Stories in Pictures

GILBERT S. GUILER
Ohio State University

Agricultural Education

Michigan students operate semi-automatic digger 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 P. Bear)

Volume 40
June, 1968
Number 12

Featuring —

EVALUATION
**From the Editor . . .**

**Assessment of Progress in Vocational Education**

National evaluations of vocational education get results. Prior to 1963 some state and local schools had a handful of agricultural students 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 both 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 369 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 education 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 programs re-direction in vocational agriculture was conspicuously missing in the Council's "box score" summarizing progress toward program objectives. "More 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."

(Continued on next page)

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**Guest Editorial . . .**

**Evaluation of What and for What?**

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 purposes, groups, to be served, facilities, research, professional fields, teacher education, and other important areas. This realization was heralded at the beginning of a new era for vocational education, involving agriculture.

The Act did not become operative until 1965, but new challenges have now been with us approaching five years. How 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 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 cumulative involvement of local people and others. If state leaders allocate funds and provide the leadership needed for developing plans and programs...

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**Subscription price, $3 per year, foreign subscriptions $3.25. Student subscriptions in groups one address $1 for October-May. Single copies 10 cents. In subscribing subscriptions designate new or re new and include your address and $10 in stamps. Every school staff and home and school personnel may receive a free copy. Inquiries should be sent to the Editor or to the appropriate Special Editor.**

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**Editor**

- J. Robert Warburton

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**Issue**

- June, 1968

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**Volume**

- 40

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**Number**

- 12
The call for a State Task Force on Agricultural Edu-
cation 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 well very well be a part of a state's "periodic statewide review and evalua-
tion of its education program," recommended by the Advisory Council. The plan is that the profession serve the initiative in providing data about agricultural education, in appraising strengths and weaknesses of its program, in taking positive and prompt action toward pro-
gress improvement, and in informing others about agri-
cultural education. A task force can be expected to evaluate the total program of vocational education in each state, the State Task Force on Agricultural Education would become a part of that effort. We should assume a position of leadership. Why must we always wait for na-
tionals evaluations to spur us to action? Thorough and valid assessments of vocational education in each state would be invaluable to the next Ad-
visory Council on Vocational Education that must render a report to Congress and to the public. The bulk of data and information supplied by each state's Task Force on Agricultural Edu-
cation 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 edu-
cation, then we have no recourse but to accept not only the data collected by others but also the value judgments they reach. JVRW

Guest Editorial . .

Valid criticisms of realist evaluation, the findings should also be useful to the state level. Coordination between states could facilitate the use of data in larger geographic areas.

The report will be used primarily to stimulate self-improvement of educators, or will the results be used primarily to education. If a similar group is organized for agricultural education, then we have no recourse but to accept not only the data collected by others but also the value judgments they reach.

The report and vocational education

Unfortunately, the general tone of Publication 14 is a negative view of vocational education. Even the final recom-
mendations of the Advisory Council for simply linking the data of compliance with publication without comment as if they were afterthoughts. This negative tone tends to mask the value of the report. Hopefully, the full report and the popularized version will be more positive.

The negative: examples of the negativism found throughout "Publication 14" are as follows:

- 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 ap-

Publication 1 of Vocational Edu-
cation: The Bridge Between Men and Work has been released as the doc-
ument the Annot-
ate on the suit-
the task force's mission is to be a deliberate effort to de-

The report and educational credit for achievement. Items:

- The only common measure of results is report of uncertain valid-
ity from the vocational teacher in September on the placement of stu-
dents who completed a course the previous spring."

While the above statement may be overstated, the report certainly pointed out that no evidence is pre-
sented to support the doubts expressed regarding the validity of the reports of vocational teachers.

Items:

- Vocational education is criti-
cized as if unlimited funds were avail-

The positive: The positive side of the report also needs recognition. Items:

- Items: 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 ob-
jective of all education and as a basic element of economic development.

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 pro-
gram.

Item: "There is, however, some evi-
dence of collection of vocational edu-
cation."

- Other Concerns

There are other concerns of a gen-
eral nature which could be discussed, such as the occasional reference to the need for "vocational teacher training." In general, it is to be hoped, a grow-
ing recognition that basic preparation for employment will continue to re-
quire knowledge and skills identified with broad occupational areas or clus-
 ters; that teachers will be teachers of agriculture, not necessarily an extension of existing programs.

The Cover Picture

Microfiche provides a new tool for disseminating reports of research and evaluation that is increasingly important. The Design, Art, and Production by: Robert White (left), Retrieval Specialist, Center for Vocational and Technical Education, The Ohio State University, demonstrates the effectiveness of such an approach. The text and production for this report, written by Harold Binkley, University of Kentucky. (Photo by Gilbert S. Guller)
The AGRICULTURAL EDUCATION MAGAZINE

Guiding Principles for
Evaluating Vocational Agriculture Programs

JOHN E. ANDREWS
Teacher of Vocational Agriculture
East Branch, Alabama

We must have a basis for measuring the progress of programs or the educational objectives in vocational education and made periodic evaluations of local and state programs necessary. 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, it is important to make evaluations of the programs on a periodic basis. To make sure that the teacher has control. For example, the program may be failing to meet its objectives in the field of mechanical drawing because the teacher has no control. For example, the program may be falling short of its objectives in the field of mechatronics due to an inadequately equipped shop.

The pupil-teacher measurement should be confined to pupil activities—classwork, shopwork, supervised farm-living experiences.” A 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 relating too much on pupil activities before being acquainted with the pupils and the community.

The Teacher and Evaluation
The teacher is the key person in the evaluative process. The teacher guides the program planning and program evaluation thoroughly knows the ways and means of accomplishing the teacher objectives. The day-to-day evaluation should be the responsibility of the cooperating teacher. On the usual 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 better able to render a more objective decision in all areas of instruction. These groups can also point out program failures because they do not live with the program but do not have control. For example, the program may be failing to meet its objectives in the field of technical drawing because the teacher has no control.

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 proved very satisfactory because it can serve as a beginning point in the evaluative process. Other areas to be evaluated

(Continued on next page)
in the program are organizations, nature of offerings, physical facilities, instructional staff, instructional activities, instructional materials, and methods of evaluation.

**Some Questions**

Once the evaluation process is in operation, 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?
- Do 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 agriculture 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.

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**General Report of the Advisory Council on Vocational Education**

(Continued from page 270)

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

-Strengthens the role of the federal government by including in legislation funds for administering the National Advisory Committee, for staffing the National Advisory Committee, for making the National Advisory Committee functional could do much to prevent obstructing the will of Congress by high level policy decisions.

-Require state evaluations which proceed by at least a year the mandatory national evaluations. The state evaluations would be used as the basis of the national evaluation.

**SUMMARY**

This report, as she reports 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 be examined critically, the primary purpose to represent a welcome support for vocational education in agriculture and to be useful to the future. Should be available to educators, the public, and students at all levels with evidence of the effectiveness of vocational education in agriculture. It is necessary for a policed and evaluated program for each state to be presented to the people.

In conclusion, a word could be said for the following: the occupational and educational status of graduates four months after graduation. The occupational status in May, 1967, the level and nature of formal education attained, and the preeminent geographic location of the graduates.

**The Findings**

Status Four Months After Graduation. In October, 1959, 43 percent of the graduates were employed in agriculture, 46 percent were enrolled in various types of educational programs. Ten percent of the graduates were involved in non-agricultural work, and 7 percent were serving in the armed forces.

Occupational Status. In 1967, the following data indicate that approximately 60 percent 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.

Education, like other parts of our national life, is undergoing rapid and extensive change. We have many challenges to meet. If we are to meet successfully the changes that confront us in vocational and technical education in agriculture, we must gather the information and make wise decisions. One type of needed and helpful information is a following 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 students 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 and educational status of graduates four months after graduation. The occupational status in May, 1967, the level and nature of formal education attained, and the preeminent geographic location of the graduates.

**Occupational Status**

<table>
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<th>Field</th>
<th>Percent</th>
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<tr>
<td>Agricultural</td>
<td>36</td>
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<tr>
<td>Agribusiness</td>
<td>14</td>
</tr>
<tr>
<td>Professional Agriculture</td>
<td>7</td>
</tr>
<tr>
<td>Non-agricultural</td>
<td>20</td>
</tr>
<tr>
<td>Skilled</td>
<td>32</td>
</tr>
<tr>
<td>Technical</td>
<td>22</td>
</tr>
<tr>
<td>Farm-related</td>
<td>6</td>
</tr>
<tr>
<td>Armed forces</td>
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</table>

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

**Conclusions**

One-half of the graduates entered the work force immediately upon graduation, with the rest entering the work force immediately upon graduation and were engaged in agricultural occupations. Eight years following graduation, 60 percent 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 where so many graduates enter and stay in agricultural occupations.

Even though there is much rural to urban migration, this study indicates that graduates were obtained from the armed forces of the graduates. The graduates were farming. Another 17 percent of the graduates had completed some college study in agriculture. Of these graduates, ten were working toward the Ph.D. degree and twelve had the Bachelor of Science degree. Seven of these graduates were farming. Another 17 percent of the graduates had completed some college study in agriculture. Of these graduates, ten were working toward the Ph.D. degree and twelve had the Bachelor of Science degree. Seventeen percent of the graduates had completed some college study in agriculture. Of these graduates, ten were working toward the Ph.D. degree and twelve had the Bachelor of Science degree. Seventeen percent of the graduates had completed some college study in agriculture. Of these graduates, ten were working toward the Ph.D. degree and twelve had the Bachelor of Science degree. Seventeen percent of the graduates had completed some college study in agriculture. Of these graduates, ten were working toward the Ph.D. degree and twelve had the Bachelor of Science degree. Seventeen percent of the graduates had completed some college study in agriculture. Of these graduates, ten were working toward the Ph.D. degree and twelve had the Bachelor of Science degree. Seventeen percent of the graduates had completed some college study in agriculture. Of these graduates, ten were working toward the Ph.D. degree and twelve had the Bachelor of Science degree.

**At the time this study was conducted, Donald W. Pringle 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 Follow-up of Vocational Agriculture Graduates, 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.**

**Donald W. Pringle**

*Teaching, University of Minnesota*
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 constantly evaluating various aspects of the program. In many instances evaluation by others is more informal than formal, but regardless of its structure, it is inevitable.

Education 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 of 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 reviewing 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 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 supervisor determined the objectives that the program evaluation should fulfill. Once these objectives had been identified they were reviewed and finalized into specific statements for all factors:

- To appraise the local program with respect to:
  - the curriculum
  - classroom instruction
  - individual and small group instruction
  - the FFA organization
  - the high school principal and the assistant state supervisor of agricultural education

- 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.

A conference meeting was held numerous times during the months of October, November, and December (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 classroom teacher; one principal representing ag-business; the county extension agent; the assistant high school principal; one person representing the high school guidance department; one member of the city board of education; 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 briefed by the principal 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 goals that this process was designed to accomplish. 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.

Mr. Zimmerman, the 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 visit their local vocational agriculture teachers' classes to attend an FFA meeting, a young adult farmer meeting and to make other observations and ask questions concerning the operation of 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 agriculture and education acted as chairperson 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 report was prepared and presented to the department. The report contained 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 those areas with a written 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.

In conclusion it was pointed out that the final reports would be presented to the principal and would be made available to all the students being served.

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 community with high school and agricultural community with the purposes and objectives of the vocational agriculture program.

The expression by the school administrator 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 confident that their efforts were justified in terms of the results of the evaluation.
Important Innovations in Agricultural Education, 1960-1967

CHARLES C. DRAWSBAUGH, 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, and/or update objectives, facilities, curricula, teaching 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 urgent and insistent need but also 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 non-farm sectors of our society. At first it seemed an impossible task to organize the proposed broader program into manageable instructional areas. Out of necessity the cluster concept was conceived as a sound approach to teaching 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 packaging), ornamental horticulture, forestry, agricultural resources, and other agriculture.

Vocational educators in agriculture saw the challenge to train for off-farm agricultural occupations. Teacher-educators in agriculture were adapted 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 other working relationships were established with other educators—men in other disciplines, government personnel, and vocational personnel. 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.

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) reveal a changing terminology—a clue to innovation. The subject area “farming program” 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 and 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 become organized and advocate toward establishing cooperative occupational experience programs in their schools.

Many and Varied Kinds of Teaching Materials

Out of necessity, stores of teaching materials for programs of vocational education in agriculture have been “canned 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 revision of the total program demanded them. A common aim of persons preparing instructional materials was to produce refreshingly new and excitingly different teaching materials.

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 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 applying the recently published materials.

Levels of Occupational Education in Agriculture

During the early part of this decade and to previous that time, education in agriculture was essentially vocational in nature. Presently vocational education in agriculture is being sanctioned, not unconfidently, between an emphasized post-secondary or technical agricultural and an emerging pre-vocational occupational agriculture. Recent enrollment figures in agricultural education reflect the influence of increased vocational training levels. Many factors lead to 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 5,587 students.

The innovative concept is not that technical agricultural education in itself is new, but rather the momentum which has been thrust upon agricultural education as a new responsibility; supervised practice was reconceived to include cooperative occupational experience in addition to farming programs; many teaching materials were created using novel context, format, and style; and some vocational educators began to envision vocational education as multilevel occupational education.

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

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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 |

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JUNE, 1968
Criteria 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 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?

OCCUPATIONAL AND EDUCATIONAL PLANS

Much recorded information is or should be available to evaluate student choices. Information needed includes: scholastic aptitude, test results, and high school grades. Realization 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 a continuing survey of former students should try to identify opportunities and aspirations.

Potential for Success in Agricultural Occupations

How do we determine whether all who can profit from instruction are enrolled in the course? The proportion of students desiring to make production agriculture who meet the criteria for those with such a goal could be determined. Studies show these criteria to include interest, availability of 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 former students in agricultural production who are enrolled in part-time or supplementary programs.

Continuing Education. In gathering information pertaining to the sixth criterion questions, we want data to establish what proportion of former students enrolled in post-high school programs are students who have the proportion who are availing themselves of other opportunities for continuing education on a full-time or part-time basis.

(Continued on page 289)
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 education courses over three years, thirty farm operators are now realizing more than a $900 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, and occasional, evening sessions. These were provided with support of state and federal funds and in collaboration with state and federal agencies.

The first year of instruction dealt 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 modernization 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.

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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 programs indicate growth in the volume and efficiency of their farm businesses. The average annual gross income of these farmers increased from $17,717.93 in 1964 to $30,924.32 in 1966 — an overall average increase of 81.7 per cent during the three-year period. Likewise, net farm income shows an average increase of $3,800.10 (from $5,790.22 to $14,678.82) while the average family labor and management income increased over 150 per cent.

Relative to improved economic efficiency, it can be noted from the figures 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 19.9 per cent. In essence, this means that the farmers were realizing in 1966 about 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 "growing" 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 effectiveness of the type of educational program.

Percent of Gross Income to Pay:

<table>
<thead>
<tr>
<th>Year</th>
<th>1964</th>
<th>1965</th>
<th>1966</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash operating expenses</td>
<td>55.8</td>
<td>56.0</td>
<td>55.2</td>
</tr>
<tr>
<td>Return to labor and management</td>
<td>21.6</td>
<td>35.1</td>
<td>32.5</td>
</tr>
</tbody>
</table>

An analysis of the farmers' records revealed other measures showing improved performance and efficiency in their operations. 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 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 prices in 1964? 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 adjusting for this factor, the overall average prices received by the thirty farm operators with 1964 "base" prices! Adjustment percentages of 9.26 and 3.31 were determined for 1965 and 1966, respectively. In other words, the average income measures for 1965 were reduced by 9.26 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 1965 was over 66 per cent higher than in 1964 (from $17,217.35 to $2,613.39). Adjusted net farm income in 1966 was $7,765.33 greater than in 1964. Although these figures do not cover all segments of the three programs—on-farm equipment, livestock and crops—are indicative of the strength and quality of the farmers' programs.

To determine the "adjustment percentage" for 1965 and 1966, the percentage of the farm account which was contributed to the total farm business was multiplied by the percentage of the total farm business which was contributed to the total. The product of these two components, then, is calculated for each commodity. For example, the average cash receipts from crop commodities for 1964 and 1965 (48.6 and 50.1 per cent) are adjusted for 1965 and 1966, respectively, and then added for the three years. These were then adjusted for the effects of family labor and management, and the adjusted income values are shown.

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

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

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 developed 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 superintendents, head teachers, extension agents, and permanent committees. 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 packages in an attractive manner which can form a basis for worldwide discussion of teaching opportunities.

The set of thirty color slides, together with the script, can be obtained from the Field Education Division, 500 W. Plainfield Rd., Chicago, Ill. 60613. A $1.00 deposit is required; upon return of slides, deposit is refunded.
Evaluation as a Means of Advancing Vocational Agriculture

HOWARD H. CHRISTENSEN, Teacher Education University of Nevada

Evaluation is an effective tool for stimulating and promoting the quality of vocational agriculture. We have been working for the past two years to upgrade our agricultural education programs in an effort to improve 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 who are helping us in solving 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 vocational agriculture department is to find the key questions 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 considering an evaluation team is to get a clear understanding of the objectives, ways and means, and overall goals of the department. The best way 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 output directly influence the quality of output (students). Our concern is to judge a teacher without considering the inputs. He has no control over the quality and quantity of students which come to the school or the total economic and social conditions of the school district. These inputs, the part-time, and administration, and the facilities and equipment for teaching were provided by the taxpayer he determines largely the outcomes of the school.

Standards

One of the difficulties in evaluating a given department, particularly in agricultural education in Nevada, is that there are very few departments that are directly comparable. The problem is to determine the extent to which a department adheres to predetermined standards. In order to do this we have developed an 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 the essential elements of the program that must be measured against the most important part of the evaluation. Our experience indicates that when asked to do so the evaluation team has a clear understanding of the program and the criteria which have been established for measuring the program. Our experience indicates that the students, who are doing the evaluation, have a clear concept of the program and the criteria which make a successful vocational agriculture program. It is impossible to have a good evaluation of the program. We have tried a number of ways of evaluating students in our program. We have used a number of standards, which have been established for evaluating the program. Our experience indicates that the students, who are doing the evaluation, have a clear concept of the program and the criteria which have been established for measuring the program.

(Continued on page 290)

THE AGRICULTURAL EDUCATION MAGAZINE

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(Continued on page 290)
The Function Approach for Identifying Curriculum Content: Part II

RAYMOND M. CLARK and O. DONALD MEADERS
Teacher Education
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 used 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 Clark1 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 workers in agricultural businesses would require content from many of the traditional disciplines organized in a manner that would appeal to 1967 students with fairly specific occupational objectives.

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 the need for programs designed to prepare persons for employment in non-farm businesses must include consideration 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

Gardner2 studying the competencies needed for initial employment in the dairy equipment industry, investigated the use of a jury or panel of experts as a basis for determining the content of obtaining jobs in 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 in the industry. Gardner concluded that the clusters of competencies identified by experts in the dairy equipment industry provide a basis for the development of operationally defined objectives for training programs that will enable workers to the preparation of workers for initial employment.

The Feed Industry

Clark3 identified the following functions as being performed in the feed industry:

-1. Production of feed material
-2. Processing of feed material
-3. Public relations
-4. Purchasing research
-5. 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 feed industry responded positively to the National Dairy Administration and its continuing need. The activities performed in the feed industry are described as "activities" and that "competencies" should be reserved to represent the knowledge, understandings, and abilities needed to perform the activities.

The clinician's list of competencies developed for each function were submitted to representatives of the feed industry with the request that they rate each in its importance to the industry. For these competencies defined to be important by representatives of the feed industry, the investigator list the understandings, skills, and abilities needed to develop each competency. The abilities needed to develop each competency included instruction in the following areas:

- crop and livestock production
- forestry, nursery, and ornamental plant production
- agricultural economics
- veterinary medicine
- production
- marketing and sales
- industrial management
- public relations
- transportation
- distribution
- communication
- oral communication
- presentation
- writing
- mathematics and record keeping
- human relations and personal management
- salesmanship
- business organization and management
- marketing, merchandising, and advertising
- safety
- plant operation
- care, maintenance, and operation of equipment

Farm Machinery Industry

Gleason4 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 as follows:

1. A determination of the purpose of the industry which served as the basis for identifying the essential functions performed in the industry.
2. Identifying the activities which must be performed in accomplishing each function.
3. 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.
4. 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 provide key comparisons 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.
- Gleason studied the functions performed at the retail level of the farm machinery industry. He clustered activities into activity groups as follows:
  - retail sales function: advertising, merchandising, selling, placing, producing, and public relations
  - record and accounts function: personnel and employment records, tax and insurance records, advertising and merchandising, financial accounts, credit, warehousing, and inventory control
  - auxiliary activities: clerical, secretarial, and support activities, training, attitudes and habits, public relations

Greenhouse Industry

Perwoski5 found that managers of greenhouses wanted greenhouse growers to have the following competencies:

- Knowledge of plants, pests, grow processes, and plant management
- Knowledge of diseases and plant pathology
- Knowledge of operational abilities including testing soil, operating equipment, sterilizing soil, propagating plants, harvesting, transplanting, potting, mixing soils, fertilizing, and controlling pests
- Knowledge of the use of various crops including light effects, grading and packaging, life cycle of plants, plant management, cutting, watering, and irrigation, lighting
- Knowledge of greenhouse management including labor, analysis of production, and pest identification

Persons 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 of the various plant specialists to make other functions of the industry.

SUMMARY

Educators recognize that students will not be prepared for the future in background and ability. The function approach with its restating 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 of learning."

The function approach demonstrates (Continued on page 287)


TESTING INNOVATIONS THROUGH RESEARCH

RICHARD A. BAKER, Teacher Education
Auburn University

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, subjective or untested judgment is often used, and the merits or the innovativeness of the programs are said to be self-evident.

In general, evaluative research is applied research which has the purpose of determining the effects of an operating program. Most disciplines of research methodology deal with basic research. The purpose of this article is to lead the reader 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.

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

Scientific Method

It is 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 (no similar conditions) 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 the innovative activities are presented to the group. Measurements are then compared with group measurements in other schools. An effect 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 findings of an innovation in one school is only a test of feasibility not necessarily of program performance.

The Procedure

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 behavior? 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.

The second step is to find evaluative criteria to be considered in the testing of innovative programs.

Criteria

Measure

Effect

Administrative records (inputs)

Performance

Onset of performance

Adequacy of performance

Adequacy for total need

Efficiency

Ratio of total input to total output

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 resource 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 programs against each other, 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 policy utility.

Process analysis is necessary in testing the success or failure of an innovation.

The Function Approach for Identifying Curriculum Content

(Continued from page 283)

that workers at different levels contribute to the functions of the business or industry. For example, the delivery man influences sales, the telephone operator affects 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 stories demonstrates that the function approach for developing training materials to perform agricultural business and industry work 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 the prospective employees without overloading 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.

JUNE, 1968

THE AGRICULTURAL EDUCATION MAGAZINE

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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.

It is so with so many of our 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 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 instructor, we find fewer than half of us 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 all remaining activities you should plan for in the coming year. My first suggestion would be for you to take a complete inventory in the classroom, shop, and shop. It is important for you to know what you have and what you need.

Summer Months

The second week in July you will be in Madison for the annual summer conference for vocational agriculture instructor. 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. Your students will need your immediate attention.

"In July or early August arrange a meeting with your new FFA advisor 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 syllabus in order, the tools in shape, but don't neglect your visits, especially to the locating freshmen students. The summer months are much more ideal for farm visitations than the busy school season.

"You will be asked to help at the county fair and you should plan to attend other area educational events.

"At this time make a concerted effort to become acquainted with people, especially those in the field of agriculture. For example, Mr. Hart, our 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 advisors 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 meetings November pass rapidly. In December, the FFA has traditionally cooperated with the FFA in sponsoring a Christmas dance. Be sure to plan your Christmas trip. 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. Daiyemens 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专题 on this event will be followed later in the year.

"Another important event in January is preparation for the local FFA leadership meeting. Your local leader 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. Daiyemens awards is February 15.

"National FFA Week has been (Continued on page 290)

Book Reviews

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 horsepower above. The first section of each manual is devoted to the coverage of fundamental parts 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-six 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 makes and component parts is essential.

Guy L. Turney
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 see how they measure up to what they should be. We need to find out what it is that the public expects. The public will demand 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 institutions—evaluate educational programs or to help teachers analyze the initiative in evaluation. Continued or increased local support for vocational agriculture cannot 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.
Let Your Pictures Do the Talking

GILBERT S. GUILER, Teacher Education
The Ohio State University

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 ideas being told. Unfortunately, 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 Thorn- dike 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 mapping the shutter ask yourself: "What is this picture going to say?"

What you agree we are living in a pictorial age? For many years the most popular magazines have good pictorial coverage that try to increase reader appeal. Television has brought pictures "live" right into your living room concerning every subject 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 reader's attention to the idea.

Composition

Someone has said we 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 many and fast rules regarding composition. However, there are some simple guidelines to improve picture composition, which if applied sensibly rather than followed rigidly, will "help your pictures do the talking."

There six important "maps" may improve your composition.

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

2. Snap action with "light" background — Dark picture should not always be ruled out but remember they do absorb light. Insufficient light in most pictures prevents good composition. A light picture can be flash 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 "maps" or guidelines for good picture composition and you will find it easier for you to "let your pictures do the talking."

Picture Editor Gilbert S. Guilier selects excellent pictures for THE AGRICULTURAL EDUCATION MAGAZINE. The problem of cropping, trimming, and arrangement depends on the pictures available.

Snap outside — Pictures taken outside under natural conditions or contrast will add to the composition more than those taken indoors. Pictures showing natural horizons, special conditions, faces, 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) which is 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 looks funny as a fuzzy photograph for further treatment.

Snap with "light" background — Dark picture should not always be ruled out but remember they do absorb light. Insufficient light in most pictures prevents good composition. A light picture can be flash 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.

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

As an adviser 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 formal 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.

Featuring —

COOPERATION AMONG VOCATIONAL AREAS