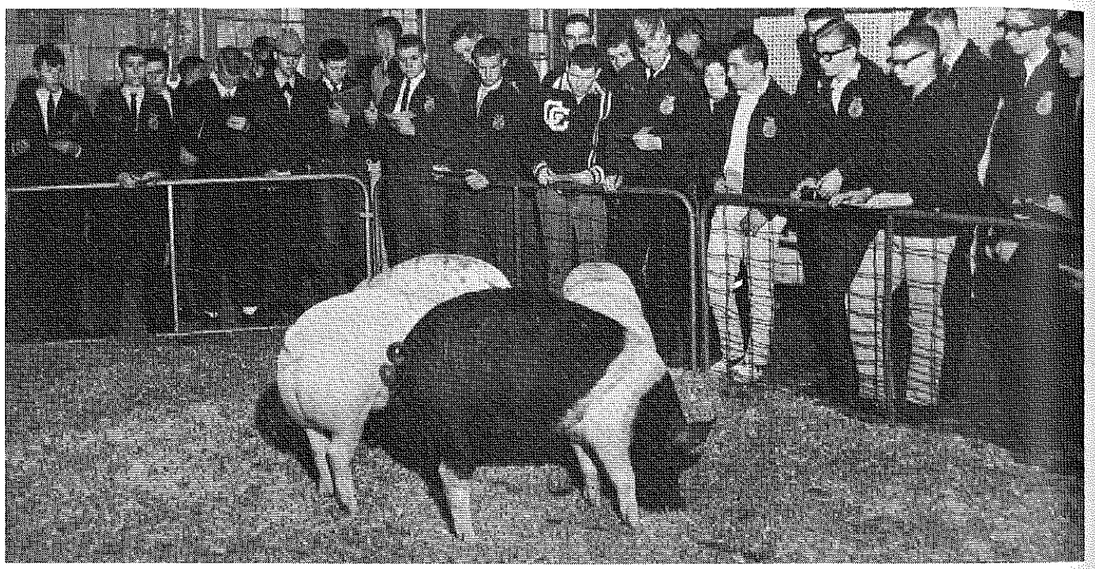
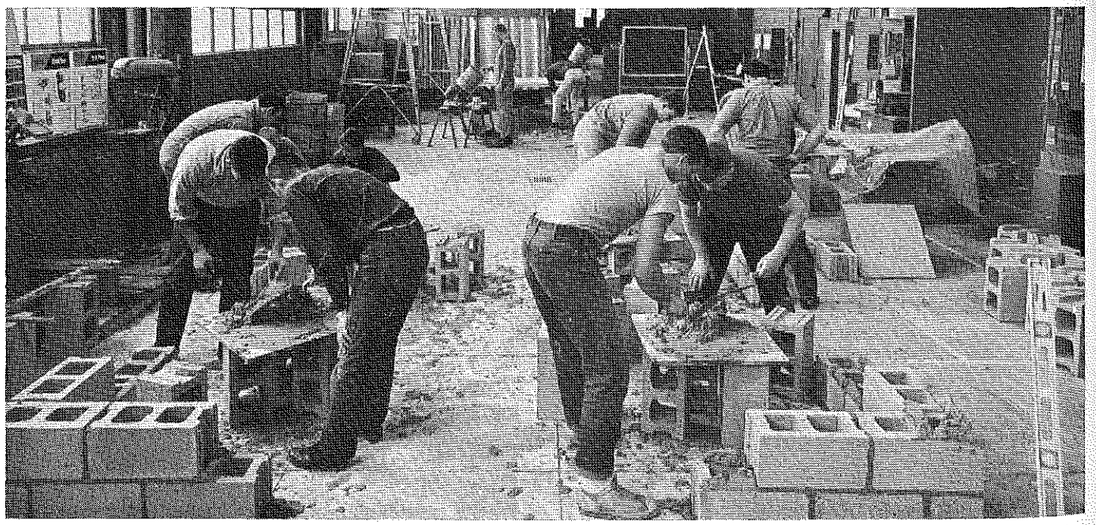
Stories in Pictures

GILBERT S. GUILER
Ohio State University

Michigan students operate semi-automatic bagger for pot plants. (Photo by Walter McCarley)



Nebraska vocational agriculture students use a ring of market swine as their instructional materials for this class situation.



Future Minnesota vocational agriculture teachers, enrolled in Methods of Teaching Agricultural Mechanics, learn concrete block construction principles by the "doing process." (Photo by F. Bear)

AGRICULTURAL EDUCATION

Agricultural Education

Volume 40 June, 1968 Number 12

Featuring —

EVALUATION

THE
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MAGAZINE

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EDPRESS

Editorials

From the Editor . . .

Assessment of Progress in Agricultural Education

J. Robert Warmbrod

National evaluations of vocational education get results. Prior to 1963 some local schools and a handful of states were updating programs of agricultural education. But it was not until the recommendations of the Panel of Consultants on Vocational Education were formalized in the Vocational Education Act of 1963 that concerted efforts were made toward program change and redirection in public school education in agriculture. Anyone familiar with agricultural education in the United States is well aware that substantial changes are occurring in vocational and technical education in agriculture as a direct result of the Panel of Consultant's evaluation.

Now we have another national evaluation of vocational education—the first report of the Advisory Council on Vocational Education mandated by the Vocational Education Act of 1963. (An analysis of that report begins on page 269 of this issue.) We can expect many of the recommendations of the Advisory Council to be enacted in national legislation. Consequently, it is very important that we know and understand the implications of the Advisory Council's recommendations.

To what extent was program change and redirection in agricultural education discernible to the Advisory Council? The Council recognized that the broadened purposes of vocational agriculture in large part accounted for the increase in enrollment in vocational agriculture from 1964 to 1966. The development of off-farm programs was one example cited by the Council as "evidence of redirection in vocational education." Yet any mention of program redirection in vocational agriculture was conspicuously missing in the Council's "box score" summarizing progress toward the goal of providing programs "to serve the occupational needs of all people."

Actually vocational agriculture and home economics are cast in a strange role in the report of the Advisory Council. Vocational agriculture and home economics are used repeatedly as the base against which program change and redirection in vocational education is measured. "More

(Continued on next page)

Guest Editorial . . .

Evaluation of What and for What?

George W. Wiegers, Jr.

The National Vocational Education Act of 1963 came none too soon to breathe new life into vocational agriculture programs across this nation. New doors were opened for progressive leaders and teachers to taste forbidden fruits that had been carefully guarded by national leaders since the passage of the Smith-Hughes Act. Horizons were broadened with respect to purpose, groups to be served, facilities, research, occupational fields, teacher education and other important areas. This reorientation was heralded as the beginning of a new era for vocational education, including agriculture.

The Act did not become operative until 1965, but new challenges have now been with us approaching five years. Have our leaders provided the necessary leadership and funds to fulfill the intent of the Act? Have local administrators and teachers done their part in rebuilding and developing new programs to meet vocational agriculture needs of the people they serve?

The Act contains provisions to insure periodic evaluations of state and local vocational education programs and services. It states that consideration be given to relating evaluation results to information on current and projected manpower needs, job opportunities and relative vocational needs of all groups. It did not specify what should be evaluated or how the results might be used beyond comparing results with the needs and opportunities mentioned in the foregoing.

Evaluation may focus on the various aspects of the program of vocational agriculture education, but high priority, however, should be given to evaluating progress toward program objectives at the local level. Much value can accrue from local evaluations because of motivations at the grass roots and the massive involvement of local people and others. If state leaders allocate funds and provide the leadership needed for developing plans and pro-

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Dr. George W. Wiegers, Jr., is Professor and Head, Department of Agricultural Education, University of Tennessee, Knoxville.

From the Editor . . .

than one-half of the students still are being trained in the fields of agriculture and home economics" and "Enrollments in home economics and agriculture continue to increase but at a rate slower than the increase in total vocational enrollments . . . but, in terms of priority uses of scarce funds, it would probably be preferable to expand other areas more rapidly and these less rapidly" are statements that illustrate the role given vocational agriculture and home economics in the report. Even though the latter statement is qualified by pointing out that the numbers being trained in agriculture and home economics "do not exceed the needs of the Nation," the implications of the statements have a strange ring when accompanied by the Council's assessment that "major emphasis appears to stress continuation of existing programs." Apparently some persons interpret growth of programs of vocational agriculture and home economics as evidence of a lack of redirection in vocational education or, at best, the maintaining of the status quo.

It is obvious that agricultural educators must take the initiative in collecting and disseminating facts and information about agricultural education. A means of accomplishing this task is the immediate establishment in each state of a State Task Force on Agricultural Education for the specific purposes of evaluating the program of agricultural education in the state and for making recommendations for program change and redirection. The State Task Force, adequately financed by state funds, should involve not only agricultural educators but also teachers and administrators in all areas of education and vocational education as well as the lay public.

One of the first tasks of the State Task Force on Agricultural Education would be to design a system of data and information essential for a thorough and valid assessment of agricultural education in the state. The data system, designed specifically for evaluation in agricultural education, should go beyond the reporting system now required at the state and national levels. Data should be collected that describe and report the development of new programs. Data should be qualitative and descriptive as well as quantitative. Examples of data needed include: types of programs in rural areas, in the suburbs, and in the cities; descriptions of content of courses; enrollments and characteristics of enrollees; descriptions of programs for persons with special needs; descriptions of non-federally supported programs and non-vocational programs; descriptions of facilities and equipment; indications of quality of teachers and teaching; strengths and weaknesses of youth organizations; descriptions of policy and the policy-making process; and follow-up data on persons completing or leaving programs of agricultural education. The data system should point out the unique characteristics of agricultural education and emphasize the diversity of programs and outcomes if stereotyped and inaccurate notions about agricultural education are to be dispelled.

Another important task of the State Task Force on Agricultural Education would be the encouragement of lay and professional evaluation of local programs. The highest priority of the State Task Force would be an analysis of the data and information collected, resulting in recommendations for program improvement, change, and redirection.

The call for a State Task Force on Agricultural Education should not be construed as an unilateral effort separate from similar efforts in other areas of vocational education or separate from an evaluation of a state's total program of vocational and technical education. The State Task Force on Agricultural Education could very well be a part of a state's "periodic statewide review and evaluation of its vocational education program" recommended by the Advisory Council. The plea is that the profession assume the initiative in providing data about agricultural education, in appraising the strengths and weaknesses of its program, in taking positive and prompt action toward program improvement, and in informing others about agricultural education. If a similar group is organized to evaluate the total program of vocational education in the state, the State Task Force on Agricultural Education should become a part of that effort. We should assume a position of leadership. Why must we always wait for national evaluations to spur us to action?

Thorough and valid assessments of agricultural education in each state would be invaluable to the next Advisory Council on Vocational Education that must render a report five years from now. The data and information supplied by each state's Task Force on Agricultural Education would alleviate, for agricultural education at least, the paucity of "hard data" and "value judgments" mentioned by Advisory Council Chairman Essex in his article in the March issue of the *American Vocational Journal.* If we fail to supply data and information about agricultural education, then we have no recourse but to accept not only the data collected by others but also the value judgments they reach. JRW

Guest Editorial . . .

cedures for realistic evaluation, the findings should also be useful at the state level. Coordination between states could facilitate use of data in larger geographic areas.

Will the results be used primarily to stimulate self-improvement of educators, or will the results be used primarily for administrative and legislative purposes? Most educators want to improve themselves and the programs they have helped to develop. Evaluations that contribute to this purpose should be realistic, continuous, and an integral part of the total program.

If major emphasis in evaluation is placed on determining the degree of compliance with provisions in the Act, state plans, state program of projected activities, and state rules and regulations, enthusiasm will likely be wanting among the educators in many states. This type of information may be needed by administrators, but securing the data should not supersede or take precedent over self and program evaluation in vocational agriculture education at the local level.

In conclusion, significant changes and improvements in vocational agriculture education are more likely to occur from evaluations made to determine progress toward appropriate program objectives and the results used to stimulate self-improvement of educators at all levels than if major emphasis is placed on collecting, analyzing and interpreting data for administrative and legislative purposes.

General Report of the Advisory Council on Vocational Education, 1968: An Analysis

A. H. KREBS, Teacher Education
University of Maryland

A. H. Krebs

"Publication 1" of *Vocational Education: The Bridge Between Man and His Work* has been released as the document the American public is urged to review. Agricultural educators can do no less than examine the document to see what it is that the public will learn. This analysis is presented in three parts. The first part will deal with the report in relation to vocational education generally; the second part will deal with the report in relation to vocational education in agriculture; and the third part will deal with the recommendations made. There appears to be much of both a positive and a negative nature which should be studied in the report itself, since this analysis is, of necessity, brief.

THE REPORT AND VOCATIONAL EDUCATION

Unfortunately, the general tone of "Publication 1" is negative toward vocational education. Even the final recommendations of the Advisory Council are simply listed at the end of the publication without comment as if they were after thoughts. This negative tone tends to mask much that is positive in the report. Hopefully, the full report and the popularized version will be more positive.

• The Negative

Some examples of the negativism found throughout "Publication 1" are as follows:

Item: Sample studies give high marks to vocational education for its impact on the subsequent employment experiences of its graduates, particularly in contrast to those in the 'general' curriculum (whether this finding indicates the strengths of the former or the weaknesses of the latter is debatable)."

The comment in parentheses appears to be a deliberate effort to debunk the facts and deny vocational education credit for achievement.

Item: "The only common measure of results is a report of uncertain validity from the vocational teacher in September on the placement of students who completed a course the previous spring."

While the above statement may be correct, the report could also have pointed out that no evidence is presented to support the doubts expressed regarding the validity of the reports of vocational teachers.

Item: Vocational education is criticized as if unlimited funds were available and as if youth would enroll in programs of preparation for labor-shortage occupations if such programs existed. Funds are not unlimited and youth still have freedom to choose.

Item: There is a general failure to highlight the accomplishments of vocational education. The contributions of vocational youth groups are ignored.

Item: There is a general failure to evaluate federal level policy decisions which have hindered the development of vocational education as intended by Congress.

• The Positive

The positive side of the report also needs recognition.

Item: The final recommendations are positive.

Item: There is increasing emphasis on the development of the individual as opposed to meeting the needs of the labor market.

Item: There is increasing emphasis on vocational education as a basic objective of all education and as a basic element of each person's education.

Item: "The teacher of vocational education is generally competent, and he knows how to teach."

As is generally known, able teachers are the most important part of a program.

Item: "There is, however, some evidence of redirection of vocational education."

• Other Concerns

There are other concerns of a general nature which could be discussed, such as the occasional reference to the need for "vocational teacher training". There appears to be, however, a growing recognition that basic preparation for employment will continue to require knowledge and skills identifiable with broad occupational areas or clusters; that teachers will be teachers of agriculture, business, or some other

(Continued on next page)

The Cover Picture

Microfiche provides a new means for disseminating reports of research and evaluation that lead to program change and improvement. Robert White (elft), Retrieval Specialist, Center for Vocational and Technical Education, The Ohio State University, demonstrates the microfiche reader to (right to (left), Retrieval Specialist, State University, James Hensel, Center for Vocational and Technical Education, and Harold Binkley, University of Kentucky. (Photo by Gilbert S. Guiler)

General Report of the Advisory Council on Vocational Education

(Continued from page 269)

area rather than "vocational" teachers. There are also many indications of the kinds of data needed for evaluation of vocational programs. Arrangements need to be made to build the collection of these data into local and state programs of activity.

THE REPORT AND VOCATIONAL EDUCATION IN AGRICULTURE

The negative tone of the report is at its strongest in relation to vocational agriculture although there are also some positive aspects.

• The Negative

Some examples of the negative aspects of the report as related to vocational agriculture are as follows:

Item: "Though 30 percent of Americans still live in rural areas, only one-fourth are engaged in agriculture and they are 43 percent of the total poor."

In or out of context, the above statement is difficult to interpret and represents the kind of statement which creates a false image of agriculture as an occupational field.

Item: "More than one-half of the students (secondary) still are being trained in the fields of agriculture and home economics. . . .

The percentage for agriculture was about 16 percent. With only 25 percent of secondary students enrolled in vocational education, the percentage of all students enrolled in agriculture would approximate 4 percent, far too low a percentage to meet the need for agricultural manpower. The quoted sentence will leave the uninitiated with a false impression regarding agricultural enrollments.

Item: There was a failure to recognize the contribution of vocational agriculture to the acceleration of growth of productivity in agriculture and to the World War II manpower training effort. The efforts of others were recognized.

Item: "Enrollments in home economics and agriculture continue to increase but at a rate slower than the increase in total vocational enrollments. The numbers being trained in these areas do not exceed the needs of the Nation, but, in terms of priority uses of scarce funds, it would be preferable to expand other areas more rapidly and these less rapidly."

It is difficult to understand why success should be denied any area of vocational education simply because other areas are not successful enough, especially since agriculture enrollments are also insufficient to meet the needs of the Nation.

• The Positive

Some positive statements regarding agricultural education were also made. Some examples of these are:

Item: The recognition that agriculture enrollments do not exceed the needs of the Nation (see previous item) should be helpful to vocational agriculture.

Item: "In agriculture and home economics he (the teacher) learns the content of his teaching field at home in college in situations structured to promote teaching and learning."

Item: "In agriculture the development of off-farm programs . . . reflect redirection."

Item: "There has also been a considerable development of specialized programs involving agriculture."

• Other Concerns

The very limited comment regarding the contributions of vocational education in agriculture, although consistent with the treatment given other areas of vocational education, is still a matter of great concern. It is difficult to believe that the data were that limited in availability or that there were no programs of special merit to mention. The reader could well ask why, in an evaluation of this importance, so little of a positive nature could be discovered. That the data may be contained in the full report helps little if the full report is not as widely disseminated and read.

THE RECOMMENDATIONS

Twenty-six recommendations represent a major positive effort to give direction to vocational education in the near future. The March 1968 issue of the *American Vocational Journal* contains an excellent article, "Education for Jobs", prepared by Council Chairman Martin Essex in which he explains each of these recommendations. This article should be reproduced for the general public, since "Publication 1" provides only a list of the recommendations with no explanatory statements.

In general, the recommendations are designed to do the following:

—Bring all vocational education under one vocational act and under the control of one federal cabinet level "Department of Education and Manpower Development." Although some persons may wish to preserve the Smith-Hughes Act, it is apparent that this Act will soon be a matter of history.

—Give the public schools both the funds for and the responsibility for all vocational education including initial placement and follow-up. This is a welcome recommendation in view of the present trend towards taking vocational education from the public schools. Full acceptance of public school responsibility for job placement has been long overdue.

—Make "education for jobs" a major purpose for all education and a part of the education of all youth. An educational program in which general educators accept vocational educators as members of the same team is worth fighting for.

—Extend vocational education to include "pre-vocational" and "employability skills" education. This recommendation should support the present efforts of vocational agriculture programs in those directions.

—Provide funds for innovative programs; for programs for persons with special needs; for work-study programs; for residential schools; for establishing a "learning corps"; for establishing two to four curriculum centers; for post-secondary and adult education; for homemaking education; and for research, evaluation, experimentation, demonstrations, and dissemination of information regarding these activities. There is general recognition of the fact that many of the tasks set forth in the 1963 Act were not accomplished because of limited funds and because of policy decisions which directed that the funds be used in other ways.

—Provide support for professional and para-professional staff recruitment, preparation, and upgrading at all levels — leadership, administration, teacher education, counseling, and guidance.

—Reduce administrative difficulties

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Guiding Principles for

Evaluating Vocational Agriculture Programs

JOHN E. ANDRESS
Teacher of Vocational Agriculture
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We must have a basis for measuring the progress or accomplishments of all educational activities. A farmer measures effectiveness in term of the commodities produced. It is not difficult to measure accomplishments such as these, but it is difficult to determine the progress of students enrolled in vocational agriculture. In spite of difficulties, evaluation must be an integral part of every successful vocational agriculture program. It is through the evaluative process that the teacher and the school administration learn the effectiveness of the program.

Who Evaluates?

It is a fact that all vocational agricultural programs are evaluated regularly by those whom it serves—high school students, young farmers, and adult farmers. School administrators and others in the community also evaluate the program. Unless the teacher assumes responsibility in directing and conducting the evaluation of the program, evaluation will be done by those least qualified for the job. Evaluations of this type are sometimes based chiefly on bits and pieces of information such as FFA contests or other headline stories.

There are some publications available containing specific criteria for evaluating local programs of vocational agriculture. Many of these publications are obsolete. One such publication,[1] although out-dated, could serve as a valuable guide in a self-study program.

There is a need for additional research and study in the area of evaluation. This is particularly true in view of the Vocational Education Act of 1963 which revised the educational objectives in vocational education and made periodic evaluations of local and state programs mandatory.

Moreover, evaluation in vocational agriculture should receive greater emphasis.

A Continuous Process

Evaluation must be a continuous process. It should begin as the program is planned and continue as the program fulfills its objectives. In addition to day-to-day evaluation, a more comprehensive and complete appraisal should be made annually. This evaluation should be formal and sufficient in depth to determine if the program is meeting the educational needs in the community. The outcomes will be tied directly to the annual and long term objectives. If a vocational agricultural program has no objectives, it is difficult to measure the progress of that program.

A systematic evaluation based on well formulated objectives will determine strengths and weaknesses of the program, aid the teacher in determining the effectiveness of his activities, and provide ways and means of improving the program.

The Teacher and Evaluation

The teacher is the key person in the evaluative process. The teacher guides the program planning and has thorough knowledge of the ways and means of accomplishing the desired objectives. The day-to-day evaluation should be the responsibility of the teacher. On the annual appraisal, the teacher should be assisted by such groups as advisory councils, school administrators, adult farmers, parents, supervisors, and pupils. The use of people not directly connected with the program is advisable because they are able to render a more objective decision in all areas of instruction. These groups can also point up program failures that are due to circumstances over which the teacher has no control. For example, the program may be failing to accomplish its objectives in farm mechanics due to an inadequately equipped shop.

The pupil-teacher measurement should be confined to pupil activities—classwork, shopwork, supervised farming program, and FFA. Teacher-pupil planning is necessary if the pupils are to make a valid evaluation. Even though pupil-teacher planning and evaluation are desirable, there may be some question as to how effective it is under all circumstances. For example, a new teacher would experience some difficulty in relying too much on pupil planning before becoming acquainted with the pupils and the community. Teacher-pupil planning should provide for high quality teaching and a course which will give maximum opportunity to each pupil to develop competencies in production agriculture and agribusiness.

Evaluating Outcomes

A form, "How Does Your Department Rate," is suggested for evaluating outcomes in terms of program objectives. Even though a form of this type will only provide a general idea as to how a department is meeting the educational needs in a community, it has some merit because it can serve as a beginning point in the evaluative process. Other areas to be evaluated

(Continued on next page)

[1] *An Evaluation of Local Programs of Vocational Education in Agriculture,* Federal Security Agency, U.S. Office of Education, Washington, D.C.: Voc. Div. Bul. 240, 1949, 75 pp.

How Does Your Department Rate?	Excellent 5	Very Good 4	Good 3	Poor 2	Fair 1
1. A high percentage of graduates enter the occupation for which they were trained.					
2. All students have a vocational objective in agriculture.					
3. Students are participating in supervised experience programs appropriate to their objective.					
4. Student farming programs and work experiences are profitable, educational, and challenging.					
5. Students have participated in experiences and activities that prepare for leadership.					
6. Students are adequately prepared for successful entrance in an agricultural occupation.					
7. The instructional program provides adequate information for career selection.					
8. Public has been well informed relative to the objectives, activities, and accomplishments of vocational agriculture and the FFA.					

in the program are organization, nature of offerings, physical facilities, instructional staff, instructional activities, instructional materials, and method of evaluation.

Some Questions

Once the evaluation process is in motion, many questions will arise concerning the type of data needed in determining whether or not the program is meeting the educational needs in the community.

Some questions which should be answered in developing evaluative criteria are:

- Are the criteria based on educational objectives that are accepted by those involved in the program?
- Do the criteria cover all phases of the program?
- Does the information provide for self-evaluation, group evaluation, and evaluation of separate areas?
- Can the information be clearly understood by lay people?
- Is the form simple and easy to use?
- Are the data objective?
- Do the data provide for comparisons with established standards?
- Does the form provide for a summary?
- Do the criteria provide for indicating ways and means for further development and improvement of the program?

A well balanced program of vocational argiculture should meet the educational needs in the community and should be evaluated in terms of clearly stated objectives. Continuous study and evaluation by the teacher and other community leaders are necessary in developing an effective program which will meet these educational needs.

General Report of the Advisory Council on Vocational Education

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by matching of federal funds on a statewide basis, by earlier allocation of funds, and by separating the state plan from the state-federal contract.

—Strengthen the role of the federal government by including in legislation funds for administering the program, for collecting national data, and for staffing the National Advisory Committee. Making the National Advisory Committee functional could do much to prevent thwarting of the will of Congress by high level policy decisions.

—Require state evaluations which preceed by at least one year the mandatory national evaluations. The state evaluations would be used as the basis of the national evaluation.

SUMMARY

This report, as *the* report the public should review, should probably not have been released as written. Vocational education and the public deserve a better presentation regarding the history and status of vocational education.

In the final analysis, however, the report should contribute to improving vocational education in spite of the unnecessarily negative tone. The recommendations appear, for the most part, to represent a welcome support for vocational education in agriculture program activities. With imagination and initiative, vocational agriculture can contribute to the education of youth for work through the avenues which would be opened by implementation of the recommendations.

There is, however, no room for complacency. The many negative statements regarding agricultural education in the body of the report reveal a need for agricultural educators to expand efforts to acquaint school administrators, the public, and legislators at all levels with evidence of the effectiveness of vocational education in agriculture. All accumulated evidence of effectiveness should be used in the state evaluations.

In one way, it could be fortunate that this reminder of the need to do some continuing "informing" and "self-evaluation" has been given. It should help keep agricultural educators alert to the need for maximum effort. There is no substitute for a professional staff dedicated to the proposition that vocational education in agriculture shall contribute in full measure to the building of a stronger nation through vocationally educated youth and adults.

A Follow-up of Vocational Agriculture Graduates

DONALD W. PRIEBE, Teacher Education
University of Minnesota

Education, like other parts of our national life, is undergoing rapid and extensive change. We find that we have many challenges to meet. If we are to meet successfully the many challenges that confront us in vocational and technical education in agriculture, we must gather the information needed to make wise decisions. One type of needed and helpful information is a follow-up of the graduates of our programs. What happens to our "product"?

The Study

The study was designed to determine the present status of former students of vocational agriculture who graduated from selected North Dakota high schools in 1959. Only former students who had completed three or more years of vocational agriculture were included in the study. Graduates of 1959 would have been about twenty-five years of age at the time of the study (1967), so they should have reached some degree of career stability.

Names and addresses of vocational agriculture graduates were obtained from twenty-one vocational agriculture teachers in North Dakota. Questionnaires were sent to 170 graduates. One hundred and twenty questionnaires were returned. The questionnaire was designed to reveal the following: the occupational or educational status of graduates four months after graduation (October, 1959); occupational status in May, 1967; the level and nature of formal education attained; and the present geographical location of the graduates.

The Findings

Status Four Months After Graduation. In October, 1959, 43 per cent of the graduates were engaged in agricultural occupations; 40 per cent were enrolled in various types of educational programs. Ten per cent of the graduates were involved in non-agricultural work, and 7 per cent were serving in the armed forces.

Occupational Status in 1967. The following data indicate that approximately 60 per cent of the graduates who were employed and not in the armed forces in 1967 were employed in agriculture at the time the study was conducted.

Occupational Status	Per Cent
Agricultural:	
Production agriculture	36
Agri-business	14
Professional agriculture	7
Non-agricultural:	
Professional	5
Skilled	22
Semi-skilled	10
Armed forces	6

Educational Experience. Seventeen per cent of the graduates had completed some collegiate study in agriculture. Of these twenty graduates, two were working toward the Ph. D. degree and twelve had the Bachelor of Science degree. Seven of these graduates were farming. Another 17 per cent of the graduates had completed collegiate study in fields other than agriculture, and 30 per cent had completed post-secondary vocational or technical training. Forty-four per cent of the graduates had completed no formal training beyond high school.

Jobs Held. Forty per cent of the graduates had held only one type or grade of full-time job since graduation. More than 80 per cent had held three or fewer types of grades of jobs.

Geographical Location. Eighty of the 120 graduates were living in North Dakota at the time of the study. More than one-half of the graduates still lived in the community in which they attended high school.

Conclusions

One-half of the graduates entered the work force immediately upon graduation. More than 80 per cent of those entering the work force immediately upon graduation were engaged in agricultural occupations. Eight years following graduation, 60 per cent of those who were employed, excluding those in the armed forces, were working in agricultural occupations. These findings demonstrate that an important role of vocational and technical education in agriculture is to prepare students for employment. It is also clear that vocational agriculture has an important role in our educational system when so many graduates enter and stay in agricultural occupations.

Even though there is much rural to urban migration, this study indicated that two-thirds of the graduates remained in a predominantly rural state and that more than one-half of the graduates still resided in the community where they attended high school. This finding points out that the type and quality of educational programs offered should reflect the occupational and other educational needs of persons living in local communities.


Donald W. Priebe

At the time this study was conducted, Donald W. Priebe was teacher of agriculture at Kenmare, North Dakota. He is currently an Instructor in Agricultural Education at the University of Minnesota where he is working toward the Ph.D. degree. A copy of the report, "A Study of the Job and Educational Experience of the 1959 Vocational Agriculture Graduates of Selected North Dakota High Schools," is available from the Center for Research in Vocational and Technical Education, University of North Dakota, Grand Forks, North Dakota.

Evaluation Shows the Way to Future Program Direction

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Mt. Vernon, Ohio
and
DARRELL L. PARKS, Supervision
Ohio Department of Education

Appraisal of the vocational agriculture program takes place every day. Students, their parents, school administrators, fellow teachers, adult and young farmers, and many others in the community are continually evaluating various aspects of the program. In many instances evaluation by others is more informal than formal, but regardless of its structure, it is ever present.

Educators should welcome evaluation of educational programs by others. Unfortunately however, informal evaluations are often made with a lack of understanding of educational aims and without sufficient evidence to make a fair and just appraisal. Too often evaluations are not made until the programs are in serious trouble.

Evaluation Serves A Purpose

An evaluation of the Mt. Vernon High School vocational agriculture program was conducted primarily due to the belief of the local teachers and administrators that such a process should be instrumental in program planning and for the projection activities. Since the program of vocational agriculture had not been formally evaluated for some time and since certain program adjustments seemed apparent, a complete program evaluation appeared appropriate.

In initiating the evaluation process, the local vocational agriculture teachers, the high school principal, and the assistant state supervisor of agricultural education discussed the evaluation process to be employed. During this discussion three important aspects of the evaluation were reviewed: what specific purposes was the evaluation to fulfill; who was to conduct the evaluation; and what standards or criteria would be used in the evaluation process.

After discussing these factors and consulting with evaluation specialists at The Ohio State University, a procedure was agreed upon to carry the evaluation to completion.

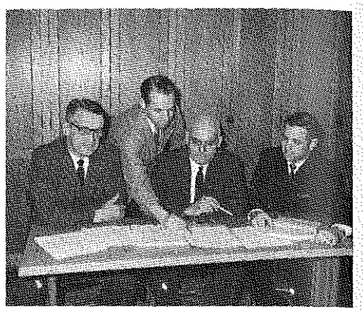
Objectives of the Evaluation

An official committee consisting of the teachers, administrators, and assistant state supervisor determined the objectives that the program evaluation should fulfill. Once these objectives had been identified they were reviewed and finalized into specific statements as follows:

- To appraise the local program with respect to:
  - —the curriculum
  - —classroom instruction
  - —individual and small group instruction
  - —the FFA organization
  - —the young and adult farmer program
  - —public relations activities
  - —school and community relationships
- To involve key lay people and administrators in the review and projection of the local program.
- To provide direction and guidance for a compatible relationship with the newly created joint vocational school.
- To determine what program changes might be necessary upon completion of the new comprehensive high school building presently under construction.

After the purposes of the evaluation were finalized, each member of the planning committee was assigned the responsibility for developing a guiding statement and evaluative criteria for the specific areas to be evaluated.

The planning committee met numerous times during the months of October, November, and December



Mt. Vernon High School Principal, Clifford Jump (second from left) discusses the evaluation instrument with vocational agriculture teachers C. R. Fridline and C. L. Zimmerman and assistant state supervisor Darrell L. Parks. Mr. Zimmerman and Mr. Parks are co-authors of this article.

(1967) to formulate and finalize plans for the formal evaluation process.

Selection of the Evaluating Committee

In order to make a fair and impartial evaluation of the department the initial planning committee decided that the evaluating committee should be limited to from ten to fifteen members and these people should represent a cross section of the Mt. Vernon school district. One of the teachers of vocational agriculture prepared a list of names of thirty different individuals along with a summary of their qualifications. This list was submitted to the school superintendent who was then asked to make the final selections.

The people who were finally selected to serve on the evaluating committee included the following: four parents of vocational agriculture students (two mothers and two fathers); one young farmer; two adult farmers; one person representing business; one person representing agri-business; the county extension agent; the assistant

Members of the evaluation committee listen intently to a presentation being made regarding a phase of the vocational agriculture program.

"Appraisal of the vocational agriculture program takes place every day. Informal evaluations are often made without an understanding of educational aims and without sufficient evidence to make a fair and just appraisal."

high school principal; one person representing the high school guidance department; one board of education member; the curriculum director for the Mt. Vernon Schools; the assistant superintendent of schools; the superintendent of schools (ex officio).

The members of the evaluating committee were contacted by letter and later by follow-up phone calls and asked to serve on this committee. These contacts were made by the superintendent of schools.

The Evaluation Procedure

The first meeting of the evaluating committee was held the afternoon of January 4, 1968. Thirteen of the original fifteen members selected to serve on the committee were present. Attending this meeting also were the vocational agriculture teachers, the high school principal, and the assistant state supervisor of agricultural education.

During this meeting introductions were made by the school superintendent who also explained the purposes and objectives of the evaluation. The supervisor presented an overview of the state and local programs of vocational agriculture and explained how these programs should be designed to fit into programs that were to be offered in the joint vocational school. He also outlined the procedures of the evaluation process.

The school principal presented the evaluative instrument and, with the teachers of vocational agriculture, distributed some materials for use by the committee in conducting the evaluation.

The second meeting of the evaluating committee was scheduled for the afternoon of January 17. This allowed a period of nearly two weeks during which the committee members were asked to make a detailed study of the evaluative instrument and the descriptive material. They were also asked to take time during these two weeks to visit the vocational agriculture teachers' classes, to attend an FFA meeting, a young or adult farmer meeting and to make other observations and ask questions concerning the department.

During the second meeting of the evaluating committee the teachers and the principal left the room but were available to answer questions or supply additional information. The assistant state supervisor of agricultural education acted as chairman at this meeting. After lengthy discussion and further examination of the evaluative material, the ten members who were present at this meeting completed the evaluative instrument.

Completing The Evaluation

One week after the second evaluation meeting, the initial planning committee met to analyze and interpret the evaluation committee's findings. From these findings a written summary was prepared including recommendations for the future operation of the vocational agriculture program.

The areas of curriculum, classroom instruction, the FFA, and school and community relationships were rated high by the evaluation committee. Committee members expressed their feelings as to the adequacy of these areas with a unanimous rating of GOOD on the evaluation scale. However, reference was made to the fact that the vocational agriculture teachers needed constantly to assess these areas in terms of appropriateness and adjust them according to the needs of the students and the agricultural community.

Based upon the results of the evaluation, suggested changes included:

- Additional time allowances in the total program for individual and small group instruction of vocational agriculture students beyond the regular classroom instruction period.
- The organization of a county-wide young farmer chapter.
- An improved public relations program including news articles related to students' occupational experience programs as well as classroom and shop activities. In addition, students should be encouraged to make quality exhibits at the state and county fairs and participate more actively in other public and community activities under the auspices of the FFA.
- Repeat the formal evaluation process in three to five years.

An Effective Process

The evaluation of the Mt. Vernon High School vocational agriculture department proved worthwhile to both the department and the high school. It not only provided valuable insight to future program direction, but also served to better acquaint the total high school and agricultural community with the purposes and objectives of the vocational agriculture program.

The expression by the school administration that this evaluation technique had served as a pioneering step towards evaluating other departmental programs in the school reflected their feeling toward such an endeavor. Also, members of the evaluation team expressed their pleasure in serving on the evaluation project and indicated a better understanding of the total vocational agriculture program. Finally, the vocational agriculture teachers were pleased with the results and were convinced that their efforts were justified in terms of the results of the evaluation.

Important Innovations in Agricultural Education, 1960-1967

CHARLES C. DRAWBAUGH, Teacher Education
Rutgers-The State University, New Jersey

The 1960-1967 quest for change in agricultural education may in retrospect have been sufficiently productive of innovative endeavors to label the era the "Agricultural Education Revolution." During this somewhat limited period of time, leaders in agricultural education intensified their efforts to modify, rearrange, extend, magnify, combine, substitute, or in other ways update objectives, facilities, curriculums, learning aids, instructors, and other components of what was previously a most successful and respected but somewhat occupationally confined training program. The Vocational Education Act of 1963 became law in a climate in which there was not only unrest and impatience, but also a determination to upset the status quo in favor of progress and expansion necessary to meet the needs of the agricultural world of work.

Training for Off-Farm Agricultural Occupations

An important innovation in agricultural education during the past seven years was the acceptance and promotion of the idea to expand programs to include training for off-farm agricultural occupations. For the first time curriculum researchers attempted to identify on a large scale competencies and skills needed by workers in agricultural occupations common to the nonfarm sectors of our society.

At first it seemed an impossible task to organize the proposed broadened program into manageable instructional areas. Out of necessity the cluster concept was conceived as a sound approach to teaching knowledges and skills common to a family of agricultural occupations. The major instructional areas have been refined to include agricultural production (farming and ranching), agricultural supplies, agricultural mechanics, agricultural products (processing and marketing), ornamental horticulture, forestry, agricultural resources, and other agriculture.

Vocational educators in agriculture met the challenge to train for off-farm agricultural occupations. Teacher education in agriculture was adjusted to prepare instructors for teaching in the new instructional areas. New facilities, such as greenhouses and laboratories, were built; courses of study were developed; and closer working relationships were cultivated with other educators—men in other disciplines, government personnel, and businessmen. As a result of the implementation of new training programs, youth and adults across the nation are receiving pre-vocational, vocational, and technical training for off-farm agricultural occupations.

Charles C. Drawbaugh

This article is from a presentation before the Agricultural Education Division, American Vocational Association, December 1967. Dr. Drawbaugh is Associate Professor of Education at Rutgers — The State University, New Brunswick, New Jersey.

Supervised Practice in Vocational Agriculture

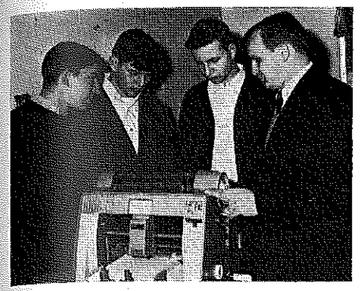
Supervised practice in vocational agriculture has changed in some respects and remained the same in others during the past several years. The indices of articles in *The Agricultural Education Magazine*, 1960-1967, revealed a changing terminology—a clue to innovation. The subject area "farming programs" was changed to "occupational experience" and later to "supervised practice."

Supervised farming programs were not appropriate for providing work experience to students preparing for off-farm agricultural occupations. The task at hand was to adapt or adopt an instructional technique which would provide meaningful work experience in off-farm agriculture. Cooperative work experience, a proven training technique used by distributive educators for years, was reviewed carefully by agricultural educators. Pilot and experimental cooperative programs were established on a limited basis in many states.

The gap between innovation at the state level and implementation at the local level relative to this new approach to supervised practice is rather wide at this time. Published materials need to be synthesized into a single publication; pilot programs need to be carefully evaluated; and probably most of all, local teachers need to be helped to make a beginning and advance toward establishing cooperative occupational experience programs in their schools.

Many and Varied Kinds of Teaching Materials

Out of necessity, stacks of teaching materials for programs of vocational education in agriculture have been "cranked out" during the past several years. Off-farm agricultural occupations course outlines, modules, lesson plans, programmed materials, and transparencies for use on overhead projectors were produced quickly at a time when expansion of the total program demanded them. A common aim of persons preparing instructional materials was to publish refreshingly new and excitingly different teaching materials.



(left)

Students in an agri-business class are learning to use a machine to reproduce promotional materials. These prospective salesmen need to know about all kinds of busines machines and how to operate them.

(right)

The school is one place where students may be given occupational experience. Mr. William Smith, Teacher of Agriculture, Freehold Regional High School, Freehold, New Jersey, is supervising a student in the school nursery.

For the most part, the hastily prepared teaching materials were not based on job analyses, did not truly reflect group thinking, did not involve classroom teachers, and were not thoroughly tested for effectiveness in learning before they were disseminated. Under these demanding circumstances these undesirable shortcuts in the preparation of teaching materials can be partly justified. To disseminate new teaching materials universally, however, before they are evaluated or field tested is not an approved practice.

Production of new teaching materials must continue, but part of the immediate future must also be given to testing, evaluating, or otherwise appraising the recently published materials.

Levels of Occupational Education in Agriculture

During the early part of this decade, and previous to that time, education in agriculture was essentially vocational in nature. Presently vocational education in agriculture is being sandwiched, not uncomfortably, between an emphasized post-secondary or technical agriculture and an emerging prevocational occupational agriculture. Recent enrollment figures in agricultural education reflect the influence of multi-level occupational training. The increase in enrollment in agricultural education in the United States in 1963-1964 was 3.9 per cent; in 1964-1965, 3.1 per cent; and in 1965-1966, 2.2 per cent. The reported post-high school enrollment in 1964 was none while in 1966 the enrollment was 5,987 students.

The innovative concept is not that technical agricultural education in itself is new, but rather the momentum it has attained in recent years in terms of numbers of programs established and in enrollments proclaimed throughout the nation. Recruitment of students is a major task even though the supply of trained technicians is not meeting the increased demand. The trend is to standardize curriculums, teacher qualifications, and other elements of the programs as this level of agricultural education progresses and matures.

The expanded program in agricultural education at the pre-vocational occupational level provides training for disadvantaged youths in one setting and for academically talented students when in the context of enrichment courses. Pre-vocational or general agriculture has been taught to introduce students to agricultural occupations, to develop an appreciation of the basic industry, and to provide systematic vocational guidance.

Vocational educators have not been sympathetic to pre-vocational occupational education nor have researchers accepted the challenge to study carefully this beginning level of occupational education. Both groups, however, do recognize that occupational education must be categorized into levels if individual needs of students are to be met. The idea which remains to be accepted and adopted by our leadership is that vocational educators would do well to identify with quality programs at all occupational levels rather than with certain selected levels of occupational education in agriculture regardless of the quality of the programs.

Summary

Four areas of innovation and change in agricultural education have emerged during the present decade. Training for off-farm agricultural occupations was thrust upon agricultural education as a new responsibility; supervised practice was reorganized to include cooperative occupational experience in addition to farming programs; many and varied kinds of teaching materials were created using new content, format, and style; and some vocational educators began to envision vocational education as multi-level occupational education.

Change is inevitable. Vocational educators must point the direction they wish it to go.

Themes for Future Issues

July	***Agricultural Education in Programs Involving Other Vocational Services***
August	***Adult Education***
September	***Agricultural Education for Persons with Special Needs***
October	***Agricultural Education in City Schools***
November	***Supervision in Agricultural Education***
December	***Supervised Occupational Experience in Agricultural Education***

Guidelines for Evaluation of Local Programs of Vocational Agriculture

HAROLD M. BYRAM, Teacher Education
Michigan State University

Evaluation of programs of occupational education is not a simple matter. It is not my purpose, however, to make evaluation appear complex and difficult. I choose to discuss only selected aspects to help clarify our thinking about evaluation.

I am convinced of one thing: An occupational education program in a school should be evaluated in its totality. The appraisal of a program of vocational agriculture would not be overshadowed nor reduced in importance by a total school effort at evaluation. On the contrary, a total school approach should provide status, contribute important information, and lend support to such an evaluation.

Purpose and Process of Evaluation

The improvement of any program should begin with evaluation. In order to make a decision concerning the continuation of a particular effort, we need to find out the extent to which the pre-determined purposes of this effort have been achieved.

Programs of vocational agriculture are being and have been evaluated, whether we realize it or not, by the people whom they are supposed to serve. These people may be obtaining an accurate assessment of the programs or an inaccurate one, but they are doing it, like it or not. State and national leaders should continue the evaluations they are expected to make. But they should do this within the framework of state and national standards and expectations. Evaluations of local programs should be the concern of those affected by them (students, alumni, parents, employers) and other citizens and of those involved in conducting the programs (teachers and administrators).

"How well is the program accomplishing what the people supporting it want it to accomplish?" To answer this means that the school people and citizens need cooperatively to set their own goals and objectives. They ought to seek help in doing this from whatever source is appropriate.

The Strategy of Evaluation

Whether the local school undertakes a comprehensive evaluation and has an advisory committee to work on it or not, I would insist that the local teachers of agriculture will have to assume the initiative in requesting approval for organizing and utilizing an advisory committee of citizens in the evaluation. Such a committee should be asked to assist in the formulation of broad goals and/or objectives of the local program and in the selection of criterion questions to be answered. I shall suggest some criterion questions, but others certainly could be added.

The strategy is this: First establish the criterion question. Having done this, a decision should be made as to what information would need to be assembled to help in arriving at an answer to the criterion question. This information would consist largely of evidence taken from records or from people who have been affected by or involved in the program. Cumulative records and follow-up surveys of former students are useful information. The advisory committee may assist in gathering appropriate information. Finally, the advisory committee should assist teachers in deciding what the evidence reveals on each aspect of the criterion question and help in arriving at an answer to the general criterion question.

Suggested Goals

Let us now propose some goals that might be suggested by an advisory committee and the teachers of agriculture. Appropriate criterion questions for each goal are indicated on the next page. One goal might be *high quality instruction.* All local programs should have provisions for assessing quality of on-going instruction.

Harold M. Byram

This article is from a paper presented by Dr. Byram at the Central States Seminar for Teacher Educators and State Supervisors of Agricultural Education, February 22, 1968, Chicago, Illinois. A copy of "Guidelines for Evaluation of Local Programs of Vocational Agriculture, Part I Assessment of Outcomes" may be obtained from Harold M. Byram, College of Education, Michigan State University, East Lansing, Michigan.

A second goal is *effective vocational and educational guidance of students.* Another goal could be that of *making instruction available to all those who can profit from it.* Since vocational agriculture is an elective program, selection of students is possible and effective guidance is necessary. If students who possess qualifications for enrollment are not enrolled, this shortcoming needs to be noted.

A traditional goal has been that of *successful placement and advancement in an occupation in agricultural production.* At least this would apply to those students who have this as an occupational objective. Competencies possessed have a close relationship to success and advancement, thus a comprehensive list of these competencies would be needed to check this criterion question. Any good program of vocational education, together with a good general education program, should contribute to employability. A goal of a successful record of employment of former students is just as realistic in agriculture as in any other vocational field. So a criterion question is suggested pertaining to the *employment of former students in off-farm jobs.*

It is not realistic to hope that one could teach everything students will need for life. Rather, the effective teacher creates an appetite for more learning. More than this, he helps develop those basic learnings that will make subsequent study and learning more profitable and effective. The goal suggested is that the student will have a good record of *continuing education.* In the future, occupational success in agriculture or any other field will depend on continuing education to help keep the individual up to date.

Criterion Questions for Evaluation of Local Programs of Vocational Agriculture

I. Has quality control been established and exercised?

II. Are students making realistic occupational and educational choices and plans?

III. Have the students enrolled in vocational agriculture included all those who have a potential for success in agricultural occupations?

IV. To what extent is entrance to and advancement in production agriculture characteristic of former students who had this as a goal?

V. Do former students have a record of successful employment in jobs off the farm?

VI. Are former students continuing their education?

The Process

We now turn to the procedures for arriving at the answers to the criterion questions. Let us take the first one: Has quality control been established and exercised?

Quality Control. The evidence to be gathered would be three-fold. First would be adherence to quality of student achievement in laboratory, shop, and classroom. Second would be evidences of quality in farming programs and measures of quality in on-the-job learning in part-time employment. Teacher and employer ratings of job performance and employers' or supervisors' rating on progress are appropriate. Evidences of student satisfaction and interest also could be gathered. Third would be evidence of individual and group achievement in the FFA and other organizations.

Occupational and Educational Plans. Much recorded information is or should be available to evaluate students' choices. Information needed includes scholastic aptitude, test results, and high school grades. Realism of educational plans for continued study can be checked by finding information on financial resources of students and parents and the availability of training desired by students. Relation of vocational choices to employment opportunities is difficult to assess but teachers should try to balance opportunities against aspirations.

Potential for Success in Agricultural Occupations. How do we determine whether all who can profit from instruction are enrolled and vice versa? The proportion of students desiring to enter production agriculture who meet the criteria for those with such a goal could be determined. Studies show these criteria to include interest, available facilities for supervised practice, and placement and advancement opportunities. The proportion of first-year students continuing through subsequent courses is another indication. Other information needed would be the proportion of students who meet criteria for those with other occupational goals in agriculture. The proportion of qualified out-of-school youth and adults enrolled in appropriate courses should be considered. Vocational education programs have been pointed to as being of special value to persons who are handicapped, disadvantaged, or culturally deprived. The proportion of these students who are enrolled should be known.

Advancement in Production Agriculture. Information needed for this criterion question falls into three categories: First is the proportion of those interested in entering who have been placed in production agriculture; of those who have already entered the proportion that has moved from one status to a higher one; and finally there is need for an appraisal of the level of competencies possessed by former students.

Successful Employment in Off-Farm Jobs. Evidence pertaining to this criterion question falls into three categories: Jobs held since graduating or leaving school; job satisfaction; and employer satisfaction with employees. Information needed about jobs held since leaving school includes consistency in type of work in jobs held, tenure and permanency in jobs held, advancement attained in the work, and the extent to which the job utilizes training and experience in agriculture.

To get at job satisfaction we would use questions such as: How well does he like his job? How much of the time does he feel satisfied with his job? How does he feel about changing his job? How does he think he compares with other people on how he feels about his job? and Is his job one in which he can use competencies he possesses? Evidence of employer satisfaction can be gathered either through supervisors' ratings or through interview. Some appropriate questions are: How well does the employee adjust or adapt himself? Does the worker possess basic competencies needed in the job held? To what extent does the employee possess the specialized competencies needed in this agricultural business? and Is the worker making progress in your company?

Continuing Education. In gathering evidence pertaining to the sixth criterion question, we go back to records for survey for unrecorded information. What we need is first to determine the proportion of those engaged in agricultural production who are enrolled in part-time or supplementary programs. Second, we need to find out the proportion of former students enrolled in post-high school programs full time. Third, we need to know the proportion who are availing themselves of other opportunities for continuing education on a full-time or part-time basis.

(Continued on page 289)

Floyd G. McCormick

Dollars Count in Assessing the Effectiveness of Adult Education

FLOYD G. McCORMICK, Teacher Education
University of Arizona

Farm operators enrolled in Farm Business Planning and Analysis programs in Ohio are beginning to reap the benefits derived from an intensive study of the economic dimension of their farm businesses. After attending adult classes for over three years, thirty farm operators are now realizing more than a $50.00 increase in family labor and management income for every one hour they have spent learning about their farming operations.

These farmers initially enrolled in Farm Business Planning and Analysis programs in the fall of 1963. Diligently they have attended monthly instructional meetings dealing with keeping, summarizing, analyzing, and interpretating farm business records. Through year-round supervision on their home farms by vocational agriculture teachers, they have spent additional time discussing and solving their accounting and decision-making problems.

We are constantly searching for ways to evaluate the effectiveness of educational programs. In evaluation we are concerned with both the process and the product. The effectiveness of teaching has been and always will be difficult to assess. It is not often that tangible evidence of these efforts can be uncovered. But whenever teaching and program effectiveness can be based on objective results, a realistic measure can be established. Such evidence seems to exist for Farm Business Planning and Analysis programs in Ohio.

Long Range Instructional Program

The Farm Business Planning and Analysis approach for teaching farm management to young and adult farmers provides a realistic and logical procedure to help farm operators learn the pertinent facts about their farm businesses. The program is developed around the keeping of complete farm accounts and the summarizing, analyzing and interpretating of business accounts kept by farmers enrolled.

The first year of instruction deals with the keeping of complete farm accounts suitable for summary and analysis purposes. The second year provides for an analysis and interpretation of the farm accounts kept during the first year. The third year directs attention to farm planning and reorganization in the light of the strengths and weaknesses synthesized from business analyses of previous records. During the second and third year, the program includes a continuation of record keeping and analysis.

Two Year Growth in Volume and Efficiency

Data from analyses of the records of the thirty farm operators who had completed three years of instruction in Farm Business Planning and Analysis indicate growth in the volume and efficiency of their farm businesses. The average annual gross income of these farmers increased from $17,717.35 in 1964 to $30,524.32 in 1966 — an overall average increase of over 70 per cent during the three-year period. Likewise, net farm income shows an average increase of $8,888.10 (from $5,790.22 to $14,678.32) while the average family labor and management income increased over 150 per cent (from $3,820.19 to $9,824.92).

Relative to improved economic efficiency, it can be noted from the following data that the percentage of gross income required to pay for cash operating expenses decreased 10.1 per cent during the period between 1964 and 1966. On the other hand, the average return to labor and management for the 30 farm operators increased 10.9 per cent. In essence, this means that the farmers were realizing in 1966 almost 11 cents more return for their unpaid labor and management for every $1.00 gross income than they did in 1964. Couple this with the fact that these thirty entrepreneurs are "grossing" more income annually, it adds up to a significantly more profitable livelihood for them and their families. Relative to dollars, this is a real objective measure of the effect of this type of educational program.

Percent of Gross Income to Pay:

	1964	1965	1966
Cash operating expenses	45.9	36.8	35.8
Return to labor and management	21.6	35.1	32.5

An analysis of the farmers' records revealed other measures showing improved performance and efficiency in other facets of the farm businesses. For example, gross income per crop acre was more than doubled; power and machinery costs were reduced by $3.70 per crop acre; and the pounds of pork sold were increased more than 150 pounds per litter.

Method Used to Equate Income Values

Although there is evidence of significant increases in actual income during the three-year period, how much of this increase was due to higher prices received in 1965 and 1966 over 1964 prices? Statistics show that the average price received by Ohio farmers for livestock on the hoof increased during the three-year period, especially the price received for swine. As a means of arriving at a more equitable measure of the overall growth in volume and efficiency of the thirty farm businesses, a method was developed to equate 1965 and 1966 average prices received by the thirty farm operators with 1964 "base" prices.[1] Adjustment percentages of 9.62 and 3.31 were determined for 1965 and 1966, respectfully. In other words, the average income measures for 1965 were reduced by 9.62 per cent.

Adjusted Values for 1965 and 1966

The adjusted values still reveal significant growth in volume and efficiency of the thirty farm businesses. The adjusted gross income for 1966 was over 66 per cent higher than in 1964 (from $17,717.35 to $29,513.96). Adjusted net farm income in 1966 was $6,765.33 greater than in 1964. Adjusted family labor and management income showed an increase of 108 per cent over the 1964 base values (from $3,820.19 to $7,972.37).

The thirty young and adult farmers realized a significant increase in their economic volume of business and, at the same time, they were able to direct more of their gross income into their own pockets in the form of family labor and management income.

Educational Inputs

How much time did these farm operators invest in educational pursuits in order to realize the benefits cited? The average number of hours of instruction received are indicated below.

Year	Class	On-Farm	Total
	(average number of hours per year)		
1964	21.0	14.6	35.6
1965	28.0	15.0	43.0
1966	16.0	15.0	31.0
Total	65.0	44.6	109.6

For every hour of educational input the farmers realized, on the average, an increase of:

—$107.64 in gross income
— 61.72 in net farm income
— 37.88 in labor and management income.

Remember, these figures have been adjusted to take into account differences in prices received for the major commodities produced. The adjusted increases are tangible evidence of the effectiveness of instruction in Farm Planning and Analysis.

Summary

Although the overall results of this study of thirty Ohio farm operators enrolled in Farm Business Planning and Analysis programs were quite revealing in terms of increase in income and greater efficiency in controlling variable cash expenses, it is difficult to single out what specific factors made the most significant contribution. Was it due to the fact that these farmers were keeping complete farm accounts for the first time? Did they have a greater appreciation of business records? Through attending class, did they have a better understanding of how to use their farm business analyses to uncover the strengths and weaknesses in their businesses? What effect did the added stimulus of having a vocational agriculture teacher who was willing to help the farmers with management consultation have? Were results due to the type of instructional program—one that focused on the real problems farmers were confronted with? Did the program help farmers identify realistic farm and family goals for the first time?

Whatever the factors, it is evident that programs in Farm Business Planning and Analysis in Ohio are making a great contribution. And, of more consequence, the effect of these programs can be objectively evaluated since dollars count in assessing the effectiveness in teaching young and adult farmers.

[1] To determine the "adjustment percentage" for 1965 and 1966, the percentage of price change for each major commodity was multiplied by the percentage of the average total cash receipts that the particular commodity contributed to the total farm business. Thus an adjusted basis, expressed in terms of percentage, was calculated for each commodity. It was found that the average cash receipts from crop commodities on the thirty farms were comparable in 1965 and 1966; therefore, adjusted bases for these commodities were not determined.

RECRUITMENT SLIDES AVAILABLE

This month's "Stories in Pictures" features selections from the slide series "A Future For You — Teaching Vocational Agriculture." This slide series includes pictures from six different states and gives an authoritative account of the work of the teacher of vocational agriculture. It was designed for use by vocational agriculture teachers in presenting to students the opportunities in teaching vocational agriculture.

The slide series was prepared by the Professional Personnel Recruitment Committee of the Agricultural Education Division of the American Vocational Association. The series presents the latest in factual information regarding the supply and demand of teachers.

The National Committee distributed sets of these slides in February to each of the states. Sets were sent to head supervisors, head teacher educators, and chairmen of state recruitment commissions. A number of states have added slides of their own to the series in order to make them more applicable to local conditions.

The Professional Personnel Recruitment Committee hopes that each teacher will own or have access to a set of these slides during the 1968-69 school year. The slides provide a teacher with information on recruitment packaged in an attractive manner which can form a basis for worthwhile discussion of teaching possibilities.

The set of thirty color slides together with the script can be obtained from World in Color Productions, Box 392, Elmira, New York 14902. A payment of $3.80 should accompany the order.

James P. Clouse

Summer Internship in Teacher Education

E. E. CLANIN and JAMES P. CLOUSE
Teacher Education, Purdue University

E. E. Clanin

The teacher education staff at Purdue University and the supervisory staff of the State Department of Public Instruction in Indiana have cooperatively sponsored an internship program for prospective teachers of vocational agriculture for the past two summers. The program is being continued during the summer of 1968.

We have felt for some time that students have often graduated and been certified as teachers of vocational agriculture without having had adequate experience with the teaching activities conducted during the summer months. This feeling arose from our contacts with and attempts to help beginning teachers. Study of the problem indicated that over the previous ten-year period almost 40 per cent of our trainees had not been vocational agriculture students in high school and lacked even that experience as a basis for understanding the summer program of the vocational agriculture teacher.

The primary purpose, therefore, of the summer internship program is to offer a more complete set of pre-service experiences for prospective teachers of agriculture.

The Program

The steps taken in establishing the program were as follows:

• Prospective training centers were identified in joint meetings of the teacher education and supervisory staffs. The decision to include a center was made after examining the available records concerning the teacher's summer program activities. An effort was made to locate centers in each geographical area of the state.

• After selecting the interns the Head State Supervisor contacted superintendents of potential centers in the areas requested by the interns to see if they and their vocational agriculture teachers would cooperate in the program. Those who responded affirmatively were listed for future reference.

• The program was financed from funds provided as a result of the Vocational Education Act of 1963. It was designated a new program and developmental in nature. Sufficient funds were made available to pay $100 per week to each intern for ten weeks the first year and one-half of the necessary travel costs while on the job. The local community paid the remainder of the travel costs. There were seven interns assigned the first year (1966). The second year the period was extended to twelve weeks and ten interns were assigned. We anticipate twelve interns for twelve weeks in 1968.

• The interns were designated as students who would do their regular student teaching during the next academic year or a graduate student who was not certified for teaching. The interns were all notified of the details of the program in classes on campus, in Agricultural Education Society meetings, during individual counseling periods, and by letter urging them to contact a member of the faculty committee.

• Each year there were more than twice as many applicants as there were schools available. Unfortunately, the decision concerning approval of cooperating centers was delayed until late in the spring because funding was not approved until late and several interns withdrew their names from consideration because they found more lucrative summer jobs during the spring vacation period. This year, we started earlier with the hope that this factor will be of less influence upon the final selection. For some of the interns, centers could not be found in the geographic area in which they had to reside.

• As has been indicated, factors such as geographic location and cost of housing were considered in making the assignment of the interns. The faculty committee also attempted, where possible, to match the student's experience and need with the possibilities for activity which would fulfill the need. In other words, an attempt was made to match trainees and departmental programs.

• An orientation meeting of interns, administrators, and teachers has been held just before the beginning of the intern period each year. Discussion of purpose, contractual obligations, records to keep, and similar topics were discussed. Arrangements were made for a minimum of three supervisory visits by the state staff to each intern and center during the training period. Two visits were to be made by teacher educators and one by a state supervisor. To aid in evaluation, the same individuals were assigned each year to visit all of the interns.

• Each intern was required to keep a type of diary of activities. Each staff person who supervised the interns was asked to make a narrative report of his observations and suggestions for improvement. The regular teachers and administrators were encouraged to give their appraisals of the worth of the program to them as well as to the intern.

Evidence of Success

Our experience with the summer intern program has been very satisfactory. We recommend it to others. The interest and desire to partici-

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Evaluation as a Means of Advancing Vocational Agriculture

HOWARD H. CHRISTENSEN, Teacher Education
University of Nevada

Howard H. Christensen

Evaluation is an effective tool for stimulating and promoting the quality of vocational agriculture. We have been working for the past two years in our state to upgrade the quality of our vocational agriculture departments by assisting the vocational agriculture teacher and his administration to analyze critically the effectiveness of the total program. As a by-product, it also has been a means of upgrading other teachers by involving them in the evaluation of another department.

Meaningful Questions

This year we have evaluated two departments. The evaluation team includes vocational agriculture teachers, staff members at the university, and the state supervisor. The primary problem in evaluating a department is to educate the group to ask discerning questions. It is a challenge to the group to ask meaningful questions and to study the essential parts of the program instead of the minor and more obvious elements.

The Evaluation Process

The first step in training an evaluation team is to get a clear understanding of objectives, ways and means, and outcomes of the department. One of the best ways of teaching the process of evaluation is by use of economic terms. The school is the educational processing plant where inputs are fed into it. The quality and quantity of input directly influence the quality of output (students). Often we tend to judge a teacher without considering the inputs. He has no control over the quality and quantity of the students which come to the school or the total economic and social conditions of the school district. These inputs, the teacher and administration, and the facilities and equipment for teaching provided by the taxpayer determine largely the outcomes of the school.

Standards

One of the difficulties in evaluating a given department, particularly in Nevada, is there are very few departments that are directly comparable. The problem then is to measure a department against valid predetermined standards. In order to do this we have developed an appraisal instrument for evaluating vocational agriculture departments. We have followed the procedure developed by Woodin and Wilson at The Ohio State University. The appraisal instrument was developed listing the characteristics of successful departments. The total program can be divided into seven areas. The instrument contains standards for rating each area.

The determination of the standards that a department or an activity is measured against is the most important part of the evaluation. Our experience indicates that until those who are doing the evaluation have a clear concept of the standards or factors that make a successful vocational agriculture department it is impossible for a good evaluation to be completed. We have tried a number of ways of educating teachers to be able to analyze critically the characteristics of a good department. Our first activity was to take a trip into California to visit three departments representative of different types of programs. The teachers showed how they are attempting to solve the problems which have developed in vocational agriculture in the last five or six years. The field trip indicated that creative and resourceful teachers could gain success with distinctly different apporaches to the same problem. After a series of conferences with teachers, we were able to undertake an evaluation of a department.

Procedures Used

The procedure used followed a series of steps. The principal and vocational agriculture teacher provided a list of people to form a citizens' panel to discuss the value and future development of the program. We made a specific effort to include the guidance counselor, the high school principal, the superintendent, a school board member, parents, current and former vocational students, and members of the advisory board on the panel. This made a group of about ten local people and about fourteen from outside the community.

On the assigned date the vocational agriculture teachers within a radius of 300 miles met on a Saturday morning at the school along with the Agricultural Education staff of the University of Nevada and the state supervisor. In

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Elko County vocational agriculture teachers during the evaluation of the Wells department in February 1968. Left to right, Merl Jessop, Elko; Don Elser, Elko; Robert Zander, Superintendent Elko County Schools; James Connelley, Owyhee; Lynn Hughes; and Don Proffit, Owyhee.

The Function Approach for Identifying Curriculum Content: Part II

RAYMOND M. CLARK and O. DONALD MEADERS
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Michigan State University

In Part I of this article, published in the May issue of The Agricultural Education Magazine, *the authors defined and described the function approach for determining curriculum content. The function approach to curriculum development is based on and is an outgrowth of research conducted at Michigan State University.*

REVIEW OF RESEARCH

During the period from 1958 to 1967, seven studies of vocational competencies needed for employment in agricultural industries were completed at Michigan State University. Each of these studies tested and further refined the function approach for determining the content of educational programs in vocational and technical education.

Non-Farm Agricultural Business

The early study by Clark[1] identified the need for training workers for non-farm businesses in areas such as English, mathematics, accounting, public relations, and other areas in addition to competence in farm skills. The study revealed that adequate training for employment in agricultural businesses would require content from many of the traditional disciplines organized in a manner that was meaningful to students with fairly specific occupational objectives.

While Clark's study did not identify the specific functions of a business, it did reveal the need for further studies of activities performed and competencies needed in non-farm agricultural businesses and industries. The study emphasized also that programs designed to prepare persons for employment in non-farm businesses must include content from more than one of the traditional vocational education areas and that much of a student's "academic work" must be taught in a manner which contributes to the vocational competency of students.

Dairy Equipment Industry

Gardner,[2] studying the competencies needed for initial employment in the dairy equipment industry, investigated the use of a jury or panel of experts as a means of obtaining information about jobs and workers in non-farm agricultural occupations. He demonstrated that a panel of experts was an effective method of providing information that could be used as a basis for developing training programs. Gardner concluded that the clusters of competencies identified by experts in the industry provide a basis for the development of operationally defined objectives for training programs that contribute to the preparation of workers for initial employment.

The Feed Industry

Clark[3] identified the following functions as being performed in the feed industry:

processing	sales
service	office practices
public relations	purchasing
transportation	research
maintenance	

For each function of the feed industry, a list of competencies was developed through the assistance of specialists and persons in the industry. As studies to be reported later reveal, the authors feel that the competencies listed in this study might be better described as "activities" and that "competencies" should be reserved to represent the knowledge, understandings, and abilities needed to perform the activities.

The lists of competencies developed for each function were submitted to representatives of the feed industry with the request that they rate each in relation to its importance to the industry. For those competencies deemed to be important by representatives of the feed industry, the investigator listed the understandings, skills, and abilities needed to develop each competency. The lists of understandings, skills, and abilities were validated by teachers of vocational agriculture in Michigan.

Albracht[4] used the sales function of the feed industry for testing certain aspects of the function approach for determining curriculum content. A jury of experts was used to identify nine activities that personnel perform in the sales function:

—assists farmers in planning feeding programs and trouble shoots feeding problems.

—assists local dealers in promoting the use of specific feeds.

—sells directly to the producer.

—assists the producer with problems of production.

—follows up results obtained by customers and reports these results to management.

—sells directly to the customer across the counter.

—solicits local dealers to sell the company's products.

—recognizes abnormal and detrimental practices and health conditions.

—assists local dealers in promotional campaigns and in conducting feed and grain clinics for livestock feeders.

Albracht then developed a list of competencies (knowledge, understandings, and abilities) needed to perform each of the nine activities. Specialists in feeding and nutrition, educational specialists, as well as representatives of the feed industry were asked to rate the importance of each competency for the performance of one or more of the activities of the sales function.

The Agricultural Chemical Industry

Christensen and Clark,[5] using techniques employed in the study of the feed industry, identified functions of the agricultural chemical industry and developed lists of competencies needed by workers in the industry. The investigators found that training programs to prepare individuals for technical, skilled, and semiskilled jobs in the agricultural chemical industry (below the manufacturing level) should include instruction in the following areas:

—crop and livestock production.

—forestry, nursery, and ornamental plant production.

—agricultural economics.

—chemistry; application of principles, food and drug.

—regulations, safety, and public liability.

—communication; oral communication, demonstration, visual presentation, written communication.

—mathematics and record keeping.

—human relations and personnel management.

—salesmanship.

—business organization and management.

—marketing, merchandising, and advertising.

—safety.

—plant operation.

—care, maintenance, and operation of equipment.

Farm Machinery Industry

Gleason[6] applied the function approach to the study of the farm machinery industry. To review briefly and to clarify the procedure used, the steps involved in the function approach are: First, a determination of the purposes of the industry which serve as the basis for identifying the *essential functions* performed in the industry; second, identifying the *activities* which must be performed in accomplishing each function; and third, identifying the *competencies (knowledge, understandings, and abilities)* required of persons who perform each activity. A jury of experts is used to verify the appropriateness of the substantive content identified.

Gleason's analysis of the management and service functions of the farm machinery industry led to the following implications that are particularly relevant.

—Occupational analysis through the function approach indicates the need for a strong background in general education.

—Comparisons of functions that are common to more than one industry and comparisons of activities common to multiple functions can be readily accomplished through the function approach.

—The function approach makes possible the identification of highly specialized knowledge, understandings, and abilities unique to specific functions of an industry.

Berkey[7] studied the functions performed at the retail level of the farm machinery industry. He clustered the activities into activity groups as follows:

—retail sales function: advertising, merchandising, selling, employee attitudes and habits, public relations.

—record and accounts function: personnel and employment records, tax and insurance records, advertising and merchandising, financial accounts, credit, warehousing and inventory control, secretarial activities, employee attitudes and habits, public relations.

Greenhouse Industry

Parsons[8] found that managers of greenhouses wanted greenhouse growers to have the following competencies:

—knowledge of plant parts, growth processes, and plant names.

—operational abilities including testing soil, operating equipment, sterilizing soil, propagating, handling chemicals, transplanting, potting, mixing soils, fertilizing, and controlling pests.

—understandings in the areas of crops including lighting effects, grading and packaging, life cycle of plants, humidity, cutting, budding, water requirements, and temperature.

—knowledge of greenhouse management including labor, analysis of production, and greenhouse layout.

Parsons did not follow the function approach. Instead he identified competencies needed by persons classified as greenhouse growers. The function approach would have determined the important competencies needed for performing the grower task and, in addition, would have identified contributions greenhouse-grower employees make to other functions of the industry.

SUMMARY

Educators recognize that students within a class vary greatly in background and ability. The function approach with its resulting lists of competencies (knowledge, understandings, and abilities) enables the teacher to take each student "where he is and carry him as far as possible up the ladder".

The function approach demonstrates

(Continued on page 287)

[1]Clark, Raymond M. "Need for Training for Non-Farm Agricultural Business." Staff study, College of Education, Michigan State University, 1959. See also: Clark, Raymond M. "Training for Non-Farm Agricultural Occupations." *Agricultural Education Magazine* 33:84-89; October, 1960.

[2]Gardner, Harrison. "Determining Competencies for Initial Employment in the Dairy Farm Equipment Business." Unpublished Ph.D. dissertation, Michigan State University, 1964.

[3]Clark, Raymond M. "Vocational Competencies Needed for Employment in the Feed Industry." Educational Research Service No. 22, College of Education, Michigan State University, 1965. See also: Clark, Raymond M. and Householder, William. "Sales and Service — Important Areas of Non-Farm Agriculture Occupations." *Agricultural Education Magazine* 37:169-170; January, 1965.

[4]Albracht, James. "A Process for Determining Vocational Competencies for the Performance of Essential Activities for the Sales Function by Sales Personnel in the Feed Industry, and the Loci at Which the Competencies Could be Taught." Unpublished Ph.D. dissertation, Michigan State University, 1966 See also: Albracht, James. "What Does It Take To Sell Feed?" *Agricultural Education Magazine* 39:118-119; November, 1966.

[5]Christensen, Maynard and Clark, Raymond M. "Vocational Competencies. Needed for Employment in the Agricultural Chemical Industry in Michigan." Department of Secondary Education and Curriculum, College of Education, Michigan State University, 1967.

[6]Gleason, William. "Functions of Industry Approach to Curriculum for Vocational Education." Unpublished Ph.D. dissertation, Michigan State University, 1967.

[7]Berkey, Arthur. "The Importance of Activities Performed and Functions of the Farm Machinery Industry as a Basis for Training Programs." Unpublished Ph.D. dissertation, Michigan State University, 1967.

[8]Parsons, Warren. "An Analysis of Training Needs and Employment Characteristics of the Greenhouse Grower in Three Metropolitan Areas." Unpublished Ed.D. dissertation, Michigan State University, 1966. See also: Byram, Harold, Lindstrom, Richard, and Parsons, Warren. "Training Needs of the Greenhouse Grower." *Agricultural Education Magazine* 39:236-239; April, 1967.

TESTING INNOVATIONS THROUGH RESEARCH

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Innovations are almost never evaluated on a systematic basis. The creators of innovative programs have little question about the efficiency of the changes they have introduced. They believe that the programs they have developed are the best possible under existing conditions, and in light of this assumed fact, systematic evaluation never occurs. In the absence of direct evidence, substitute bases for judgment are often used, and the merits of the innovative programs are said to be self-evident.

In general, evaluative research is applied research which has the purpose of measuring the effects of an operating program. Most discussions of research methodology deal with basic research. The purpose of this article is to lend support to the position that the scientific method is the only logical basis for all research. Therefore, it follows that all research must obey the same rules and utilize the same techniques. It has been said by some researchers that nothing is as practical as basic research or as impractical as purely applied research; therefore, the differences in the two types are of varying accents. Basic research stresses understanding rather than application, but one valid test of understanding is application.

Richard A. Baker

This article is from a paper presented by Dr. Baker to the Agricultural Education Division, American Vocational Association, December 1967. Dr. Baker is also Director of the Alabama Occupational Research Coordinating Unit.

Scientific Method

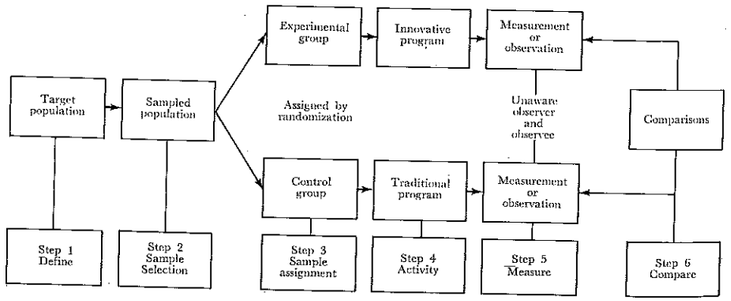
It it logical that evaluators consider the model of causation in attempting to test innovations. The model is conceived as a series of interrelated events joined by a series of intervening steps concerned with the measurement of relationships between an activity (an innovative program) and an effect (the results of the innovative program). In testing innovations, emphasis should be given to how much influence other activities (intervening variables) have on the outcomes of the innovative program. The test should be conducted over a period of time and its results compared with results of other groups under similar conditions.

An innovative test can take the experimental form of setting up equivalent groups with before and after measures (Figure 1). The test of performance is given by the comparable measurement of significant changes in behaviors between the two groups.

Since knowledge about learning in the social context is less than in the psychological context, many researchers in evaluation prefer a time-series observation design (Figure 2). There is little difference in the principles and sequence of the two designs. In the time-series design there is no group assignment. Observations are made before and after innovative activities are presented to the group. Measurements are then compared with group measurements in other schools. An effort is made to build into the test a means for accounting for any differences in the social forces which might have influenced the program.

Whether the experimental-groups design or the time-series design is used, the program should be duplicated in ten to fifteen randomly selected schools. The field testing of an innovation in one school is only a test of feasibility not necessarily of program performance.

Figure 1
PRINCIPLES AND SEQUENCE IN EXPERIMENTAL PROGRAM EVALUATION



Evaluative Criteria

The first step in the testing of an innovative program is the specification of broadly stated program objectives into observable and measurable criteria. Are we trying to change knowledge, attitudes, or behaviors, Who is the program trying to change? Are we seeking an immediate impact or do we wish to build toward postponed effect? Is the program intended to produce one change or a series of continuous changes? Is the program aimed at wide-spread or concentrated results? These types of questions are highly relevant in the specification of objectives in innovative programs. While some questions may be unimportant for program operation, they are extremely important in testing overall program performance.

Listed below are five evaluative criteria to be considered in the testing of innovative programs.

Criteria	Measures
Effort	Administrative records (Inputs)
Performance	Outcomes
Adequacy of performance	Adequacy for total need
Efficiency	Ratio of effort and performance
Process	Specific causes of success or failure

Effort is a measurement of the quantity and quality of activity. The testing of effort is based on capacity or resources available and is the simplest type of evaluation, since it is easier to maintain administrative records than to measure results.

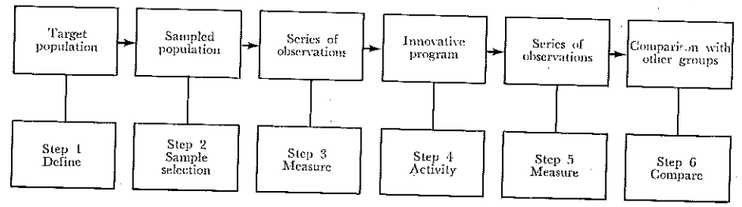
Performance is a testing of results of effort rather than the effort itself. A measurement of performance requires a clear statement of objectives in terms of outcomes rather than inputs. Few assumptions are involved in the testing of performance.

Adequacy of performance is a measurement of impact upon the total program. A program of high potency but low exposure as to the number of persons it touches will be necessarily judged ineffective although it shows effective outcomes.

Efficiency is determined by comparing different program approaches which usually represent a ratio between effort and performance. Cost-benefit ratios are extremely difficult to interpret in education, but nevertheless have both administrative and evaluative utility.

Process analysis is necessary in testing the success or failure of an innovation. However, an analysis of process coupled with a test of effort is simply a means of testing the feasibility of a trial. The testing of innovations should involve as many of the five evaluative criteria as possible. Often the innovative design limits data collection and does not allow for the examining of the reasons for success or failure; therefore, it is difficult to determine the degree to which success or failure was actually due to the program itself. Interpretation of the reasons for success or failure can be made only through an analysis of the innovative process.

Figure 2
PRINCIPLES AND SEQUENCE IN TIME-SERIES OBSERVATION EVALUATION



Summary

The testing of an innovation is the process of determining the results attained by an activity designed to accomplish some objective. The scientific method is the most promising means for determining the relationship of the activity to the objective in terms of measurable criteria.

The Function Approach for Identifying Curriculum Content

(Continued from page 285)

that workers at different levels contribute to the functions of the business or industry. For example, the delivery man influences sales, the telephone operator effects public relations, and the way a letter is written or the manner in which the repairman performs a service call influences the response of a customer.

The function approach also points out that specific jobs contribute to different functions of the industry. Examples include; the contribution of a researcher to the sales and public relations functions through his writing and speaking to customers, and the contribution of a service person to the research function through the reports he submits and to the sales function through records and reports.

This series of studies demonstrates that the function approach for developing training programs for non-farm agricultural business and industry is sound and workable. By using the function approach, educators should be able to provide new patterns for course content and new methods of organization for teaching. The function approach enables teachers and instructional materials specialists to select course content appropriate for prospective employees without confining instruction to any one of the traditional vocational areas. What is needed is an integrated program of instruction adapted to students' occupational objectives and to the needs of industry.

F. J. Doering

THE TERMINAL REPORT OF THE VOCATIONAL AGRICULTURE TEACHER

F. J. DOERING, Supervision
Wisconsin Department of Public Instruction

So many things I've left undone!
Like marching soldiers, one by one;
They pass before me in review,
The little things I meant to do!

So it is with so many of our very busy agriculture instructors. Finding time becomes the most important aspect of their lives. This problem is compounded when the teacher is offered a new position at some other school or in some other area of work. His concentration then turns to his new position and he forgets to do the necessary "little things" such as leaving a termination report for his replacement's benefit. Often his replacement is a beginning teacher somewhat bewildered by the vast array of problems facing him and quite unsure of job priorities. Wouldn't it be nice to find a complete termination report to guide this new instructor? Instead, in visiting our new instructors, we find fewer than half have been left anything of real significance in the form of a termination report.

The Termination Report

The following termination report is an example of useful and significant information for a new instructor:

"This report is based on the fiscal year July 1 to June 30. This sequence will be followed in outlining activities you should plan for in the coming year. My first suggestion would be for you to take a complete inventory in the classroom and shop. It is important for you to know what you have and what you will need.

Summer Months

"The second week in July you will be in Madison for the annual summer conference for vocational agriculture instructors. Make sure you attend the beginning instructor's meeting on Monday morning.

"Following summer conference, you should try to see and visit as many of your agriculture students as possible. Spend from one-half hour to an hour with each; don't stay overly long if they appear busy. In many cases, a call or postcard in advance is much appreciated.

"A milk testing schedule for the summer months will be found in the file in the summer program of work file. These students will need your immediate attention.

"In July or early August arrange a meeting with your new FFA officers and begin to plan your program of work. This should be followed shortly by a chapter meeting to plan for State Fair activities.

"August will be a busy month. Take some time to plan your course of study, get your facilities in order, the tools in shape, but don't neglect your visits, especially to the incoming freshmen students. The summer months are much more ideal for farm visitations than the busy school session.

"You will be asked to help at the county fair and you should plan to attend other area educational events. At all times make a concerted effort to become acquainted with people, especially those in the field of agriculture. Meet Mr. England, the newspaper editor, Mr. Hart at the local feed mill, and Mr. Rew, the implement dealer, to name a few.

School-Year

"In September, you will be busy getting established in your actual teaching schedule. Your summer program of work report is due in the State Office by September 15. Your FFA officers should help you plan for a top-notch FFA meeting for this month — remember first impressions are important. There will be an FFA Officer's Leadership Workshop held in the area — be sure you and your officers are in attendance.

"The 7th period of the school day is available to you for making farm visits. Make the best possible use of this time. Teacher's Convention and Thanksgiving makes November pass rapidly. In December, the FFA has traditionally cooperated with the FHA in sponsoring a Christmas dance — appoint your committee early. Shortly before Christmas vacation, have your students complete their occupational experience record books. This will give you needed information for developing the departmental annual report which is due in the State Office February 10. Remember, too, that the deadline date for FFA and Jr. Dairymen dues is December 1.

"The big event for January is the annual Farmer's Day celebration. This event is held in cooperation with the County Extension Office. The FFA has a display booth at this meeting. A special folder on this event will be found in the file.

"Another important event in January is preparation for the local FFA speaking contest. Your local winner will compete in the district contest in February. Host schools for this event will be found in the State FFA October Newsletter. Remember, the deadline for all FFA and Jr. Dairymen awards is February 1.

"National FFA Week has been

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BOOK REVIEWS

SERVICE MANUALS — SMALL ENGINES, SMALL TRACTOR, CHAIN SAW, OUTBOARD MOTOR. Kansas City, Missouri: Technical Publications, Inc. $4.95 each; (schools 20 per cent discount).

These manuals contain compilations of photos, drawings, technical information and dimensional data furnished by manufacturers of the products involved. These manuals, written in non-technical language, are concise and quite complete.

The *Small Engines Service Manual* (1966) contains 320 pages. The first thirty-two pages are devoted to engine fundamentals, followed by a four-page service shop-tool buyer's guide. Twenty-seven manufacturers of small engines and sixteen manufacturers of carburetor and ignition systems have information included in this manual. The current issue of this manual is in its eighth edition.

One hundred thirty-two pages make up the *Small Tractor Service Manual* (1965). Twenty-four pages are devoted to gas engine fundamentals. The manual contains data supplied by tractor and engine manufacturers plus sixteen service suppliers and component parts manufacturers.

The second or current edition of the *Chain Saw Service Manual* (1966), contains 216 pages. The first twenty-four pages are devoted to maintenance fundamentals. Twenty-seven saw and engine manufacturers and thirteen suppliers of components have data included concerning their respective products.

The *Outboard Motor Service Manual* (1967), is now in its fourth edition and is divided into two volumes. Volume One is devoted to motors rated below 30 horse-power and Volume Two is for motors 30 horsepower and above. The first section of each manual is devoted to the coverage of fundamentals of design and servicing. Volume One contains 240 pages and lists information from thirty-seven motor manufacturers and thirteen suppliers of components. Volume Two contains 208 pages and lists information from twenty motor manufacturers and thirteen suppliers of components.

All of these service manuals are well illustrated. They are to be highly recommended for group references and for individual use, especially where information on a wide variety of different motors and component parts is essential.

Guy E. Timmons
Michigan State University

DESIGNING EDUCATION FOR THE FUTURE by Edgar L. Morphet and Charles O. Ryan. New York: Citation Press (Division of Scholastic Magazines, Inc.), 1967. 3 vols. $2.00 per volume.

Designing Education For The Future, an eight-state project, is one of the most exciting and significant projects of our time. Twenty-four noted scholars and subject authorities have collaborated in this study. Their conference reports make up the subject matter of these three volumes.

Volume I examines the inevitable changes taking place in all areas of contemporary life — social changes that must be explored in depth if the future requirements and organization of education are to be properly identified.

Two companion volumes report on the many ways education will be affected by social changes, suggest ways of coping with new responsibilities and new demands, examine plans for effecting changes and improvements in education, and identify basic strategies and procedures and their applications to individual schools, local school systems, and state educational organizations.

These three timely, authoritative books merit careful reading by those who are responsible for planning, organizing, and improving education at all levels. The eight states included in the study are Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming.

Guy E. Timmons
Michigan State University

Guidelines for Evaluation

(Continued from page 279)

Conclusion

Vocational agriculture has reached a degree of acceptability today that it has not enjoyed for ten years. This presents a challenge to all agricultural educators to take a long hard look at local programs and at how they measure up to what they should be. We need to find out what it is that the public expects. The public will evaluate its programs. Teachers and administrators can help citizens in this evaluation.

Actually, the profession has a choice: to let others—the government, other agencies, or research institution—evaluate local programs or to help teachers seize the initiative in evaluation. Continued or increased local support for vocational agriculture can only be based on evidence that the output justifies the input. Evaluation of programs by the public and professionals in terms of needs and goals as they see them is essential. It is a challenging but exciting prospect. It is also certain to be a rewarding experience for those who do it well.

Summer Internship

(Continued from page 282)

pate in the program has increased despite the fact that many of the interns could have been employed at a higher salary for the summer. There is no course credit attached to the program. It is strictly an opportunity for the trainee to obtain desirable experience in areas of his own need and at the same time earn some money.

All seven of the first interns took teaching positions upon graduation. We will be interested to see if this outcome is continued in succeeding years. The interns seem to have much more self-assurance as student teachers and as beginning teachers. We have not decided whether it is best to place the intern for student teaching in the same community where he was an intern. There seems to be both advantages and disadvantages of such placement.

Some Suggestions

Some suggestions for developing an intern program are indicated by the following ideas which we have derived from our experiences to date:

- Local publicity in the cooperating center and the intern's home community seems to help keep interest and attitudes at a high level.
- The interns need to be encouraged to keep a complete scrapbook of pictures, notes, and clippings.
- The attitude level of the first year interns (1966) toward their summer intern program was higher after they went through the student teaching program than immediately after the intern program.
- One or two group meetings of the interns should be held during the twelve-week program.
- The interns indicated that they would have benefitted from more experience and practice in planning for the fall teaching program.
- The program or plan for each intern probably needs to be carefully developed on an individual basis so that he gets the maximum experience possible in the areas of greatest need. This activity will take more time and effort on the part of the supervisors and the cooperating vocational agriculture teacher.

Evaluation as a Means

(Continued from page 283)

the morning a discussion of the vocational agriculture program was held with the teacher leading the discussion. Also, facts and figures previously prepared by the teacher were studied. The appraisal instrument provided a guide for the discussion. The Research Coordinating Unit provided a luncheon for the group. A two-hour session was held during the afternoon where specific questions were asked for the panel members. On both occasions many questions were raised. The next step involved group meetings where the vocational agriculture department was rated and recommendations formulated for the final report to be submitted to the school administration.

Values of Evaluation

From our experience the process has been most beneficial and positive action has been taken by both the teachers and the school administration. The real value of the program is to enable teachers to make a critical analysis of their own programs. Another value is to train local school officials and teachers to ask for consultative help thereby preventing mistakes that seem to occur all too frequently. The procedure has one limitation in that only a few departments can be evaluated each year.

We found that in order for the state leadership to work successfully and consult intelligently with high school principals and guidance counselors we must have more specific information. We must become more knowledgeable in the total area of guidance and administration.

We are developing a means of surveying high school students to determine their vocational interests and goals with special emphasis on vocational agriculture. The results of a survey of students was used during the evaluation of one school and enabled us to discuss the problems relating to vocational agriculture more intelligently. We hope to survey all of the male students in schools where vocational agriculture is taught. This will enable us to improve our programs and establish them on a sound vocational basis.

The Terminal Report

(Continued from page 288)

recognized for a number of years at this school. Newspaper articles, bulletin board display, and an all-school assembly have been examples of these activities. Considerable planning by you and your officers will be necessary to make these events successful.

"March is the month we have generally sponsored a meeting on agricultural chemicals. April is highlighted by the FFA Parent and Son Banquet. Past plans and details are on file in regard to this event. The area Chamber of Commerce will recognize two of your outstanding seniors at a banquet late in April. This is the time to nominate your new FFA officers and select two delegates to attend the State FFA Convention.

"May brings on the election of your new officers and planning for the annual FFA spring trip which immediately follows graduation. The State FFA Convention is held the second week in June and is followed by the Jr. Dairymen Convention and Show the next week. Convention expenses have been paid by the chapter. You will find a complete financial report in the FFA file.

"This report would be too extensive if we included all the activities with which you will be involved. There will be such things as department publicity, radio and TV programs, correspondence, field trips, judging contests, monthly reports to the administrator and board of education, County Ag-Workers meetings, and the like.

"This report is only intended to give you some general idea as to how and what was done. It is meant to serve only as a guide — use your own ideas as you see fit. The very best of luck to you as you begin your work in this fine school and community. Please feel free to write or call me when help is needed."

Same Time and Effort

As stated earlier, the great perplexity facing nearly all of us today is shortage of time. Yet, how much time and effort could be saved the new and beginning instructor had we left him a comprehensive termination report!

Let Your Pictures Do the Talking

GILBERT S. GUILER, Teacher Education
The Ohio State University

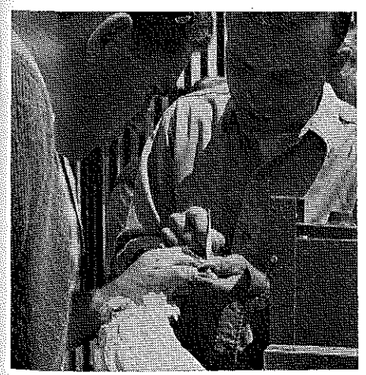
Picture Editor Gilbert S. Guiler selects appropriate pictures for THE AGRICULTURAL EDUCATION MAGAZINE. The problem of selection, cropping, and arrangement depends on the pictures available.

Almost every reader of this journal has recently taken a picture, have you not? Is the picture really worth a thousand words? It should be, but I tend to agree with you it probably isn't. But why? What's wrong with your photography? Why aren't your pictures doing the talking? Everyone would rather look at a good picture than read volumes of words when a picture can say it just as well and less painfully.

Pictures or Words

During the past two years as picture editor of *The Agricultural Education Magazine*, I have received numerous pictures. Many are sharp pictures that would help any reader visualize the idea being told. However, entirely too many lack "togetherness", "arrangement", or just plain *composition*. Perhaps composition is a word that many people fear. Let's think of it as putting together the whole—to use the Thorndike Barnhart Dictionary definition. Composition is a basic problem for every photographer who wants to achieve more than a *crude* snapshot. Give some thought to your next picture and before snapping the shutter ask yourself: "What is this picture going to say?"

Won't you agree we are living in a pictorial age? For many years the most popular magazines having good pictorial coverage tend to increase reader appeal. Television has brought pictures "live" right into your living room concerning every event on earth. The new innovations, activities, and developments in agricultural education can no longer be told by words alone. They must be supplemented with pictures especially for the many hurried readers who may only "scan" the print. Furthermore, pictures help guide the readers attention to the idea.



A picture illustrating only one idea and well cropped with the camera.

Composition

Someone said, "You can't break the rules of picture composition if you don't know what they are." The writer does not mean to imply that most people do not understand the rules for good picture composition as there are no hard and fast rules regarding composition. However, there are some simple guidelines to improve picture composition, which, if applied sensibly rather than followed slavishly or religiously, will "help your pictures do the talking."

These six important "snaps" may improve your composition.

★ Snap one idea — The picture should have only one center of interest or illustrate one idea well enough that the reader understands the major point with a minimum of information in the cutline.

★ Snap action — Subjects such as teachers, students, or parents should be shown in a natural "action" position and *not* posed. Most publishers frown upon a posed picture that doesn't create interest or challenge the eyes of the readers. The reader tends to play the role of the subject in the action picture more than in a picture which is posed.

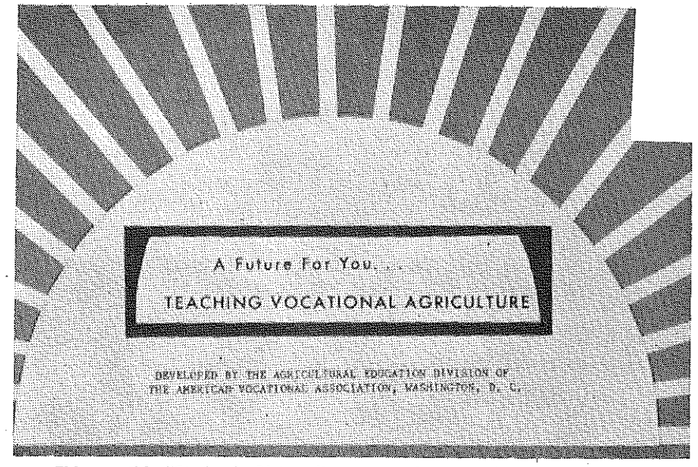
★ Snap outside — Pictures taken outside usually have better content and add to the composition more than those taken inside. Pictures showing natural horizons, special crops, harvest scenes, or dress apparel commonplace in the state are good additions to the composition background.

★ Snap a limited number of people — For most pictures avoid having more than three or four people shown. Facial expressions are very important for good composition.

★ Snap close to the subject — Crop your pictures with the camera. Pictures taken at a greater distance than ten feet generally require cropping (elimination of unnecessary material) when used for publication. Include only the essential characters in the idea being illustrated, and strive for sharpness in the picture which calls for accurate focusing. Remember a fuzzy picture will always be fuzzy regardless of further treatment.

★ Snap with "light" background — Dark backgrounds should not always be ruled out but remember they do absorb light. Insufficient light in most pictures produces poor composition. A light picture can be darkened but a dark picture will always be dark. Some photographers say "light" is the most important requirement for good pictures and adhere to the belief that photography begins and ends with light.

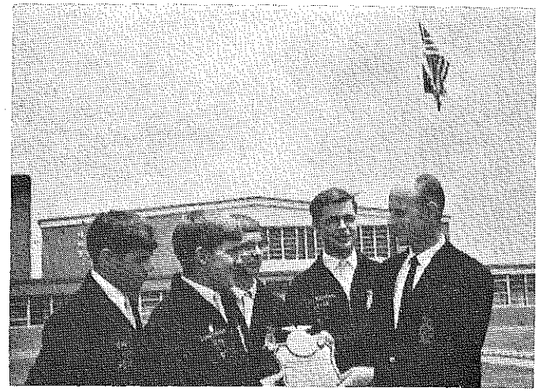
In summary, review these six important snaps or guidelines for good picture composition and they will make it easier for you to "let your pictures do the talking."



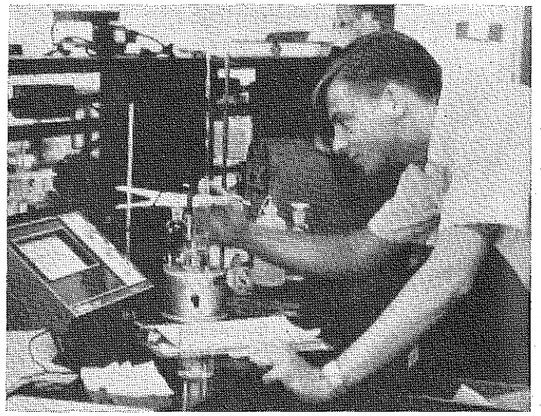
This month's "Stories in Pictures" presents photos made from five of the thirty color slides included in the series "A Future for You — Teaching Vocational Agriculture." The slide series was developed to aid teachers in recruiting future teachers of agriculture.

in Pictures

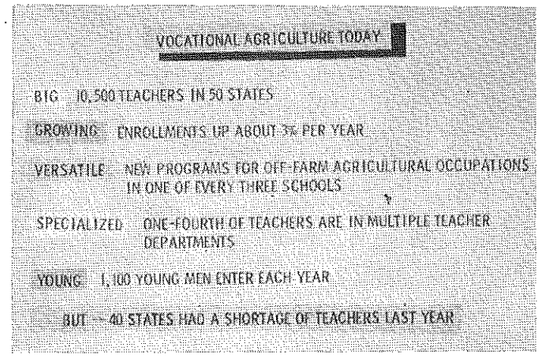
GILBERT S. GUILER
Ohio State University



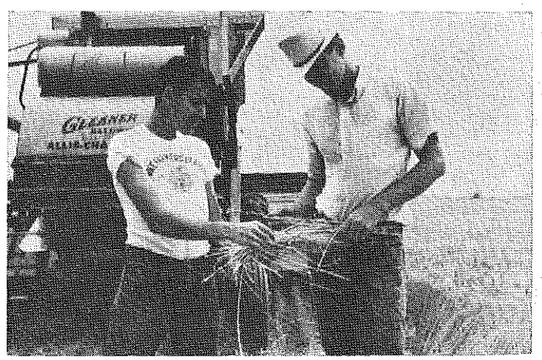
As an advisor to an FFA Chapter the teacher seeks to develop leadership. His understanding of the leader's role as well as the example he provides helps accomplish this important task.



Today's students who are preparing to be teachers of agriculture work with sophisticated laboratory equipment. Many college courses provide such laboratory experience.



Over the nation vocational agriculture is growing, changing, and improving. But there is a serious shortage of teachers. Last year forty states indicated a shortage of teachers.



Through farm experience and study of vocational agriculture in high school, the prospective teacher of vocational agriculture develops knowledge and skill which a successful teacher should possess.

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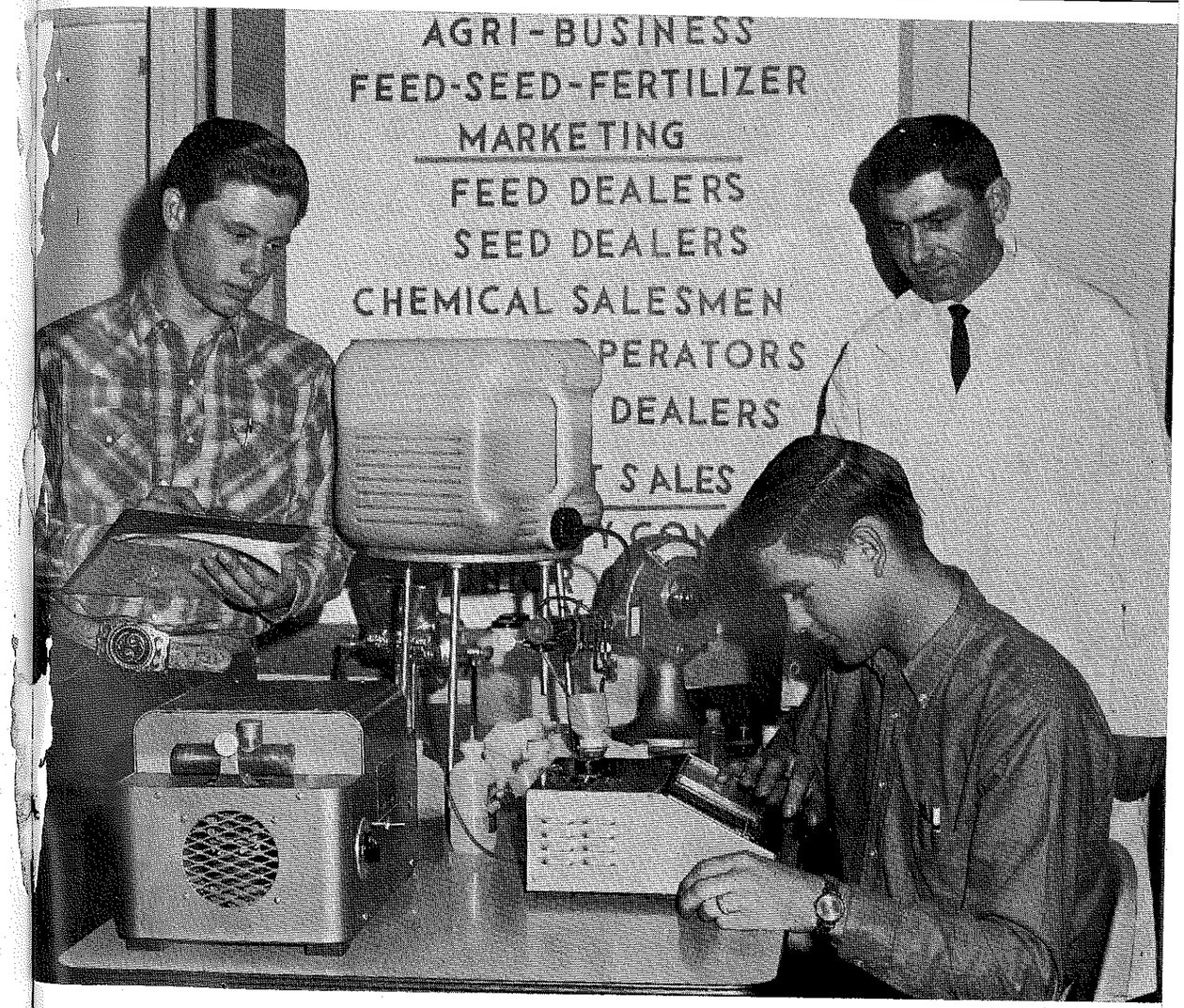

Featuring —

COOPERATION AMONG VOCATIONAL AREAS