Stories in Pictures

GILBERT S. GUILER
Ohio State University

Cliff Lue, vocational agriculture student in Winter Haven, Florida, receives instructions from his employer-sponsor in an agricultural insurance business. (Photo by L. W. Harrell, Florida Department of Education)

Avdel Klamez (center), Agricultural Mechanics Instructor at Rand Lake College (Illinois), observes the performance in an agricultural equipment dealership preparing a sales ticket. This is one of the many operations of the business firm observed by Mr. Klamez during a structured occupational internship in the summer of 1968. (Photo by Thomas Stith, Southern Illinois University)

Roger Lawrence (right), Supervisor of Middlesex Vocational Education, examines the digestive system of a pig with a group of students. (Photo by L. Turner, Connecticut)

Featuring —

SUPERVISED OCCUPATIONAL EXPERIENCE
Supervised Occupational Experience: Its Place in Learning

Supervised occupational experience from the beginning has been an integral part of the teaching-learning process in vocational education in agriculture. Supervised practice on a farm during the early days of vocational agriculture, later home projects completed by students, then complete supervised farming programs or placements for farm experience, and now employment experience in non-farm business and industry describes our attempts to implement the concept of supervised experience. We must constantly be alert to insure that supervised occupational experience is an integral part of teaching and learning. The concept of supervised experience implies much more than the point of view sometimes held that the primary value of experience is to allow students to apply what has been taught in the classroom. The contribution of supervised occupational experience to career exploration and occupational choice should not be overlooked or minimized. For many students supervised occupational experience serves primarily as a means of motivation since experience helps students see the need for and relevance of instruction and helps them identify problems and questions that they desire to study. Laboratory and farm experiences should be used more extensively for experimentation and as a means of arriving at and testing solutions to problems rather than limited exclusively to applying what has been taught. Occupational experience must be accompanied by instruction both at school and at the place where experience is gained. Also essential is supervision at the place where experience is gained which may be on a farm, on work in industry, or at a business. There must be interrelationships among instruction, experience, and supervision; each must be related to and contribute to the other.

The primary criterion in selecting and planning appropriate supervised experience programs is: Will the experience contribute to desirable educational outcomes? Some

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The Need for Supervised Occupational Experience

"The Vocational Education Act of 1963 made the farming program a requirement for enrollment in vocational agriculture. Anyone can now enroll. How many times have you heard that statement in the last five years? The statement is true, but too many times it has been interpreted to mean that supervised occupational experience programs are not required. Let us forget the word "required" and think about the need or necessity of supervised occupational experience to the successful preparation of individuals for employment in agricultural occupations. For more than forty years, teachers, student educators, and supervisors have planned supervised programs to develop proficiency in preparatory agriculture. With the advent of the 1963 Act, a new responsibility had to be added by vocational agriculture. It is now necessary to plan for supervised activities in many different and difficult situations."

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Guest Editorial...

"The Vocational Education Act of 1963 made the farming program a requirement for enrollment in vocational agriculture. Anyone can now enroll. How many times have you heard that statement in the last five years? The statement is true, but too many times it has been interpreted to mean that supervised occupational experience programs are not required. Let us forget the word "required" and think about the need or necessity of supervised occupational experience to the successful preparation of individuals for employment in agricultural occupations. For more than forty years, teachers, student educators, and supervisors have planned supervised programs to develop proficiency in preparatory agriculture. With the advent of the 1963 Act, a new responsibility had to be added by vocational agriculture. It is now necessary to plan for supervised activities in many different and difficult situations.

We must proceed on the premise that farming or production is the basic segment of all agriculture with processing, marketing, and service occupations growing out of it. Agriculture must be considered as a group of occupations broadly categorized as production, marketing, processing, and service occupations. It is necessary, therefore, to provide supervised occupational experience in situations which provide the learner with experiences necessary for him to perform successfully in an agricultural occupation included within his vocational objective. If current and future evaluations of occupational programs will be based upon how well those people perform, effective supervised occupational experience programs are a must.

The supervised occupational experience program must be well planned. Planning involves the student, parents, the employers, and the instructor. Planning for supervised farming programs and other types of occupational experience programs vary so greatly they cannot be effectively discussed together."

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From the Editor . . .

times our use of supervised experience in vocational agriculture, particularly our use of farm programs, is very limited. Although there have been instances where experience, independent of instruction or supervision, has been emphasized primarily for meeting an administrative requirement for enrollment in a vocational course. In some cases the lack of facilities or opportunity for experience at home has been used as a device for screening students who are not qualified to find employment. This practice is very much at fault rather than means of enhancing learning. Award programs that seemingly emphasize growth, size, and earnings from supervised experience rather than learning outcomes contribute to this misinterpretation of the major purpose of supervised experience as a part of an educational program.

A new look at supervised occupational experience, there are some important matters that we must consider and study. First is the realization that supervised experience on a farm is not possible or appropriate for all students enrolled in a high school vocational course in agriculture. Appropriate laboratory and other types of supervised experiences should accompany introductory courses where the basic principles of crop and soil science, animal science, agricultural mechanics, economics, and leadership are the primary objectives of the instruction. A part of fourth-year instruction should be used for specialization in areas specifically related to the student's vocational objective. Supervised occupational experience for the student must be continuous. The principal purpose of these experiences must be to provide opportunity to develop a supervised occupational experience program in the student's area of specialization.

The size of the local community will determine the number of opportunities available where students can seek experience in off-farm agriculture occupations. Many schools furnish school facilities to provide supervised occupational experience. Many of these facilities are excellent. The facilities need to be adaptable and the program needs to be well planned and effectively supervised. Probably the most difficult problem of using school facilities for occupational experience involves providing "real life" situations. Developing skills in agricultural mechanics at school can be very effective, but the work done at school is much more closely oriented to the individual student. Working in a farm machinery shop, for example, is not as effective as working in a real situation. There is no substitute for effective supervised occupational experience.

Guest Editorial . . .

Most vocational curriculums in secondary schools consist of two years of agricultural science which provide an introduction to the basic knowledge necessary to meet the needs of any occupation which can realistically be classified as an agriculture occupation. The senior year of agricultural science I mean any occupation requiring a basic knowledge of plant science, animal science, agricultural mechanics, farm management, or leadership. The occupational experience program should be of such nature as to enrich the classroom instruction by providing the student an opportunity to apply what he has learned in the classroom. Therefore, this part of the occupational experience program should be in the field of production agriculture.

I suggest that we use the word "experience" instead of "practice" for the two words do not mean quite the same thing. Falling out of a tree and breaking the heads out of myself for all minute was a valid experience, but it was not practice. In instructional agriculture we have thought of desirable practice as resulting in improved such performance. How does the experience "experience" sound to you? "Experiences" programs is a preferable form of agricultural education if it may be -farm, sales and service, horticulture, or agricultural education.

Basic Philosophy

The basic philosophy of vocational education in agriculture is sound - the instruction with experience programs in agriculture. This must be closely linked to instructional programs and in developing new programs. We do not seek to do the same thing that is working at a fast rate as a farmer in agriculture, but to develop such programs in agriculture which may be bought. The basic philosophy of agricultural vocational agriculture has been largely responsible for the success of its programs. The need for training in agricultural education comes both from the basic philosophy and industries in a locality or state are based on the concept of providing a program. Research for the purpose of program development is necessary. In many cases the cooperatives needed for several vocational are the same as those needed for successful employment in almost any occupation. So these cooperatives are already known.

Experience Programs - A Must in Vocational Agriculture

Over the years we have used the term "supervised practices" and "supervised farming" in talking and writing about farming programs. More strictly we have used the terms "experience programs," "agricultural experience," and "occupational experience." Perhaps we have been in agreement in the use of terms when referring to the experience programs in vocational agriculture.

I suggest that we use the word "experience" instead of "practice" though the two words do not mean quite the same thing. Falling out of a tree and breaking the heads out of myself for all minute was a valid experience, but it was not practice. In instructional agriculture we have thought of desirable practice as resulting in improved such performance. How does the experience "experience" sound to you? "Experiences" programs is a preferable form of agricultural education if it may be -farm, sales and service, horticulture, or agricultural education.

Planning Programs of Occupational Experience

Cooperating new programs and being concerned with improving old programs are fundamental and basic to planning. Someone once said that a man can be sent to the moon and back. Then planning started. And, so it is with programs in vocational agriculture. What are the steps that should be taken in planning programs? What are the cooperatives needed for successful employment in various agricultural occupations or clusters of occupations? Planning should not be limited to the competencies in vocational and technical skills but should include how to get along with people, being a good citizen, and how to find joy and happiness in one's occupation. How to do this? Go to the employers and ask them what the cooperatives are. The cooperatives needed for successful employment in vocational agriculture are needed. The general needs for successful employment in vocational agriculture and industries in a locality or state are basic to planning and providing a program. Research for the purpose of program development is necessary. In many cases the cooperatives needed for several vocational are the same as those needed for successful employment in almost any occupation. So these cooperatives are already known.

Second, determine the opportunities that may be available in the schools or in other programs for the school or for other programs for the students. In other words, what are the resources in the community that can be provided by the school and which experience programs in agriculture can be developed?

Third, there must be an affirmative answer to this question: Is there a real need for the program provided by the school or for other programs for the students? If there is a real need, move forward. If there is not a real need for the program provided by the school or for other programs for the students, it is questionable, it is wise to stop.

These three steps require careful and thoughtful study to get the facts needed in arriving at a sound decision. Teachers do not have to embark with charts or plans.

Involvement of People

Formal arrangements whereby youth learn by participating directly in agricultural occupations have been used throughout the recorded history. Such arrangements are an important part of vocational educational. The Vocational Education Act of 1963 focuses the attention of educators on cooperative vocational agriculture. Cooperative education is a joint effort in which the school works in cooperation with some persons or agency capable of providing experiences which the school alone cannot provide. This is not new. Cooperative educational programs within the parents of students in vocational agriculture have been present from . . .
Experience Programs — A Must in Vocational Agriculture

(Continued from page 129)

the beginning. Farming programs and placement for farm experience have been and are still cooperative education.

Cooperation of people in agriculture is a necessity if experience programs in agriculture are to be developed. The necessity for working closely with the employers who provide the experience has become clearly evident. They need to understand what is involved in the program. They should help develop the program.

The cooperative must be willing to cooperate on what is concerned about — what he wants the employee to have in the way of experiences, knowledge, and work habits. The teacher should make clear how the program at school will relate to what the student will be doing in the business. Involvement of cooperators makes their program and they will develop a concern for providing a good experience program which will accept responsibility for many aspects of supervision.

The better cooperators understood what the teacher is trying to do and why, the more cooperation the teacher will have. Cooperation depends heavily on understanding.

Training Plans

Plans for experience programs in agriculture necessarily are just as plans for farm experience programs are necessary to insure good training in farming. Each student's occupational experience should have a plan for his experience. The plan should be written. The experiences to include in the plan should be selected jointly by the student, the teacher, and the employer.

The experiences should be listed in the order in which they are to be obtained, because certain experiences are prerequisites for other experiences and some are more difficult. Experiences should be a sequence so that the student can succeed. Experiences must be planned to take advantage of all learning opportunities. The involvement of the student in developing the experience program helps him think about his responsibilities and the competencies he must develop to attain his occupational objective. Through joint development of the training plan the employer becomes more keenly aware of the occupational objective of the student and the necessity for providing appropriate activities, on-the-job training, instruction, and supervision.

Importance of Supervision

The importance of supervision to the success of farming programs has long been recognized. The primary purpose of supervision is to improve the instructional program, to insure that students get experiences of the right kind, and to insure that desirable learning results.

A person in the agricultural business must be designated as a training supervisor. The agriculture teacher must provide adequate time in supervising the students. Supervision should be by the person responsible for the class instructional program. Close supervision is especially important during the early experiences because the employer is forming an opinion of the teacher, the program, and the work of the student. The student must succeed for failure may be quite different forms happen when a student fails a farming program. On the farm the teacher, the student, and parents keep to themselves a failure. Good supervision from the start will help assure success, will help develop confidence, and will aid the student in solving problems. Employers expect teacher supervision to improve students.

Agricultural educators have long recognized the value of adequate occupational experiences. The ideal way to attain these experiences requires that the teacher be involved in a program of training in an agricultural firm. Occupational experiences in agriculture enable students to develop personal initiative, responsibility, and confidence as they work in realistic situations. The students recognize the importance of developing desirable attitudes, skills, and competencies necessary for success.

Placing Students

Students must meet certain standards before being placed in employment situations outside the classroom. Actually, student-trainees are also participants in the program. They should participate and should identify at approximately what stage of the training period experience should occur. Employers must be made aware of the value of starting the students on simple duties and progressing them to more complex responsibilities as the training period progresses. These training plans must be concise and to the point. The employer does not have time to acquaint himself with a long complicated list of activities.

Supervision

An essential part of the program is the actual supervision by college personnel. Visits are planned by college personnel so that students can be observed in an actual work experience situation. On each supervisory visit the students are given an opportunity to voice any questions or concerns which might be hindering their learning activities. About mid-way during the training period a conference is held with the student, trainer, employer, and college supervisor. This can be used as an evaluation and to redefine aims and objectives and make any alterations necessary in the training plan. The students are encouraged to participate actively in the discussions concerning their training.

Conclusions

It is the responsibility of the employer to help provide meaningful experiences and on-the-job instruction directly related to classroom instruction. But to be successful in all respects, the students must be compatible to the training station, the training plans must be wisely planned and executed, and supervision by college personnel must be wisely administered.
Guidelines for Successful
Supervised Occupational Experience Programs

A recent survey of high school agricultural programs in Pennsylvania during 1967-68 shows that 124 of the 217 schools reporting had 591 students, an average of 4.7 students per farm. This is a decrease from 1,370 students in agricultural businesses. An additional 719 non-farm boys in 156 schools, an average of 4.6 students per school, were placed on farms for supervised occupational experience. Supervised occupational experience in agricultural businesses or on farms was made possible for students in a variety of ways. Flexibility in the statewide program provides for the needs of individual students, for differences in the agricultural economy of local areas, and for differences in philosophy of local schools.

RECEIVED TIME FOR OCCUPATIONAL EXPERIENCE

Thirty-four of the 124 schools used released school time for supervised occupational experience. Where this plan is in operation, the school has usually ordered an entire class of students scheduled for occupational experience during a six-week grading period. The released time from school provides a double period of agricultural class time so the teacher is free for supervision of students. This plan is a dual advantage and this kind of program students obtain approximately 100 hours of experience. The following factors must be considered if released time is to be used.

There must be a concentration of businesses near the school; otherwise too much time is used in getting from school to the place of work.

Students should work for a maximum of three hours per day; therefore, scheduling of classes may be somewhat difficult.

All students obtain the experience whether they want to work in agricultural or business or on a farm. This provides for exploratory work experience.

The teacher can concentrate on the program over a relatively short period of time.

OCCUPATIONAL EXPERIENCE PARALLEL FARMING PROGRAMS

Many teachers conduct the supervised occupational experience program in addition to the traditional supervised farming program. That is, students work in an agricultural business during the school year and a part of the summer or throughout the year after school, over weekends, and during summer months. In terms of scope or student involvement, this approach provides for a wide range of conditions. A student might work for a minimum of 100 hours which would parallel the program of one who for various reasons conducted a production operation with a minimum number of animals or acres of crops. On the other hand, this approach provides for maximum initiative and growth.

Examples of arrangements can be illustrated by actual cases where students with some of our best supervised farming programs obtained additional occupational experience in different types of agricultural businesses. One student worked over 700 hours in a 10-hour a week period to develop a supervised farming program; another student worked 950 hours in a farm machinery business in addition to his regular farming program. Other students have worked from 1,400 to 1,600 additional hours in nurseries and greenhouses, tackle shops, and fruit farms. This approach to supervised occupational experience is practical and realistic in many Pennsylvania high schools. Teachers have experience with the traditional supervised farming program and find parallels in terms of student orientation, planning, supervision, and record keeping. One manager of an agricultural supply business, former- ly an outstanding vocational agricultural student in high school who had two boys working for him in a supervised occupational experience program said: "With a few adjustments, I am no difference between this and supervising a farming program. Because students are working out-of-school hours, no school scheduling problem are involved. Many Pennsylvania high schools are located in rural areas and do not have a concentration of agri-cultural students. So the program must be flexible to take care of the many local differences. Students can work during summer months, during peak business seasons, or at other times which best meet the needs of employer and student.

GUIDELINES

Many helpful guidelines and procedures for conducting supervised occupational experience programs have been developed. Some of the practices described are in use to test programs in Pennsylvania are discussed below.

The Program Has Official Approval

Because a total program of supervised occupational experience involves so many parts and includes the total community, it is very important that the program be approved by the school administration and the school board. This official approval assigns the teacher as he works with scheduling facilities of the school. Such official approval must have the active support of the public and public relations program and it establish the program as a basic function of the school in case of the legitimacy of agricultural businesses are being taught prior to and during employment. This instruction assists students in choosing an agricultural business in which to work, helps them develop a list of needed experiences in the business, and introduces students to the kinds of work in agricultural busi- nesses, and shows how businesses are organized and operated.

The Employer Is Involved in Determining Experiences

If certain experiences are to be obtained and specific skills learned by a student, the employer must understand the program and must be consulted. The student-employer should have an opportunity to understand the total business operation and to have some experience working in the several di-

The Program Is Conducted by the Teacher

Successful programs are those in which the teacher of agricultural work closely with the business and parents and supervises students is the key ingredient on the job. This involvement by the teacher is a must if there is be a planned and supervised occupational experience program.

Guidance Counselors Are Involved

Guidance counselors are in key positions to assist with encouraging and promoting programs of this kind. They may become involved in scheduling, they can provide occupational information, and they may be needed in counseling and guidance situations. For a number of Pennsylvania teachers of agriculture, the supervised occupational experience program has been the catalyst by which communications and understand- ing between the counselor and teacher have been established.

Students Are Paid for Working

A number of factors dictates that students should be paid for supervised occupation- al experience programs. The exact number of hours to be used as a divid- ing line between work and paid employment, human relations, and the ori-
Although local laboratories have been operated for many years, the limited experience of teachers, lack of facilities and financing, and the lack of laboratory of the community have often restricted the activities of the land laboratory. The result has often been insufficient experience for students.

Emphasis on off-farm agricultural occupations has added new dimensions to the curriculum in agricultural education. More students are enrolling in vocational agriculture. With a limited farm background these and other factors have increased the need for land laboratories as well as for occupational experience programs to prepare persons for agricultural careers.

**Learn by Doing**

The land laboratory serves as an excellent means for students to learn by doing. The proper use of a land laboratory tends to keep instructors learning along with students. The land laboratory makes possible the maximum use of resources and people when it is used as a community project. Teachers are stimulated in their acquisition of knowledge as a result. When used in this manner, an added benefit is that students who have worked with these resource people are more likely to consult them in the future.

Through cooperative projects with groups in the community, students learn how to change things in the community. The need for leadership skills becomes more apparent to them. While they learn the importance of good planning, they also learn that well planned projects can go awry. Very important they learn that such situations do not have to be detrimental and that some good can come from unfortunate situations. For example, on our land laboratory the poultry house burned in a cooperative poultry project in which the students owned shares. This led to study and discussion of insurance, fire safety, and related topics which suddenly became interesting. An accident while hauling corn was followed with a discussion of the use and importance of slow moving vehicle signs and other safety precautions.

**Land Laboratory**

Our land laboratory is located adjacent to the high school on about twenty acres with ten acres in forest. Two vocational agriculture teachers co-coordinate the program. Team teaching is used as each teacher works primarily in his area of competence. Many resources are used. A machine pond is located on the site and along with the forest is used for biology and nature study classes.

Teaching areas involving the land laboratory include safety, plant science, forestry, soil science, agricultural mechanics, wildlife and conservation, horticulture, recreation and park management, livestock management, poultry management, nursery management, landscaping, and floriculture.

At a school of 700 students, a full-time agriculture teacher is needed. The agriculture program at Modesto Junior College is a student participation program in the planning and operation of the laboratory that has led to great student interest.

At the time this article was written, Rodney Tulloch was teaching vocational agriculture in Odessa, Michigan. Mr. Tulloch is presently studying for the Ph.D. in agricultural education at The Pennsylvania State University.

**Land Laboratory**

**Safety Instruction**

Safety is stressed throughout the program. The following are examples of safety instruction at the land laboratory involving the use of resource persons.

- Handling and application of agricultural chemicals
- Using protective clothing and masks
- Using chemicals for internal and external treatment of livestock and poultry
- Using flammable materials
- Operating tractors and implements
- Practicing safety with the farm pond
- Using farm tractors and equipment
- Repairing and maintaining farm equipment
- Using chainsaws, axes, wedges, and other tools; removing dead and damaged trees

Although the many teaching situations provided by the land laboratory make it a valuable and practical agricultural program, the student participation is the planning and operation of the laboratory that has led to great student interest.

**The Program**

The agricultural program at Modesto Junior College results from studies of community advisory committees. The students were organized in 1948-49. These studies were a part of a larger occupational survey of the Modesto area conducted by the College and a research team. The agricultural program has grown from 43 students in 1950 to 597 students in 1950-68. Staff has increased from three faculty members in 1950 to nineteen at the present time. Each of the present faculty are full-time instructors for counseling and a part-time instructor for special programs.

Meetings have expanded so that majors are offered in horticulture, crop production, poultry, dairy, livestock, agricultural engineering, ornamentals, horticulture, economics and management.

In addition technical education programs are provided for preparing agricultural laboratory technicians, quality control technicians, agricultural technicians, physician technicians, landscape and park technicians, and nursery production technicians.

The instructional program in agriculture at Modesto Junior College (California) operates in three areas: the day program involving primarily students who are recent high school graduates, the extended day program involving recent high school graduates with a majority of the students being adults; and special programs involving adults only in short courses including Maugroup Development and Training Act programs for upgrading workers.

**OCCUPATIONAL EXPERIENCE**

Work experience has been required since the inception of the agricultural program at Modesto Junior College. A variety of experiences are provided ranging from self-employment to employment in off-farm agricultural industries. Because of the broadened scope of offerings in the department during the past several years, an ex-

**Administrative Arrangement**

In the administration of the work experience program the responsibilities of the Agriculture Department at Modesto Junior College include the following:

- Provide through coordinators, supervisors, and counselors continuous guidance services for all students.
- Select and approve work stations which provide an experience that is useful and educational.
- Ascertain that applicable federal, state, and local laws and regulations are followed.
- Evaluate the student's progress with the help of the employer.
- Award credit toward graduation for work successfully completed. The amount of credit is based on the number of hours spent on the job. The activities engaged in by the student must be of sufficient variety and duration to give the student a realistic understanding of the type and scope of the activities conducted in the program.
- Assign a sufficient number of qualified personnel to direct and co-

**Supervision**

In addition to the weekly sessions with regular instructors, students receive on-the-job supervision by the staff of the College. Students are required to keep careful and accurate records of their work experience program. A comple-

This record book of each student enrolled in the agricultural program furnishes a basis for follow-up studies and for state and federal reports. It is an excellent source of referral information on each student.
HAZARDOUS OCCUPATION ORDERS: Their Application in Vocational Agriculture

The November 7, 1967, issue of the Federal Register contains, in part, a listing of the agricultural occupations which have been declared to be particularly hazardous for the employment of persons under the age of sixteen. It also contains a definition of the term "hazardous occupation" and applies to the constitution of the order. In addition, exceptions to the order are listed and the conditions under which "students-learners" in vocational agriculture programs may be exempted from the order are specified.

The issuance of the order specifying the occupations which were determined to be particularly hazardous for employment of persons under the age of sixteen was made in response to the 1966 amendments to the Fair Labor Standards Act. The effect of the order is to make it unlawful to employ any person under sixteen years of age in any of the agricultural occupations listed as particularly hazardous unless that person meets the conditions outlined in the order for a student-learner or is in specifically excepted from the order.

The order, issued on an interim basis effective on January 1, 1968, and will expire on January 1, 1970, unless it is amended or revoked. The Department of Labor is presently holding informal meetings with representatives from farm and other groups concerned with farm employment. These meetings are intended to consider the rules and effect of the order and the impact of the order. It is quite likely that some amendments may be forthcoming. It is also reasonable to assume that the order will not be revoked and will, therefore, remain in effect beyond January 1, 1970. Teachers of vocational agriculture should be familiar with the requirements of the hazardous occupation orders for agricultural employment as well as for non-agricultural work.

John W. Lacev
Program Officer
Regional Office of Education
Denver, Colorado

Retirement: 28,000, 7,500, 60,000, 8,900

Exemption for Vocational Agriculture Student-Learners

The student who is placed on a farm other than his own for supervised occupational experience is exempt from the order and may participate in any one of the hazardous occupations provided that the following conditions are met:

- The student is enrolled in a bona fide vocational agriculture program under a recognized state or local educational authority or in a substantially similar program in a private school.
- The student is employed under a written agreement which provides that:
  - The work in the hazardous occupation shall be incidental to the training.
  - Work in the hazardous occupation shall be limited to a specific period of time, and under the supervision of a qualified and experienced person.
  - Safety instruction has been given by the school and will be correlated with the employee and with the on-the-job training.

A training outline showing how the work processes to be performed on the farm has been prepared.

The agreement contains the name of the student, is signed by the employer and a person authorized to represent the school, and a copy is filed with the employer and the school.

The exceptions for student learner employment in all sixty of the hazardous occupations in agriculture are granted in the following:

- The employment of a child below the age of 16 by his parent or by a person standing in the place of a parent, whether a farm owner or operated by such parent or parent.
- The vocational agriculture student who is working under the supervision of the farm owner, or a parent.
- The farm owner or his parent.

In recent years there has been an increasing interest among urban students to prepare themselves for a career in an agricultural occupation. In order to prepare themselves for such a career, they are enrolling in agricultural education programs in increasing numbers. As a result, the number of persons who participate in hazardous occupations has multiplied many times. In many cases both the student who works for the neighbor and the urban student who is placed on a farm for supervised occupational experience participate in the kinds of activities which have now been declared particularly hazardous. Many of these students are less than sixteen years of age, and it is not unusual for them to be in the new regulations under the child labor laws.

Vocational educators have long recognized that a student who is well trained and closely supervised in an actual work situation is well aware of the hazards involved in employment. If he is provided the opportunity to work under supervision and to practice safety in hazardous occupations, whether he is operating a farm tractor, a turbot lobster, or a milling machine— it is likely that he will continue safe work habits throughout his career.

Exception to the Agriculture Order

Specific exception is granted to the student learner who is employed on his own farm or home farm under the supervision of his parent or parents.

A Federal Register exemption which makes provision for exemptions of 4-H Club members and youth also involves the use of such students to some extent. The Federal Extension Service exemption applies only to those who are in regular involvement in the Federal Extension Service's educational programs, as outlined in the Federal Register, Volume 32, Number 96, May 16, 1968, in U. S. Department of Labor.

29CFR, Part 1500,70, Hazardous Occupations in Agriculture.

Implications for Off-Farm Agricultural Occupations

In the order listing hazardous occupations in agriculture, agriculture is defined as "farming in all its branches, including among other things, the cultivation and tillage of the soil, dairying, the production, cultivation, growing and harvesting of crops and horticultural commodities . . . . the raising of livestock, bees, for hunting purposes, or pets, and any practices (including any forestry or lumbering operations) performed by a farmer or his parent standing in the place of his parent on the home farm if it is owned or operated by his parent or the person who stands in place of his parents.'

The definition obviously does not include, for example, grain, feed, seed, and farm supply businesses; grain elevators; farm equipment dealerships; farm equipment repair shops; fertilizer dealers; and a variety of other related types of businesses.

Students and teachers developing and conducting supervised occupational experience programs with employ-
Hazardous Occupations Orders: Their Application in Vocational Agriculture

(Continued from page 197)

which states "At 16 years of age young people may be employed in occupa-
tion other than those non-agri-
cultural occupations which have been declared as hazardous by the office of Labor. There are no other re-
strictions. If it is not contrary to State or local regulations, the young person may be employed during school hours or off school hours." A list of the hazard-
ous occupation orders in non-agricul-
tural occupations is included in this article.

Exemptions to the non-agricultural hazardous occupation orders number 5, 8, 10, 12, 14, 16, and 17, are available to apprentices and student-
learners in any of the occupa-
tions in which vocational agriculture students wish to work are apprentices-
ship trades. Student-learners granted exemptions from these orders are re-
quired to meet the same provisions as students employed in hazardous oc-
cupations in agriculture. There are no provisions for the exemption of stu-
dents unless approved in writing by the employer of the young person.

Stage II deals with units and prob-
lem areas to be studied and stipulates the approximate number of students in the school; year in which the work will be done. The units are standard throughout the class and include the following: busi-
ness overview, career exploration, employment experience orientation, agricul-
tural business, farm and community, agri-
Undoubtedly, it is a vital idea to have him available to advise the student.

Student Directed Learning

Our experience shows that much good comes from having students pre-
pare their own training plans. It is much more desirable than a pre-
pared manual or the like. With a knowledge of their own objectives and their own ways and means of fulfilling these objectives, the program can be a learning experience that is under the student's direction at all times. A re-
view of training plans compiled by students reveals that they are truly are a means to success in a career. It highlights the need for developing an oc-
upational experience program in agricul-
ture, both in production agriculture and off-farm agricultural occupations.

as a result of conducting programs at Agricultural Occupations and En-
richment Experiences for the past four years, I have come up with the con-
clusion that the training program is not only good as in the training plan. In an attempt to minimize planning procedures I have designed a format for the preparation of a training plan that has proven successful.

Individual Plans

Each senior student prepares a care-
fully designed training plan in triplic-
et in triplicate that is eventually handed to his instructor and his training station super-
visor. The student keeps one copy.

After the training plan has been pre-
pared it is kept up to date by frequent reference. At the beginning of each week during the employment expe-
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coming week is taken by the student to his training station and placed on a clipboard in the supervisor's office. This has been very successful and is re-
ceived by training supervisors.

Developing Training Plans

A four-stage plan has proven to be the most successful. Stage I involves the listing of general experience ob-
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DIRECTED WORK - EXPERIENCE PROGRAMS
IN AGRICULTURE EDUCATION

HAROLD R. CUSHMAN, CHARLES W. HILL, AND JOHN K. MILLER
Teacher Education, Cornell University

Since October 1967 Cornell University has been engaged in a developmental project concerned with the development and improvement of directed work-experience programs in expanded vocational education offerings in agriculture at the secondary level. Three objectives have been set:

1. To develop test procedures for the guidance of teacher-coordinators in initiating and operating directed work-experience programs for occupational education offerings in agriculture.
2. To assess the contribution of directed work-experience to attainment of educational objectives.
3. To determine whether differing amounts of directed work-experience contribute differently to educational and occupational outcomes.

PROCEDURES

The recommendations of teacher educators and state administrators for initiating and operating work-experience programs in the several specialized fields of occupational education were gathered for a review of the literature and from extensive interviews. This process of gathering ideas was followed by a concerted effort to carry out a comprehensive study of the experiences of teachers and students in this type of educational program. The project was supported by a grant from the U.S. Office of Education. The following publications are the result of the project:

- The Concerns and Expectations of Prospective Participants in Directed Work-Experience Programs, 1967, 50 pp.


Inquiries concerning the project and the publications should be addressed to the authors at the Agricultural Education Division, Department of Education, New York State College of Agriculture, Cornell University, Ithaca, New York 14850.

This report describes the results of a developmental project: "The Development and Improvement of Directed Work-Experience Programs in Expanded Vocational Education Offerings in Agriculture at the Secondary School Level," which was conducted at Cornell University. The project was supported by a grant from the U.S. Office of Education. The following publications are the result of the project:

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The AGRICULTURAL EDUCATION MAGAZINE
DECEMBER, 1968
An Agricultural Mechanics Program for Small Schools

Mervin L. Copes
Teacher of Agriculture
Crobatville, Indiana

Teaching vocational agriculture mechanics is complex and expensive for small rural schools. The workshops used at Crobatville High School are designed to overcome this obstacle. A four-year program has been designed for students desiring to enter an implement dealership.

Introductory Course
A course in principles of engines is used to introduce the mechanics option to freshmen. Small gasoline engines are used in the laboratory section of this semester course. Approximately eight to ten weeks are spent in the classroom and six to eight weeks in the laboratory. All trade and industrial vocational students, mechanics students are also required to take the principles of engine course. By overlapping the two vocational areas in one related class, repetition is avoided and only one instructor is required.

Freshmen and sophomores entering agriculture mechanics or auto mechanics can take related semester courses in beginning welding, advanced welding, farm machinery, and others. Here repetition is again avoided by enrolling agriculture mechanics and auto mechanics students in the same course. The agriculture students are taking related vocational agriculture subjects during this same period.

Advanced Courses
Junior agriculture students enroll in a ten-hour per week course in farm power. Approximately six weeks are spent setting up farm machinery for local implement dealers. Most of the remaining time in the semester course is spent in the development of basic mechanical skills connected with farm machinery and tractors.

Summers are busy for seniors. They may elect to take farm power during the summer between their junior and senior years. Two hours each month for four weeks are spent in related classroom work where business procedures and on-the-job training problems are discussed. An advantage to the summer program is that additional experience can be gained.

Senior mechanics students from agriculture mechanics and auto mechanics are placed in a combined course of mechanics sales and management. In this course stress is placed on economics, technical information, marketing, business administration, and other basic skills enabling them to operate an automobile dealership. It is felt that farm implement and auto dealers have similar operations; therefore, a coordinated related course is feasible. Those students are then placed on-the-job in their respective dealerships depending upon their previous mechanics training. On-the-job training is extremely important because a school is limited in its facilities and offerings. A dealership's atmosphere is needed by the student to supplement his training before actual employment in the mechanics field.

A Specialized Program
The auto mechanics and farm power classes use the same tools. By combining facilities, instruction, and equipment a small rural high school can operate a specialized mechanics program with little difficulty. The specialized program allows vocational agriculture students to major in farm power rather than in vocational auto-agriculture if they desire. Planned supervised experience replaces the supervised farming program for students who elect the farm power option.

A Project for Agricultural Mechanics

Carroll Rudo
Teacher of Agriculture
Manlius, New York

My first few years of teaching were spent watching students going here and there about the shop getting tools together to do a job. One result was that we lost many tools. I knew that these must be a better system. The result has been the construction and use of five tool kits that hold most of the tools a job is apt to require. The kits are built by students. We like the system and I have seen enough teachers sketching and measuring there is realize that this idea they may have some general interest to other teachers.

Building the Kit
I built the first kit during the summer. It served as a visual model for the students to follow. This project gives the beginning students a chance to work together for the first time and get us off to a good start in the shop. I ordered five sets of tools that I thought were needed on most jobs. Each set costs about $45.00.

The kits are assembled with glue and finishing nails and are topped with a piece of plastic laminate to help keep the top clean. Each kit is painted a different color with the idea that the tools will be color coded to match the kit.

Using the Kit
A few basic rules help make the tool system work.

--- Do not take a tool kit that is missing even one tool.
--- Return all complete kits to the storeroom at the end of class.
--- Lock the storeroom at night as badly tools have a way of disappearing.

MATERIAL NEEDED FOR BUILDING KIT

- 5" pliers for the bottom, top, and end tool kit (six pliers)
- 6" side tool kit (four pliers)
- 7-1/2" locking pliers wrench (vice grips)
- 6" long nut pullers
- 5 pc. punch chisel set
- 10 pc. 3/8" drive socket set
- 6 pc. combination open end and box end wrench set
- 5 pc. screwdriver 3/8" (screwdriver handles)
- 1" Phillips screwdriver set
- 3/4" drive spool nut socket
- 1 round spark plug wrench

I suggest that you build one and order enough new tools to outfit the number of kits that you need. I am sure that if you do it will help overcome some of the frustrations of teaching mechanics.
Agricultural Laboratories for the Physically Handicapped

IRVIN E. ASHLEY, JR., University of Illinois

Agricultural educators have a splendid record of meeting the needs of individuals with special needs. Even though vocational educators in agriculture are experimenting with new programs for individuals with special needs, little consideration has been given to the needs of the physically handicapped.

It is estimated that there are nineteen million persons in the United States who are physically disabled. These persons suffer from diseases such as arthritis, cerebral palsy, multiple sclerosis, and muscular dystrophy. Other disabled groups include those who suffer from orthopedic conditions such as scoliosis, paraplegia, and polio-related complications.

A Role for Agricultural Education

Agricultural occupations teachers with properly equipped laboratories could play an important role in rehabilitation training or retraining of physically handicapped adults for gainful employment in occupations requiring knowledge and skill in agriculture. Agricultural laboratories for the physically handicapped could serve an equally important role in transition between hospital treatment and employment or home adjustment.

Agricultural occupations teachers with appropriate laboratories could structure occupational situations similar to those a physically handicapped person would encounter in returning to a farm or other agricultural occupation. An agricultural laboratory could be used to help train a physically handicapped person for a farm-related occupation. If an individual desired to return to a farm situation, the teacher with proper laboratory facilities could help a physically handicapped person adjust to farm situations that would be encountered.

Need for Agricultural Laboratories

The objectives of rehabilitation training in a hospital or clinic are to assist the individual in becoming functionally competent with the existing disability. This involves a team consisting of physicians, physical therapists, and occupational therapists. Although maximum effort is made to assure that the individual is functionally and physically competent within the limitations of his disability, rehabilitation training does not assure that the individual is occupationally competent.

Frequently, adequate facilities are not available to insure that physically handicapped persons will acquire occupationally competent in the occupations they are returning to or remaining for.
An Educational Program for Dairy Technicians

I sat in a county agent's office in Michigan in the fall of 1966 discussing farm labor problems. A dairy extension specialist and a number of state agricultural association representatives were also present. The dairy situation was discussed and the need for trained dairy technicians in Michigan was recognized. Providing qualified dairy technicians has been more difficult, but a start has been made.

Developing the Program

Our initial attack on the problem was to submit a request for a Manpower Development and Training Act program to be conducted at Michigan State University. A number of circumstances prevented the approval of this proposal for some time. Could we develop a training program at some other location? There would need to be suitable dairy facilities which permit maximum student experience. There was a possibility at Andrews University, a private, church-supported school in southwestern Michigan. The school had recently dedicated a new, modern dairy facility designed for a commercial 230-cow operation with a 16-cow herringbone parlor, 2,000-gallon bulk tank, milking machines, refrigeration housing, and other facilities. The facilities appeared nearly ideal.

Representatives of the Rural Manpower Development Program, the Dairy Department at Michigan State University met with representatives of the agriculture department and the administration at Andrews University. We were interested in developing a training program which would help meet the needs of the dairy industry and provide some choice of job selection for the trainees. We believed that the program should have sufficient depth to enable the graduate to advance in employment. We wanted more than just good milkers. The program would need to qualify the successful graduate to be employed in DHIA work, as an artificial inseminator, or on a dairy farm as an assistant herdsman. It was to be a 2- to 3-year program on the post-high school level. The program was divided into two, 16-week sessions which provided flexibility in the event that individual students could not handle the advanced management phase of the training. Andrews University agreed to establish the second session on a trial basis provided funding was secured. In addition to helping in preparing and submitting the proposal, Andrews University requested assistance in developing instructional materials, securing staff and resource persons, and selecting students.

Instructional Materials and Staff

Michigan State University's Rural Manpower Center and dairy extension specialists collaborated to prepare instructional materials. The Dairy Department agreed to provide selected staff members as resource people. The state DHIA and Michigan Artificial Breeders Cooperative provided resource persons and teaching materials. Five manufacturers of dairy equipment, two processors, and a farmer were involved in field trips and demonstrations as part of the instructional program.

Selection of Students

In Manpower Development and Training Act programs the selection of students is a function of the Michigan Employment Security Commission. Past experience had indicated that persons selected at random who needed some kind of training or skill upgrading would not necessarily become good dairymen. We listed the following desirable characteristics of students who could profit from the program: high school graduate or possessor of equivalent communication skills, having studied vocational agriculture in high school, and a farm background and genuine interest in dairy farming. Previous experience with dairy cattle would be helpful. Andrews University has definite policies on student conduct. For example, drinking and smoking are not permitted on campus. Prospective students would need to abide by these policies.

Few persons with these characteristics were on the lists of the Michigan Employment Security Commission. Letters were sent to all county extension agents, 4-H agents, and vocational agriculture teachers in Michigan describing the program. They were asked to identify persons with the desired characteristics who might be interested in the program. The letters were sent to 150 agents, 25-50 teachers were identified, and the individuals suggested with each followed by a personal interview. (Continued on next page)

Beyl Appointed Business Manager

Byel Beyl, Supervisor, Vocational Agriculture in Wisconsin, has appointed him the Editing - Manager, Board of Business Managers, American Agricultural Education Magazine. Mr. Beyl received the position of Business Manager in December 1965. He succeeded T. L. Faulkner, Stock State Supervisor in Alabama. Mr. Beyl received his degree from Wisconsin State University, River Falls, Wisconsin, in 1948 with majors in agriculture and biology. He earned the M.S. degree from the University of Wisconsin in 1954. He began his teaching career in 1948 at Melrose, Wisconsin, as an instructor in the Veteran Farm Training Program. From 1949 to 1960, Mr. Beyl taught vocational agriculture at Maple, Wisconsin. He served as Section I Vice President of the Wisconsin Association of Vocational Agriculture Instructors.

Mr. Beyl joined the supervisory staff of the Wisconsin Board of Vocational, Technical, and Adult Education in 1960 as a supervisor of high school vocational agriculture programs. Since that time he has also served as Supervisor of the Veteran Farm Training Program and Executive Secretary of the Wisconsin Association of FFA. At present, he is the retiring high school vocational-technical programs in agriculture which includes young and adult farmer programs as well as agribusiness programs.

An Educational Program for Dairy Technicians

(Continued from page 146)

Those who could meet Employment Security requirements were instructed to apply through the farm labor office. Those applying were interviewed by the farm labor office representative and the applicants submitted to the Michigan Employment Security Department where the final selection was made. Twenty men were selected for the next session of the program. The trainees selected did not meet our standards in all respects. Some had certain deficiencies and the trainees selected did not meet our standards in all respects. Some qualified men declined; some started the program and withdrew before completing it. It appeared that our guidelines for training selection were generally acceptable.

Training and Placement

Twenty students began the first phase of training in October 1966. Seventeen additional students began in February 1967 at which time four students were to complete the program. Letters were sent to the following: the individuals suggested with each followed by a personal interview.

Cooperation

The important thing to note is that a program was instituted at a university that had not had previous experience with vocational agriculture. The development was long. Cooperation was essential.

Marion County Vocational agriculture teachers will be going to Dallas to claim $500 checks as advisors of the winners of Foundation Awards in livestock, dairy and poultry farming. These awards are made annually by Charles Pfizer and Company of New York.

L. L. Cuningham, "A Man with a Message," has been engaged as the speaker for the "Special Program" scheduled at 11:30 a.m. December 7, Mr. Cuningham is former director, Physical Education, Notre Dame University, New York, A. F., World War II, Salesman, Sales Director, Sales Training Coordinator, Sales Specifiers and Director, Dale Carnegie Course, former owner and President, Business Institute of Milwaukee.
Stories in Pictures

GILBERT S. GUERIN
Ohio State University

Agricultural education students gain practical experience in calf feeding and management at Andrews University, Berrien Springs, Michigan.
(Photoby Neil C. Snapp, Michigan State University)

Vocational agriculture students in Illinois learn to weigh sheep properly in order to calculate feed conversion ratios. The students are assisted by a feed company representative.
(Photoby Paul Hemp, University of Illinois)

Featuring —

TEACHER EDUCATION

Also —
What's Ahead in 1969? by H. M. Hamlin
Vocational Education Amendments of 1968