp. $1.25.

This little booklet clearly and concisely states the case for individualized instruction. It examines three questions of importance to the teacher in examining individualized instruction:

1. How should the learning objectives be developed?
2. What should the teacher know about the learner?
3. How can instructional media and techniques be adapted to suit the needs of the individual learner?

The ideas brought out in the book were summarized in the following general guidelines for teachers using individualized instruction.

1. The task or job function to be learned should be divided into components which can be accomplished by the learner.
2. The capabilities of the learner, and particularly his past experience with the subject matter to be learned, should be assessed so the learner may begin the instructional program at a point commensurate with his prior knowledge.
3. Principles by which individuals learn should be used in planning and selecting individualized instruction. A most complete and up-to-date bibliography also adds to the value of this book.

The author is an Associate Professor of Industrial Education at the University of Missouri and evidences a thorough background in the area of individualized instruction by the quality of the publication.

It would appear this would be an excellent source of information on individualizing instruction for anyone, administrators, supervisors, teacher educators, but especially for teachers and future teachers. It is full of practical illustrations of the principles talked about. It would be a good resource book for college and junior college.

James P. Key
Book Review Editor

AN INTRODUCTION TO GRAIN MARKETING; Walter J. Wills, Southern Illinois University, Carbondale, Illinois. The Interstate Printer and Publishers Inc., 1972, 155 pps., $6.95.

This book provides a good general overview of Grain Marketing by stressing the basic fundamentals and problems that evolve.

It is well written and organized. The author gives some specific facts and problems on the organization of the Grain Industry, Grain Grading, Futures Trading, Transportation, Storage, Price and Pricing, Foreign Trade, and Government in Grain Marketing.

This publication deals with the many varied problems of the producer, the country elevator operator, the Terminal Market operator, the processor and the exporter.

There are a number of good charts, graphs and other illustrated material to help in presenting and solving some of the Marketing problems.

It well illustrates the dynamic position of the Grain Marketing business and the need for improvement in the present system.

This book provides a lot of basic marketing information for the beginning agriculture student as well as a good overview of the problems and fundamentals of marketing.

This book would be a good text book for Senior Vocational Agriculture students as well as Junior college students. It would be a good reference book for senior agronomy students as well as a good personal reading book for anyone engaged in the production of crops.

Avel Heneke

USING ELECTRICITY, J. Roland Hamilton, Englewood Cliffs, N.J., Prentice-Hall, Inc., 1972 — Second Edition, 358 pages. Price $10.24, sp. $7.68.

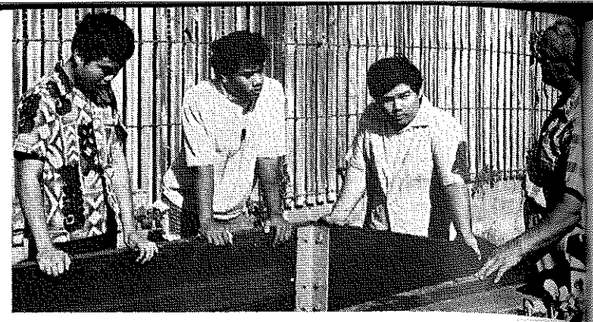
This book is a very simplified reference that could be used very effectively by vocational students (secondary and post secondary), homeowners, adult, college students, and anyone desiring information about basic and applied electricity. The illustrations make the reading easier to understand.

There are six areas covered. They are: (1) Opportunities for using electrification; (2) Basic principles of electricity in simple language for all consumers of electrical energy; (3) Farmstead and home wiring; (4) Electric motors for farm, ranch and homes; (5) Electric water systems, including irrigation, and lighting; and (6) Selected areas of electric equipment for increasing production and lowering labor cost on the farm and ranch.

This book received a very high recommendation by the American Society of Agricultural Engineers (August 1972) and by Lowell Burkett, Executive Director, American Vocational Association (AVA Journal, September 1972). Mr. Burkett states that it is an outstanding text in the area of electricity which should have great application in the vocational programs throughout the nation.

Pete Braker
Oklahoma State University

MOBILE SUMMER CLASSROOM
(Photo from Irv. Wedeking — See story, May '72)



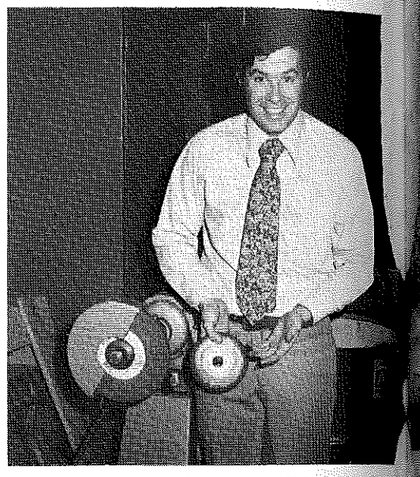
ORGANIZED SUMMER CLASSES
(Photo from Tom Hatakeyama, Hawaii)

STUDENT FOLLOWUP
(Photo from Peter M. Johnson, Massachusetts)

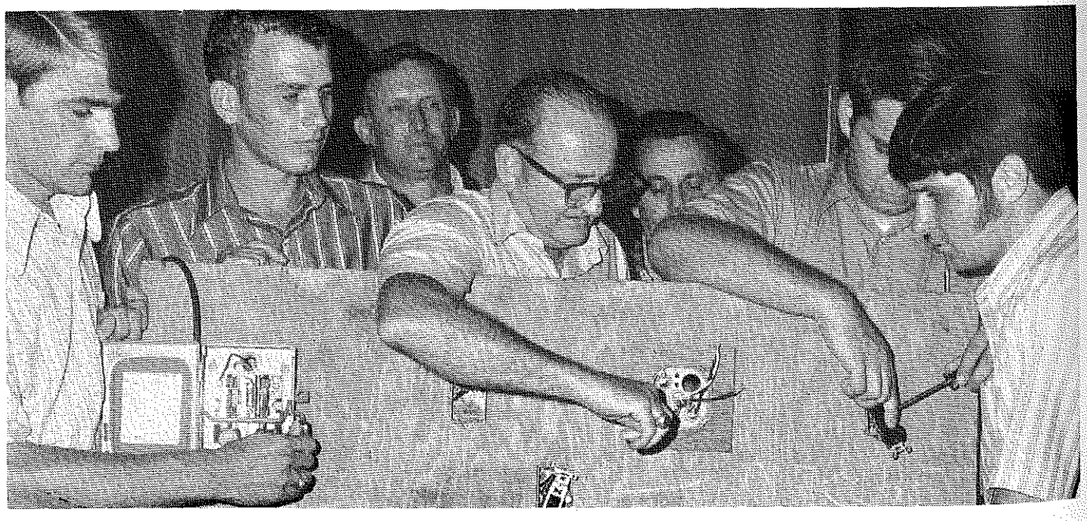
SUMMER TASKS FOR VOCATIONAL AGRICULTURE INSTRUCTORS

Stories in Pictures

by Richard Douglass



EQUIPMENT UPKEEP
(Photo by Richard Douglass)



LEARN NEW SKILLS (Photo from J. C. Simmons, Area Supervisor, Louisiana)

AGRICULTURAL EDUCATION

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