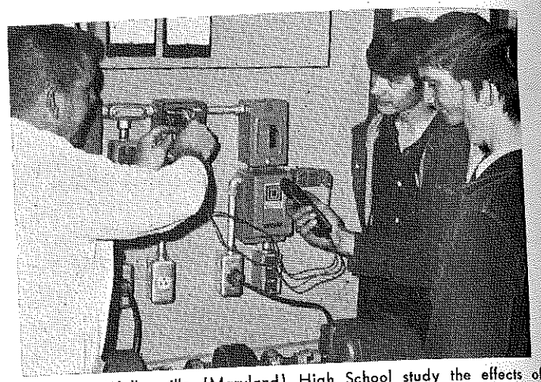
# Stories in Pictures

ROBERT W. WALKER
University of Illinois

Spoon River College students in Farm Machinery Technology reassemble a tractor engine after overhaul under the supervision of Jesse Bradshaw (center), Instructor. (Photo by Donald Whitten, Spoon River College, Canton, Illinois)



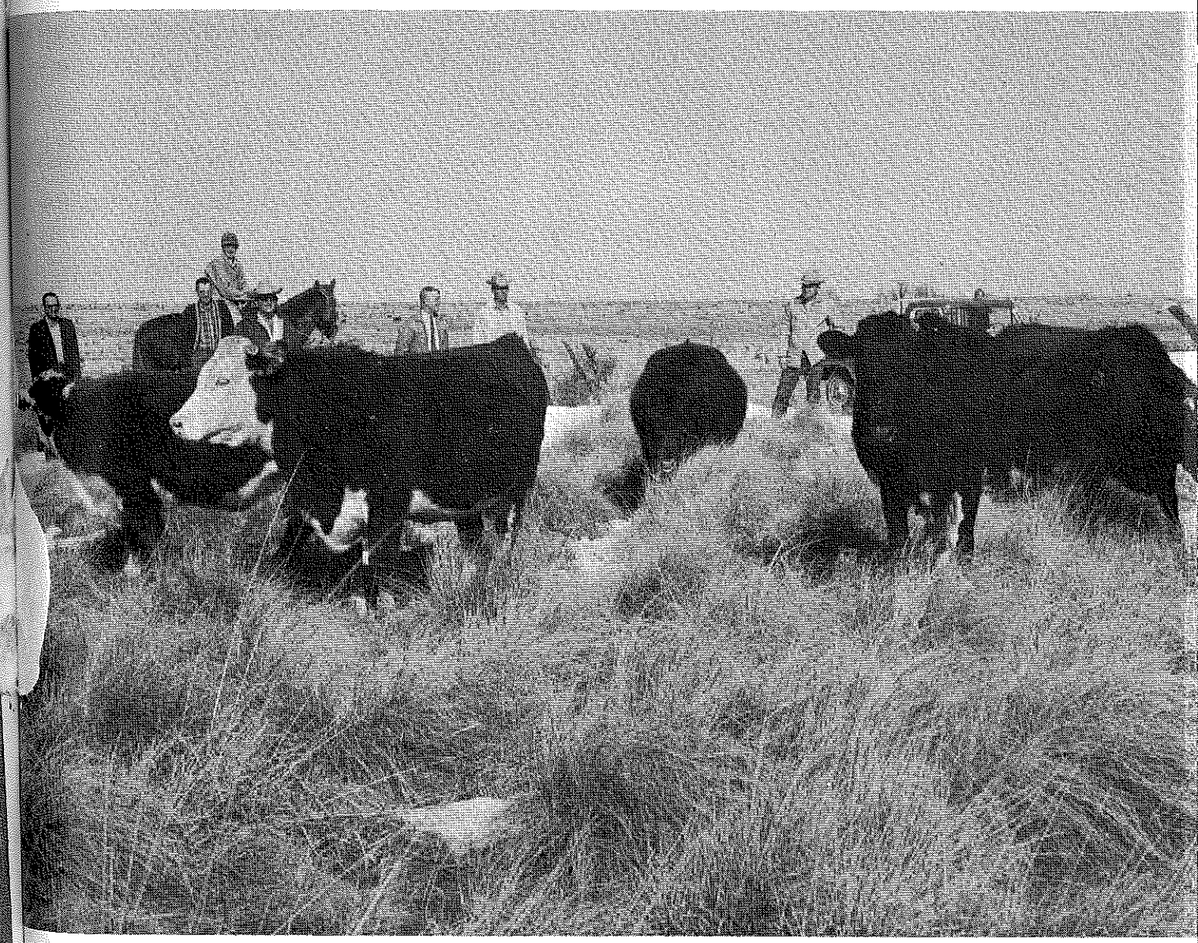
Students at Walkersville (Maryland) High School study the effects of hazards such as improper fusing, inadequate wiring, and voltage loss using the electrical demonstration board. (Photo by James Pope, Maryland Department of Education)

Work scholarships for $150.00 are presented Jerry Lane (left center) and Steve Fisk, agriculture students at Eastern Kentucky University. Making the presentations are Brian Bowles( left) and Gary McKillip (right), officers of the Agricultural Club at Eastern Kentucky University. Money for the work scholarships, matched by an equal amount from the Agricultural Club, was contributed by local merchants. (Photo by Glenn Hayes, Eastern Kentucky University)

AGRICULTURAL EDUCATION

# Agricultural Education

Volume 42 June, 1970 Number 12



*Featuring —*

*EVALUATION IN AGRICULTURAL*

THE
# AGricultural EDucation
MAGAZINE

Vol. 42 June, 1970 No. 12



The Agricultural Education Magazine is the monthly professional journal of agricultural education. The publication is managed by an Editing-Managing Board and is printed at The Lawhead Press, Inc., 900 East State Street, Athens, Ohio 45701.



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Subscription price, $3 per year. Foreign subscriptions $4.00. Student subscriptions in groups one address, $1 for October-May. Single copies .50 cents. In submitting subscriptions designate new or renewal and address including zip code. Send all subscriptions to Doyle Beyl, Business Manager, AGRICULTURAL EDUCATION MAGAZINE, Box 5115, Madison, Wisconsin 53705.
Articles and pictures should be sent to the Editor or to the appropriate Special Editor.
Second-class postage paid at Athens, Ohio.

EDPRESS

## Editorials

### *From the Editor . . .*

# A Possible Practice-Principle Gap in Evaluation

J. Robert Warmbrod

The writers for this issue make clear two important points about evaluating educational programs. One is that evaluation must begin with and be made in terms of objectives. The other is that more emphasis needs to be placed on appraising the performance of persons who have completed educational programs in contrast to approaches to evaluation which are limited primarily to describing and judging the processes by which programs are conducted. Few of us will disagree with these tenets. However, a candid appraisal of techniques of evaluation in vocational education and agricultural education will reveal a rather noticeable gap between practice and principle.

Especially must be alert to evaluative practices and techniques which tend to upset, or even reverse, the "evaluation based on objectives" doctrine. Two approaches to evaluation in vocational education which are currently popular are follow-up studies of graduates and cost-benefit analysis. Both techniques, although legitimate and necessary, have the potential when used exclusively or improperly of allowing objectives of educational programs to be unduly influenced, if not defined, by data and information collected.

In too many instances follow-up studies are limited to a determination of the percentage of graduates who are working in occupations corresponding to the vocational program they completed or left. The general interpretation is that the higher the percentage the more effective the program. If follow-up studies are to be of maximum value in program development and revision, data other than the percentage of persons working in occupations for which prepared must result. For example, follow-up studies should also investigate factors which influence employment independently of the preparation one receives. We know that a person's abilities, interests, and socioeconomic status influence the nature of employment one seeks and is likely to obtain. Also we run the risk of misinterpreting follow-up data if social and economic conditions affecting employment

*(Continued on next page)*

### *Guest Editorial . . .*

# Evaluate What?

William E. Drake

*A student drops out because he finds little meaning in his curriculum. A taxpayer votes "no" on a school referendum because he questions the value of what his tax dollars purchase. A congressman reacts negatively at a budget hearing because he fails to see education's impact. These important people are "turned off." They are "turned off" in different ways but all with equally lethal effects on the desired outcomes of education.*

This is a time when education at all levels and in all degrees of specificity is being "checked out" for its relevancy, viability, and general worth in the current scene. As Don Davies of the U. S. Office of Education has so aptly stated in an address before the Dean's Conference on Teacher Education at the University of Minnesota, December 1969, "accountability" is going to replace "relevance" as the "in" word among educators. President Nixon's message on education reform recently submitted to Congress proposed that schools be held accountable for the education they provide. The President, using the language of an educational evaluator, emphasized that the proper criterion for measuring the success of a school was not some fixed national norm, but rather "the results achieved in relation to the actual situation of the particular school and the particular set of pupils." It is apparent that the demand today is for educational programs to be evaluated on a basis of what they produce and not on promises to produce.

There is an ancient fable which states "that if you are not sure where you're going, you're liable to end up someplace else without knowing it." These sage words describe well the urgency of meaningful objectives for vocational education in agriculture. Few educators would refute a rationale which uses objectives as a basis for evaluation. And we have made some progress in our quest for measurable objectives. The Vocational Act of 1963, the 1968 Amendments, and U. S. Office of Education Bulletin 4

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*William E. Drake is Professor of Agricultural Education, Department of Education, Cornell University, Ithaca, New York.*

## *From the Editor . . .*

rates are ignored or overlooked.

Of importance also is the fact that follow-up studies concerned primarily with rates of employment de-emphasize other appropriate objectives of vocational education. The objectives to which we in agricultural education subscribe specifically mention occupational orientation and exploration, continuing education, and the development of human relations and leadership abilities in addition to occupational placement and advancement. Data concerning all anticipated benefits of vocational education should result from follow-up studies.

Vocational education is currently being scrutinized by cost-benefit techniques also. Cost benefit is an evaluative technique that relates the total value of benefits of a vocational program to the total costs of the program. The application of the technique to vocational education requires that benefits as well as costs be expressed in monetary terms. So returns to investment in vocational education are expressed in the form of higher wages or income to the individual than would have been received without vocational education. When cost-benefit approaches to evaluation are used exclusively, we again run the risk of a narrow assessment of the benefits or outcomes of vocational education. A strong case can be made for the argument that there are benefits to vocational education and agricultural education other than directly observable monetary benefits.

Let us not overlook or forget that the chief concern of education, including vocational education, is the nurture and development of individuals. Then the chief concern in evaluating the effectiveness of vocational education is an assessment of the development and change in behavior of individuals rather than measuring the monetary returns the investment yields. The remarks of two Ford Foundation Program Associates put it well: "Vocational educators need to look at their teaching more in terms of what it does for the child and less in terms of how well it meets someone's forecast of the community's industrial needs." — JRW

## *Guest Editorial . . .*

quite clearly describe our national purposes for vocational education in agriculture. New state plans for vocational education are beginning to state goals and objectives in ways which cause their accomplishment to be measurable in some degree. And at the instructional level teaching objectives are being stated in behavioral terms. Criterion-referenced instruction is becoming a reality.

But as evaluation is applied to objectives at all levels, some serious problems are encountered. And it is not unusual to find evaluation efforts yielding little information that contributes directly to curricular decision making or establishes the degree of accountability being called for. National and state level evaluation too often produce broad "head counts" and the collection of data which are directed toward accountability of expenditures rather than accountability to objectives. Area and local objectives appear to have far more "pay off" for realistic evaluation. If local objectives are sound, and are being met, then those objectives stated at a broader (more societal) level will in turn be met.

Much evaluative effort has been spent with lengthy check-lists of fixed criteria based on the "process" of attaining educational objectives. And this is a noble effort if we wish to appraise and compare methods and techniques. Yardsticks and score cards can be appropriately applied to our procedures and methods. But their use often results in judgements as to how well we are going about the "process" of affecting our "product."

When we apply such a "process" approach, we assume that something is deficient in our procedures and methods. And this assumption is too often made prior to any systematic examination of our "product." It is the graduate we send away from our program that is the real proof of our accountability. If objectives are to be realistic, then it seems urgent that they be based upon the expected performance of that graduate. He is the true "product" of our efforts. And the performance of our "product" is the vital objective of evaluation.

Vocational education in agriculture faces renewed demands for relevancy in the curricula and accountability on the part of the educators responsible. If these demands cannot be met, then we have no reason to believe that vocational education in agriculture will continue to maintain the important place it has historically held in public education. This is a time when we should strip much of the "process" from our evaluation efforts and make absolutely sure that we concentrate on the performance of our "product." This may well be the only realistic examination of accountability. Such efforts will direct evaluation toward accountability to objectives — an evaluation of our "product" — and this is what we must evaluate.

### Themes for Future Issues

| | |
|---|---|
| July | ***Agricultural Education in Post-Secondary Schools*** |
| August | ***Adult Education in Agriculture*** |
| September | ***FFA: Past—Present—Future*** |
| October | ***Ideas for Effective Teaching*** |
| November | ***Research in Agricultural Education*** |
| December | ***Innovations in Agricultural Education*** |

**THE COVER PICTURE**

***The Superintendent and members of the School Board of the Causey Schools, New Mexico, evaluate a vocational agriculture student's farming program. (Photo by L. C. Dalton, Supervisor of Agricultural Education, New Mexico)***



# PERFORMANCE OBJECTIVES | Foundation for Evaluation

FLOYD L. McKINNEY and ALFRED J. MANNEBACH
Research Coordinating Unit
University of Kentucky

A. J. Mannebach

Floyd L. McKinney

As the public depends increasingly on education to solve its social and technical problems, it also increases its expectation of the quality of educational product which is to be produced. Today, there is an increasing emphasis on accountability. More frequently we are seeing the public demand performance and refusing to accept promises. Agricultural education is not and should not be excluded from the increasing public interest in accountability.

Most teachers of vocational agriculture have a high interest in program evaluation. But faced with a toughening public attitude toward educational accountability and with what many of those outside of agriculture describe as a rapidly deteriorating industry, our tools for evaluation may need some sharpening and refining.

### • Basis for Evaluation

Upon what basis can we determine student progress and the success of the local program of vocational agriculture? What are the criteria against which evaluations should be made? How can the teacher of agriculture insure that he is meeting the needs of students and the community?

Educators are placing more and more stress on the importance of evaluating student progress and programs on the basis of explicitly defined objectives. If objectives are stated in measurable performance terms, it is much easier to determine the degree of attainment of the behavior specified.

The development of well defined, measurable objectives is a crucial aspect of evaluation. Evaluation should be conducted in light of stated objectives rather than solely on the basis of outside criterion such as other programs of agriculture or the opinion of an "outside expert." Using objectives as a basis for evaluation, however, precludes that the objectives developed are relevant, explicit, measurable, and well defined.

### • Performance Objectives

What is a performance objective and how can the development of performance objectives help the teacher of agriculture in the classroom? A performance objective is an objective which uses an action verb and specifies the conditions and standards of performance associated with the behavior of the student. It is a statement which specifies what the student is to do, how he will do it, under what circumstances, and to what level of proficiency.

A performance objective must be both measurable and observable. Performance objectives are of benefit to teachers because they define the level of performance which the student is to perform during the process and at the termination of the course, unit, lesson, or task. They also are stated to provide a measure of attainment of the objective. Thus the teacher will have the performance criteria to be attained by his students defined explicitly and will have a basis for measuring the degree of attainment of the objective.

Objectives are frequently confused with purposes and functions. If we state that the agricultural education program is to provide education in leadership development, we have stated a purpose of the agricultural education program. To state that the vocational agriculture department should provide a FFA chapter to enable students to practice leadership abilities is to designate a function which should be performed in school.

A performance objective related to leadership development might be stated as follows: Students will be able to conduct a fifteen minute meeting during the vocational agriculture class according to Robert's Rules of Order. This objective specifies the performance desired (conduct a meeting according to Robert's Rule of Order) within a specified time element (fifteen minutes).

An example of a poor objective might be to "know about fertilizers." What does this objective tell us? How will we measure whether or not the student "knows" about fertilizers? A more appropriately stated objective is: Given the soil test results for a ten-acre field, the crop to be produced, the yield and profit desired, calculate within the next fifteen minutes the amount and kind of fertilizer needed. In this example the behavior expected is stated in performance terms, a realistic situation is assumed, and the teacher could logically determine whether or not the objective was attained. Evaluation, then, can be based upon the attainment or degree of attainment of the objective.

### • Levels of Objectives

Objectives in agricultural education can be found at many levels. Important to the teacher are objectives at the national, state, and local levels.

*(Continued on next page)*

## Performance Objectives: Foundation for Evaluation

*(Continued from page 301)*

As one moves from the local to the national level, objectives by necessity become more general. Teachers of agriculture also have less influence on objectives at the state and national levels. The broad objectives of the agricultural education program with further delineation in course objectives, unit objectives, and daily lesson objectives should receive major consideration and attention of the teacher of vocational agriculture.

Regardless of the hierarchical stage of objectives with which one is concerned, it is well to remember that we should attempt to state the objective so that it reflects a level of proficiency which will be required of the student for effective use later in life. Frequently, objectives are stated which lead students to believe that it is important only to perform well on the quarterly or course examination. Today's students are interested, and agricultural educators proclaim to be interested, in the development of skills that will contribute to the full realization of an individual's potential as a citizen and wage earner. Follow-up studies of former students and employer surveys will need to be used more frequently to account for the long-range performance of former students.

### • Developing Objectives

Objectives are derived from many sources. Objectives emerge from the needs of individuals and the needs of society. The teacher's experiences and the statements of authoritative individuals, societies, and agencies will influence the objectives. If we were to consider a unit regarding agricultural sales and service, our first task might be to determine the competencies needed by a prospective employee and the present level of knowledge of the individual. In our hypothetical situation, it is feasible to speculate that the individual will need to know how to complete a bill of sale. This, then, becomes the basis for stating a performance objective.

Once the objective has been derived, the specifications for the objective must be developed. Remember, we should know what the student is to do, how he will do it, under what circumstances, and to what level of proficiency.

What is the student to do? The student should be able to write a bill of sale.

How will the student perform this activity? The student will use a pencil and regular commercial bills of sale.

Under what circumstances will the students perform? He will perform the activity in a store, under normal sales conditions with a minimum of wasted time.

What level of proficiency will the student achieve? The student will complete the bill of sale so that it is legible and free of errors.

The performance objective might now be stated: Given a situation where a customer has purchased six items, write a bill of sale in five minutes which is free of errors and legible.

Writing a bill of sale represents a very small portion of the total part of an agricultural sales and services unit. There will be many other objectives to determine and specify. Once all possible objectives have been determined the teacher will be confronted with selecting the most important objectives. There will not be time to teach everything. Students, citizens, and the teacher should decide jointly the most important objectives.

Once the objective has been derived, specified, and selected, it must be implemented. The activities and functions necessary to accomplish the performance specified in the objective must be identified and put into action. It is the responsibility of the teacher to provide the optimum learning enviroment to implement the objective.

### • Assessment

Our final consideration is assessment or evaluation. In evaluation the teacher should be concerned about the worth or value of the objective. Is the performance or behavior specified in the objective valid and realistic? An evaluation procedure should be developed that will provide feedback on the attainment of the objective. Evaluation may take place at many stages of the learner's career. It is important to have feedback at the time of teaching and follow-up information regarding the value of the performance specified in the objective after the student is employed.

The success of programs of agricultural education depends upon the success of the enrollees attaining the desired outcomes of the program. It is essential that the outcomes desired be specified in performance terms. Only when agricultural educators and others evaluate agricultural education programs on the basis of student's performance in relation to valid and realistic performance objectives will progress be made in educational program improvement.

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# BOOK REVIEW

SUPERVISED OCCUPATIONAL EXPERIENCE IN AGRICULTURE: PLANS AND RECORDS. Baltimore, Maryland: The French-Bray Printing Company, 1969, Student Record Book, 26 pp. (Three for $1.00 or 17 cents each in quantity plus mailing costs) Teacher's Guide, 11 pp. (60 cents each postage prepaid or 30 cents per book plus mailing costs).

Both the Teacher's Guide and Student Record Book have been expanded and are more detailed and complete than the previous editions. The illustrations and examples are more in keeping with the modern image of agriculture in its involvement with off-farm agricultural occupations.

The Student Record Book provides a place to record the basics of an experience program. A student with a large scope production program and/or off-farm experience program will probably add sections to the book or keep additional records for a more specific and more detailed record of experiences.

The Teacher's Guide is well written and should promote a clear understanding of how the Student Record Book is to be kept. The example of the agricultural engineer is used as an illustration of a possible career choice for a vocationally oriented program in agriculture. These publications are adapted for wide use in secondary vocational agriculture programs.

Ralph A. Guthrie
Springfield, Illinois



# The Value of Evaluation

HAROLD SHOAF, Supervisor
Kansas Department of Education

It has been said that the English language is one of the most difficult to understand. Part of the problem seems to be that words have different meanings to different people. Agriculture, for example, falls in this category. To some people agriculture means the farmer who stirs the soil. To others agriculture is much broader including the production farmer and the agribusinessman.

Even more complicated is the definition of evaluation. To some, evaluation means a necessary evil required by law or by superiors. To the person being evaluated, it may mean that his superior desires a change in the program. The best meaning of evaluation would be a sincere desire on the part of all concerned to see if objectives are being met, and if not, to make provision for reaching objectives. Evaluation involves philosophy, objectives, methods, and materials. Evaluation is not a culminating process but is a continuous part of teaching and learning.

### • Some Guidelines

There seems to be an epidemic of evaluations. Everyone wants to evaluate everyone else. Teachers evaluate students; administrators evaluate teachers; the school board evaluates administrators; and the community evaluates them all.

Evaluation generally has a negative connotation to those being evaluated. If you notify a teacher that he will be evaluated, he looks forward to the evaluation much as he would a case of smallpox. The evaluation takes on a different outlook if the evaluator and those being evaluated know what the process will be.

The first goal, then, is to acquaint all who may be evaluated with the instruments being used and the objectives that are desired. If the evaluation is to be a success, there must be an honest effort on the part of those involved to improve and reach certain objectives. An evaluator who has determined the answers before he evaluates and desires only to substantiate his own opinions is doomed for some problems.

An evaluation is no better than the evaluators and the instruments being used. Evaluators must have up-to-date knowledge of the field in which they are evaluating. An evaluator who has not been directly involved in a specific field for a period of three to five years may not be qualified to evaluate due to the changes of objectives that have been made. In fact, he may do more harm than he does good. Likewise, an individual who is prejudiced toward a certain field should not participate in the evaluation. If an evaluation is to be successful, those participating in the evaluation must have a sincere interest and desire to improve the program being evaluated. It is not enough to expose the problems; answers must be furnished by the evaluators.

### • An Example

The Agricultural Education Division of the Kansas State Department of Education has conducted in-depth evaluations of local programs since 1959. Evaluations are only made when requested by the local school. Twenty-two evaluations have been made since 1959. Sixteen of the 22 schools that have been evaluated are still operating today.

Evaluations are requested by local districts when there seems to be a need for redirection or rejuvination of a program. The evaluation team is composed of the state supervisor of agricultural education, head teacher educator, head agricultural mechanics teacher educator, and the district supervisor. The evaluation takes one day. An oral report is given at the end of the day to all those who are concerned. A written report of the evaluation is then sent to the administrators, teacher or teachers, and others who are interested.

The evaluation begins with a conference with the superintendent and the principal to determine the area being served by the district and future enrollment possibilities. The evaluation then moves to the vocational agriculture department with the head teacher educator and state supervisor of agricultural education spending the day in the classroom. The agriculture mechanics teacher educator evaluates the shop activities. The district supervisor visits in the community with businessmen and farmers who are interested in the program and may have information relative to the improvement of the department.

At the close of the day when the evaluators give their oral report to the administrators and teacher, opportunity is given for an exchange of views. This many times is the most valuable part of the evaluation. Communication lines can become clogged. This gives an opportunity to reopen communication lines in which many problems are solved.

### • The Value

The purpose of conducting the evaluation is not to run down the teacher or administrator. All praise is sincere and all constructive criticism is aimed at improving the program.

In Kansas, possibly the greatest benefit of this type of an evaluation has been to adjust the vocational agriculture program from basically a production agriculture program to one that involves agricultural related activities as well. To broaden the curriculum or to reach more students has generally required another teacher. A number of schools have got this vision and are now serving greater numbers of students in the vocational agriculture department. The evaluation team can be of assistance in giving leadership in the broadening field of vocational agriculture.

# Occupations of Rural Male High School Graduates

ALAN A. KAHLER and CLARENCE E. BUNDY
Iowa State University

Where are rural farm youth going after high school graduation and in what types of occupations are they engaged? What factors are related to the occupational choices of farm youth? At a time when we hear and read so much about how vocational agriculture programs should be broadened to meet the educational needs of those planning to enter the off-farm agricultural occupations, these questions are significant.

A recent study of farm, male graduates of Nebraska high schools during the period 1954 through 1958 was an attempt to answer these questions. The study dealt with assessing the relationships between the graduates' occupations and the geographical locations of their high schools, their educational background, and their home environment. Data were obtained from 1,120 graduates of 69 Nebraska high schools.

## Occupations

Although the graduates were engaged in a wide variety of occupations, this study was limited to an investigation of the primary occupation — the occupation from which the graduate received the majority of his occupational income — of each graduate.

Thirty-eight per cent of the graduates were engaged in farming either as farmers or farm managers. One per cent of the graduates were employed as farm laborers, and 15 per cent were employed in off-farm agricultural occupations. The remaining 46 per cent were employed in occupations not related to agriculture.

When the graduates' occupations were grouped according to the U. S. Bureau of Census classification of occupations, the following distribution resulted.

| Classification of Occupation | Per Cent |
|---|---|
| Farmers or farm managers | 37.7 |
| Professional and technical | 13.8 |
| Managers and proprietors | 11.7 |
| Craftsman | 10.1 |
| Service | 7.9 |
| Sales | 5.2 |
| Operatives | 4.6 |
| Clerical | 4.8 |
| Laborers (except farm and mine) | 1.9 |
| Military | 1.5 |
| Farm laborers | 1.0 |

Of those graduates engaged in off-farm agricultural occupations, 27 per cent were employed in occupations in the feed and grain industries; 19 per cent were employed in the livestock processing and marketing industry. Graduates engaged in occupations classified as agricultural educational services comprised 17 per cent of the total number of graduates in off-farm agricultural occupations.

The highest proportion (22 per cent) of graduates employed in off-farm agricultural occupations were classified as managers and proprietors. Seventeen per cent of the graduates employed in off-farm occupations were in professional and technical occupations; 15 per cent were in sales occupations.

## Migration

Graduates who entered agricultural occupations tended to remain in their home communities more than did those graduates who entered nonagricultural occupations.

Graduates who entered the higher level occupations (professional, technical, and managerial) had migrated away from their home community in larger numbers and in greater proportions than graduates who entered lower level occupations (service, craftsmen, and laborer).

The data also revealed a relationship between rank in high school graduating class and migration of graduates away from their home communities. In the main, graduates who ranked in the lower one-half of their graduating class remained in their home communities more extensively than graduates who ranked in the top one-half of the graduating class. This finding is particularly startling in view of the fact that of those who remained in their home communities, the largest group were engaged in farming.

## Income

The following data indicate the occupational incomes of graduates.

| Income | Per Cent of Graduates |
|---|---|
| $ 3,000 or less | 13.6 |
| $ 3,001-$ 6,000 | 44.8 |
| $ 6,001-$ 9,000 | 20.8 |
| $ 9,001-$12,000 | 8.2 |
| $12,001 or over | 12.6 |

Sixty-one per cent of the graduates who had remained in the same county in which they had lived at the time of their graduation had incomes of $6,000 or less; 65 per cent of those who had migrated to points beyond the borders of states contiguous to Nebraska had incomes over $6,000.

## Home Environment

The economic area of Nebraska in which the graduates' high school was located was found to be related to the census classification of graduates' occupations and the migration of graduates away from their home communities. A higher percentage of graduates tended to enter farming as an occupation in the western wheat or ranch area of the state; however, migration of graduates away from these areas was higher than from the eastern section of the state.

Fewer of the graduates whose fathers were employed farm managers and renters had become farmers and farm managers than had sons of farm owners and farm owner-renters. A higher percentage of those graduates whose fathers were employed farm managers and renters had entered nonagricultural occupations than had graduates whose fathers were owners and owner-renters. It was further observed that a higher percentage of the graduates whose fathers were farm owners or farm owner-renters had migrated less extensively and reported higher occupational incomes.

When father's and mother's levels of educational attainment were compared with selected factors associated with the graduates' occupations and educational backgrounds, it was found that as educational attainment of the parents increased, graduates' occupational incomes, rank in high school graduating class, and enrollment in post-high school institutions increased.

## High School Background

When graduates were grouped according to the size of the high school from which graduated, it was found that graduates from the smaller high schools had migrated away from their home communities more extensively and had participated more extensively in extra-curricular activities while attending high school than graduates from the larger high schools. Also, a higher percentage of these graduates had enrolled in post-high school institutions after graduation.

Graduates who were engaged in nonagricultural occupations had enrolled more extensively in science and mathematics courses while attending high school and had migrated greater distances from their home communities since graduation. This observation was further clarified when it was observed that need for knowledge of agriculture in the graduates' occupations and semesters of vocational agriculture completed by the graduates while attending high school were found to be negatively correlated with enrollment by the graduates in science and mathematics courses while attending high school.

As one might expect, the value of instruction received in vocational agriculture was significantly related to census and agricultural classification of the graduates' occupations. A high percentage of those graduates engaged in agricultural occupations placed high value on vocational agriculture instruction as it related to their present occupations; graduates engaged in nonagricultural occupations expressed little or no value of such training in their occupations.

Comparisons of quartile rank in class also revealed that those students who ranked in the top one-fourth of their high school graduating classes tended to participate in extra-curricular activities and migrate more extensively than did those in other quartile groups. Intercorrelations of quartile rank with selected variables pertaining to graduates' occupations revealed high positive correlation coefficients between occupational income, census classification of graduates' occupations, graduates' job satisfaction scores, North-Hatt Occupational Prestige Scale value of graduates' occupations, and graduates' enrollment in post-high school institutions.

## Implications

Several basic assumptions of the study have a significant bearing on the findings presented. First, it was assumed that it is necessary to allow a high school graduate from eight to ten years to become established in an occupation. If this is a valid assumption, the graduates who participated in this study had just entered their first "real" occupation or were becoming well established in it at the time the study was conducted. The second assumption suggested that the graduate's farm background would tend to influence his decision in favor of an agricultural occupation after high school graduation.

If the graduates' present occupations reflected their first "real" employment and their farm backgrounds tend to influence their choice of an occupation, such employment indirectly reflects job opportunities available at the time of employment. Applying these assumptions to the findings of this study, it was observed that the ratio of Nebraska farm male high school graduates entering farming to those entering off-farm agricultural occupations was approximately 2.5 to 1.

One might conclude that the graduates entered nonfarm occupations in increasing numbers from 1954 to 1958 as opportunities in farming diminished and the demand for workers in nonfarm industries increased. An alternative conclusion would be that entry of the graduates into farming was delayed pending completion of military obligations and formal education and the accumulation of needed capital resources. The latter conclusion seems most acceptable as it was found that of those graduates who wanted to enter farming after high school graduation but were unable to do so, 39 per cent had entered the military service or college. Among those graduates engaged in farming, 60 per cent had entered the military service or college, whereas 39 per cent had indicated that availability of farms and/or the shortage of capital had prevented them from entering farming.

The findings of this study suggest curriculum content for vocational agriculture programs in Nebraska. Fifty-four per cent of the graduates were engaged in agricultural occupations with 39 per cent of this group engaged in farming either as farmers, farm managers, or farm laborers. Ninety-two per cent of those who were engaged in farming and 50 per cent of those engaged in off-farm agricultural occupations were residing in the same or contiguous county as they had on the day of their high school graduation. These findings suggest that the vocational agriculture curriculum in Nebraska should be strongly oriented to instruction in production agriculture to best serve the needs of those who enter farming and off-farm agricultural occupations.

Vocational agriculture programs in Nebraska should be evaluated in terms of the needs of the community or area of the state in which the programs are conducted. These evaluations should take into consideration how the programs are conducted or can be changed to better meet the needs of students planning to enter both agricultural and nonagricultural occupations.


Alan A. Kahler


Clarence E. Bundy

# AVA IS EFFECTIVE . . . BUT MORE LEADERSHIP IS NEEDED

RALPH E. BENDER, President
Agricultural Education Division
American Vocational Association

Ralph E. Bender

*This month Ralph E. Bender concludes a three-year term as President of the Agricultural Education Division and Vice President of the American Vocational Association. On July 1, C. M. Lawrence, Florida Department of Education, Tallahassee, Florida, assumes these leadership positions in agricultural education and vocational education. Dr. Bender is Professor and Chairman, Department of Agricultural Education, The Ohio State University, Columbus.*

The American Vocational Association has been effective in contributing to the growth and developments in vocational education. This organization has been largely responsible for favorable legislative action and financial support. It has provided leadership and means through which the various divisions, departments, and sectional organizations have worked together in a coordinated program to improve the profession. Additional effort should be made by the AVA and its various groups in providing leadership that is not now available on any other basis at the national level. The same is true in some of the states.

Agricultural education is a well organized division of the AVA. Many members are involved in a program that continues throughout the year. The list of officers and committees of the Division, included elsewhere in this issue, indicates many of the worthwhile areas of activity underway. The Division has attempted to provide leadership and coordination in these activities. Excellent contributions are being made by each of the committees and through the NVATA, AATEA, and the NASAE.

A brief analysis of some of the challenges in the Agricultural Education Division are included in the following.

### Membership

Through the years the Agricultural Education Division has had an excellent record of AVA membership. It appears, however, that now and in the future additional emphasis needs to be given to recruiting and involving members in agriculture. The increased number of diversified programs—staffed to some extent by teachers not regularly prepared—in post-high school situations and area vocational centers, the competing emphasis of other educational associations, and the pressure of teacher unions make it more difficult to secure 100 per cent teacher support for our associations. New and enriched instructional programs necessitate changes in the professional programs of our organizations.

### Public Information

Acquainting others concerning the needs, problems, and accomplishments in vocational education is one of the greatest challenges to our profession. Agriculture has been significantly concerned with this problem due to the poor image in agriculture and the lack of appreciation for its importance in our society. We have not spoken out well enough concerning the dynamic program in agriculture and the contribution that we have made and are continuing to make.

The Public Information Committee chaired by Dr. A. H. Krebs is giving leadership to the profession in "telling the story as it is." He reports that 24 states have designated personnel who have responsibility in securing, receiving, and disseminating information about agriculture and agricultural education. We should recognize that agriculture may not be able to boast of the increased numbers served to the extent of some other areas of vocational education. We will continue to serve larger numbers through new and enriched programs, but quality performance rather than numbers should be our hallmark.

### Personnel Recruitment

One of the most productive committees in the AVA has been the Professional Personnel Recruitment Committee of the Agricultural Education Division. This committee has involved teachers of vocational agriculture, supervisors, and teacher educators in conducting activities to increase the supply of teachers of agriculture. Dr. Ralph Woodin, chairman of the committee, reported recently that the committee is working with 37 state recruitment commissions. Thousands of brochures, posters, and sets of slides have been distributed; exhibits have been arranged; and 689 teachers were recognized with special citations for their work in recruitment during the past year. Even though 252 more teachers were available in 1969 than the year previous, 30 states were in short supply. Our programs will never be any better than the teachers involved. We need to continue to work together in securing additional personnel for new and expanded programs.

### Legislation

The development of favorable legislation for vocational education has been and should continue to be a major effort in the AVA. The AVA, however, cannot do it alone. Support and assistance such as announced at the Boston Convention through the organization of a National Committee for Vocational Education and Manpower Training and a monthly publication known as the "Vocational Education and Manpower Reporter," independent from the AVA, seems to be a move in the right direction. The legislative effort, however, must be in concert with the total effort. Legislators and others do not appreciate conflicting stories.

Much consideration has been given to the development of a comprehensive manpower program. There is interest in the consolidation of funds and acts. Legislators are bombarded on all fronts concerning manpower, vocational education, career education, and occupational education in various forms through many groups and agencies. This is even confusing to the professionals. As AVA Executive Secretary Lowell Burkett has indicated many times, we in the profession must intensify our efforts concerning the "delivery of vocational education to those who need it." What is needed? How should it be provided?

### Advisory Committee

The Advisory Committee of the Agricultural Division is becoming a more effective force. This has been due to the fact that there has been more communication with and use of this important committee of significant people. At a recent spring conference in Washington, the Policy Committtee of the Division and the Advisory Committee discussed the status, problems, and trends in vocational agriculture. During the meeting the Advisory Committee challenged agricultural education to develop new and expanded programs and indicated that we need to be involved with other agricultural agencies, organizations, and industries in developing competent teachers and effective programs.

The group offered to support action for the purpose of providing more leadership and coordination in the U.S. Office of Education, restoring and emphasizing the identity of agriculture as a service, and maintaining the FFA as an integral part of vocational agriculture. It was generally agreed that such efforts should be coordinated with other Divisions of the AVA if they are to be most effective. Meeting with the Advisory Committee demonstrated the kind of activity that must be carried on in agricultural education throughout the country at all levels.

### Rural Development

A new emphasis and challenge to vocational agriculture is rural development. President Nixon gave rural development a boost when he said in his State of the Union message: "We will carry our concern with the quality of life in America to the farm as well as the suburb, to the village as well as to the city. What rural America needs is a new kind of assistance." The Presidential Task Force has indicated that job creation is the heart of rural development. This implies vocational education for both youth and adults. Special programs for small farmers to help them get bigger or fit them into other work will be attempted.

Dr. A. W. Tenney of the U.S. Office of Education is heading a program to promote more vocational education in rural America. Agricultural education personnel must welcome such opportunity. This does not imply that we decrease instruction in agriculture if it is needed, but rather we adjust present programs and provide other vocational education through additional and specialized personnel. This is another example of the continuous modification taking place in our programs. We shall never arrive with a program that is best—we shall be constantly striving. This is characteristic of "the professional."

# BOOK REVIEW

COOPERATIVES TODAY AND TOMORROW by Ewell Paul Roy. Danville, Illinois: Interstate Printers and Publishers, 1969 (Second Edition) 612 pp. $8.50.

This is a revised and expanded edition of the text originally published in 1964. The additional chapters discuss cooperatives in relation to such timely topics as the low-income problem, the developing nations, and cooperative economics.

This publication is intended primarily as a basic text for an introductory course on cooperatives at the post-secondary level. Teachers of agriculture would find it valuable as a reference book. Any students with specific interest in the area of cooperatives would appreciate the concise language and up-to-date examples. This is an excellent general library reference.

The discussion is not limited to agricultural cooperatives nor is it restricted to the United States. The historical aspects are particularly well presented and the sometimes controversial organizational side of cooperatives is also clearly explained. The economic and financial strengths and weaknesses of cooperatives, as compared to other types of business organizations, are thoroughly explained and logically presented.

Each chapter contains several topics for discussion and a rather extensive list of references. The book is generously supplied with pictures, charts and other illustrations; but unfortunately, some are not as recent as is desirable. The illustrations have been obtained from a variety of sources and should prove very useful in presenting the basic concepts and principles of cooperatives.

Dr. E. P. Roy is Professor of Agricultural Economics and Agribusiness at the Louisiana State University. He has done extensive research and teaching in farmer cooperation since 1955.

William H. Kelly
University of Vermont

*North Carolina's Approach to . . .*

# Evaluation in Agricultural Education

C. V. TART
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It has been stated that an inventory is the key to success in any business or farming operation. Evaluation — the process of assessment and appraisal for the purpose of making rational decisions — may be termed an "inventory" of educational programs. Evaluation has always been a part of agricultural education, but federal legislation since 1963 led educators in North Carolina to look at programs in terms of breadth and depth of service to people.

## Plan for Evaluation

In 1966 a project was begun which would result in the evaluation of vocational education in the State. A committee composed of persons representing each vocational area was selected to formulate strategies, techniques, and practices in conducting the project. The committee had but one charge and that was to help improve programs of vocational education in existance and to insure the highest quality for programs that were implemented in light of future available resources. This charge became the key purpose for evaluation.

The committee outlined a plan for evaluation to accomplish the following: to provide for involvement of personnel at the local and state levels in the development of criteria to be used in the evaluation; to create a positive atmosphere in which evaluation will be accepted as a key to program improvement; to provide an understanding and acceptance of the role of evaluation in the educational process; to demonstrate the necessity of evaluation becoming a process rather than an event; to provide learning experiences so that the evaluation process will ultimately be somewhat self-sustaining with increased local involvement; to obtain a commitment to program improvement from each person involved in vocational education as a result of the evaluation; and to better organize supervision of all levels according to specifically stated objectives in terms of ways and means of improving programs of vocational education.

The Evaluation Committee developed a list of 22 objectives to be attained through the evaluation process.

C. V. Tart

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To determine the extent to which

- —administration and supervision of vocational education is adequate, both at the state and local levels
- —there is effectiveness of program projection, planning, and evaluation at the state level
- —there is adequate state and local involvement in local program planning and evaluation for vocational education
- —vocational education resources are allocated according to occupational needs, both useful and gainful
- —vocational offerings are meeting stated objectives
- —staff (teachers, coordinators, counselors) are engaged in continuous and long-range programs of professional development and the level of staff preparation
- —appropriate facilities, equipment, and teaching materials and supplies are available and are used for the various programs
- —vocational teachers plan and follow through with sufficient and effective teaching practices and experiences suited to student needs
- —vocational teachers contribute to career-planning of students through program interpretation and instructional activities
- —vocational offerings are selected by students on a sound career-planning basis
- —teachers and school administrators are using experimentation, pilot programs, and innovations as a means of improving the quality of instruction
- —vocational education is a cooperative effort involving all education
- —students are entering the occupational area for which they received vocational training and are progressing on the job or continuing training
- —the needs of adult farmers and homemakers are being met
- —the curriculum provides for students who have special needs
- —vocational teachers are involved in the total school activities
- —advisory committees are used in planning new programs and advising existing programs
- —community resources are used in the various instructional programs of vocational education
- —vocational teachers, counselors, coordinators, and administrators interpret the vocational education program
- —youth organizations strengthen and extend the various vocational programs
- —vocational teachers assume professional leadership beyond the instructional program
- —vocational offerings are available to students on a fee-free basis

These objectives were further identified by labeling some general, some specific, and some both general and specific. General means the objective is applicable to all vocational education; specific objectives apply to each subject area.

Following the formulation of objectives, personnel in each subject area developed evaluation instruments containing criteria to determine the extent to which each area is meeting the objectives. Instruments were developed for local administrative and supervisory personnel, home economics education personnel, trade and industrial education personnel, introduction to vocations personnel, agricultural education personnel, distributive education personnel, and business and office education personnel.



## The Process

Since the same process was followed in all subject areas, the process used in agricultural education will be discussed in detail.

The Agricultural Education Supervisory Staff utilized personnel at North Carolina State University, A & T State University, and local personnel as consultants in the development of an instrument to evaluate vocational agriculture. This instrument is evaluated and updated annually. After the instrument had been used for two years, consultants from Oklahoma State University and Michigan State University were asked to review the instrument and to make suggestions for changes and improvements.

Evaluation of all programs of agricultural education in North Carolina in one year would be a gigantic task; therefore, a plan was developed for evaluating programs in 20 per cent of the administrative units annually. The plan established was to select participating units randomly with all units evaluated during a five-year period.

For each administrative unit to be evaluated, a meeting was scheduled which involved superintendents and other members of the central office staff, counselors, principals, and all vocational teachers in the schools involved. During the first part of the meeting the overall process of the evaluation was carefully explained. The second portion of the meeting involved personnel in each subject area meeting with a member of the state staff in order that the instrument they were to use could be explained. Two instruments were given to each teacher with instructions to study the subject area involved, complete the instrument, and mail one copy to the state office within the next four weeks.

Upon receipt of the instrument in the state office, a member of the state staff contacted the teacher and scheduled a day to visit the school. During this visit, the instrument was reviewed and the agricultural education program carefully analyzed in relation to the 22 objectives. As an aid in reviewing the program, the state staff member observed classes, facilities, equipment, and teaching aids and held a conference with the principal and teachers.

## Evaluation Summary

After visiting all programs within an administrative unit, the state staff member compiled a summary of agricultural education in the unit placing emphasis on strengths and weaknesses, barriers that might stand in the way of future high quality education in agriculture, and directions for a plan of action for a high quality program in the years ahead. No particular school is identified in the summary unless there is some peculiarity not applicable to the other schools in the unit.

The evaluation summary for each subject area in the administrative unit is submitted to the chairman of the State Evaluation Committee. A copy of the summary is distributed to each individual in each school and each administrative office at the local level involved in the evaluation. They are instructed to study the results of the evaluation and to make an effort to implement the recommendations. Each member of the state supervisory staff is given a copy of the report with instructions to follow-up the evaluation recommendations relative to ways and means of improving agricultural education during visits to schools or administrative units involved in the evaluation.

## Plan for Improvement

Approximately eighteen months after the evaluation report is received in the local administrative unit, personnel in the unit are asked to submit a report indicating: the program areas identified as needing improvement; actions taken to bring about improvement; action to be initiated later to bring about improvement; action now being taken to bring about improvement; additional improvements that have been identified as being needed either because of the initiation of a new vocational course or because of new problems in existing vocational courses; and areas which have been identified as needing improvement but for which no action has been taken, is being taken, or is anticipated to bring about the needed improvements.

In an effort to evaluate more fully the product of agricultural education, three questionnaires were developed during the summer of 1969 to be used in connection with the Agricultural Education Evaluation Instrument during the 1969-70 evaluation. The three groups to which these questionnaires are being directed are students presently enrolled in vocational agriculture, former students, and employers of former students of agriculture.

## Some Conclusions

This is the fourth year the program of evaluation has been in progress in North Carolina. Some conclusions can be made. Evaluation is a continuous process and those involved in the process have come to realize the necessity of a planned program of evaluation of agricultural education. Local personnel should accept more of the responsibility for program evaluation. Evaluation results are essential for long-range planning as well as for immediate planning.

Definite results in program improvement in the state can be attributed to the evaluation process. Local administrators and teachers are planning programs which are more relevant to the needs of students and the labor demands of the community. Higher quality supervision to the vocational programs in terms of stated objectives of these programs has made evaluation a welcome process for local administrators and supervisory personnel.

# BOOK REVIEW

BUILDING FARM FENCES. Athens, Georgia: American Association for Agricultural Engineering and Vocational Agriculture, Revised 1969, 33 pp. $1.00.

The publication states that the information is based on research and experience gathered from all parts of the country. It is presented in a step-by-step procedure, and the tools and equipment required are normally found on a farm. Procedures presented are those considered best for hand construction from the standpoint of time saving, durability, and cost.

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# Evaluation: A Means to Guide Change

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Evaluation presently finds itself with a stature unprecedented in education. The increase in importance of evaluation in education is the result of many factors. Three factors appear to be most important: substantial investment of money by the federal government in education; protests by students who are concerned about the relevancy of their education; and rebellious taxpayers demanding accountability for rapidly increasing educational costs.

Collectively these factors seem to be telling American educators to turn the microscope on themselves and evaluate what they are doing. Traditional approaches and policies must be evaluated in light of today's needs with an eye to the future. Those traditions not meeting the designated criteria must be revised or discarded.

## END OR MEANS

Most teachers closest contact with evaluation is the placing of a grade on a report card. Many vocational teachers evaluate by making an overall assessment of a completed shop project. Some teachers are exposed to evaluation by serving on accreditating teams. Still other teachers use various unsystematic schemes and label them evaluation. But are these activities evaluation? If the teacher views evaluation as an end in itself, these activities might be classified as rudimentary approaches to evaluation.

A more valuable approach is to view evaluation as an ongoing process providing the inputs to guide change. This approach is known as formative evaluation. Formative evaluation becomes a means to guide educational change and is not an end in itself. Formative evaluation sounds very "professional," but teachers are often perplexed if asked the "how" of using evaluation to foster change.

Very few educational endeavors provide the desirable pupil-teacher relationships one finds in vocational agriculture. Through on-farm visits, cooperative work experiences, FFA, and other activities, the teacher obtains many insights about pupils. In most cases, these insights provide input data for the teacher to make decisions.

## A PROPOSED MODEL

Formative evaluation must be considered in a framework of the decision-making process. How does the process apply to instruction in vocational agriculture? I see many opportunities. The proposed model is a more formalized technique for making decisions about change in a vocational agriculture program.

### Step 1
### Ascertaining the Decision Areas

A first step in the formative evaluation model is to determine the decision areas. One does not completely dump one program and initiate a brand new one, however desirable the latter seems to be. When ascertaining the decision areas, the teacher should look at the objectives for each phase of the program. If the objectives are clear and stated in behavioral terms, one can compare former and present outcomes and determine a relative degree of success or failure. These comparisons should provide an ordering of the decision areas.

If the objectives are not stated in behavioral terms, the task of ordering the areas of concern is much more difficult, but possible. Any proposed change should incorporate behavioral objectives.

### Step 2
### Select Appropriate Information

If the decision areas of concern are ordered properly, the selection of appropriate information is not difficult. The behavioral objectives from the first step greatly simplify the decisions necessary in this step. The confidence one can put into decisions varies directly with the objectivity of the appropriate information.

An example may clarify the point. You decide that an area of concern is the evaluation of a recently initiated horticultural program. What information will be needed to make a valid evaluation of the program? The teacher should be able to consult the behaviorally stated program objectives and identify the information necessary to measure the desired student behavior.

One objective might be as follows: *Given a list of plants, the student will demonstrate his knowledge of horticulture by preparing a written annual calendar of necessary greenhouse management practices. The calendar should include a time schedule, the materials needed, and the procedure for starting and growing the crop.*

A problem is for the teacher to identify what information measures successful attainment of the objective by the students.

C. A. Dittenhafer

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### Step 3
### Collection and Analysis of Information

In this step, the teacher answers the "when" and "how" questions of collecting and analyzing the appropriate information specified in the previous step. Formative evaluation places restrictions on answers to the "when" question of information collection and analysis. If formative evaluation is to be effective, the appropriate information must be collected and analyzed continuously during the educational program.

The major decision task is to answer the "how" question of information collection and analysis. Paper and pencil tests are probably the most widely used collection procedure. In any test, the measurement criteria must be the test's relationship to a stated program objective. *Irrelevant, tricky, or vague test questions provide the teacher with minimal information about student attainment of program objectives.*

Performance tests are a more desirable technique for measuring student attainment in many phases of vocational agriculture. In a performance test, the student performs the actual tasks necessary to indicate his level of attainment. Problems associated with performance testing include specifying the necessary tasks, scoring the tasks, and the additional time required for testing. More efficient means of performance testing will result as its use becomes more extensive in vocational agriculture.

Another answer to the "how" of information collection and analysis is subjective ratings of student performance. Subjective ratings are probably the least desirable collection procedure. In subjective ratings, objectivity is minimal and bias is maximal. However, the pupil-teacher relationships in vocational agriculture does maximize the teacher's assessment of student attainment by subjective means.

The analysis of the collected information is the second part of this step. The collection of information is useless if not analyzed. *The teacher who sincerely desires to evaluate his program must analyze the collected information for more than the assignment of a student grade.*

For example. a teacher using paper and pencil tests as a data collection device might analyze tests as follows:

—Specify in writing the criteria on which the answers to test questions will be scored.

—Score the questions on the test.

—Analyze each student's response to each question, i.e. the number of points obtained by each student on each question, especially discussion questions.

—Review the test results in light of the previously specified criteria and program objectives.

This type of analysis provides information necessary for the critical decisions to be made in the fourth step of the evaluation.

### Step 4
### Select Among Alternatives

No decision-oriented evaluation is complete without the proposal of alternatives for action. This step applies all the evidence from the previous steps to make evaluative decisions. Thus, the desirability of a teacher's choice among alternatives is directly related to his thoroughness in the previous steps.

If the teacher utilizes the test analysis suggested, two alternative decisions are apparent:

—If overall test performance is good, the program objective and the test are in agreement and only minor changes may be necessary.

—If overall test performance is low, the test is not measuring the objectives being taught in the program, or the stated objectives do not reflect the instructional emphasis in the program. Major corrective action is inherent if either is evident.

The teacher must consider all the information available before deciding on a plan of action.

## SUMMARY

The essence of formative evaluation is to provide continuous feedback about instruction. The continuous feedback enables the teacher to take corrective action during a course, not after its completion. Students can benefit from desirable instructional changes during the course. Changes made after a course is completed benefits only future enrollees.

An evaluation effort that fosters desirable change is not an end in itself. The change must spark continued evaluative efforts to provide students with the most efficient and relevant education possible. Good evaluation enhances public accountability for educational endeavors. Change in education is difficult at best, but evaluation can provide the facts to substantiate change.

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# BOOK REVIEW

PULPWOOD PRODUCTION edited by W. S. Bromley. Danville, Illinois: The Interstate Printers and Publishers, Inc., 1969 (Second Edition) 259 pp. $4.00.

This textbook is the result of the combined efforts of the American Pulpwood Association, machinery dealers, and educators. It was developed for use in courses in pulpwood harvesting at the high school and post-high school levels.

The text is set up in sixteen units of study covering such subjects as pulpwood harvesting, stumpage acquisition, forest products marketing, principles of hydraulics, engine operation, felling, limbing, bucking, hauling, and loading equipment. The publication contains many appropriate photographs and diagrams to make the text more meaningful and relevant.

This book is written and designed to help meet the needs of students who plan to enter pulpwood harvesting at the occupational level. There is an extensive glossary which would be very useful to orient the student in this special field. Anyone with an interest in pulpwood harvesting as a career should benefit from using this book as a text or reference.

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# How First-Year Teachers Perceive Their Abilities

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How do you rate yourself as a teacher? As a first-year teacher would you have described yourself as confident, well prepared, and optimistic, or would you have considered yourself apprehensive, inadequately prepared, and pessimistic?

### Evaluation

One effort toward the evaluation of the teacher education program at The Ohio State University is a five-year study to determine the self-perceived abilities of beginning teachers in ten areas of competency. The ten areas of competency involve 68 professional abilities ranging from "using and advisory council effectively" to "maintaining a clean shop."

Each year data were collected during a summer workshop for all new vocational agriculture teachers immediately after graduation. At the end of the first year of teaching, the teachers were asked again to rate themselves on the same abilities. Only the responses of 127 teachers who were fully certified and employed to teach production agriculture in single-teacher departments are reported in this article.

It is likely that those employed to teach specialized courses such as horticulture or agricultural mechanics and those teaching disadvantaged youth would have different interests, motivational forces, and abilities. When this study was initiated, the majority of graduates were employed as teachers in production agriculture programs, and the abilities each teacher rated himself on pertained primarily to production agriculture programs.

### Beginning of First Year

The ratings reported in the accompanying table indicate that first year teachers do not see themselves as completely competent in all areas when they begin teaching. Many factors influence their perception of their abilities as teachers. These factors include past experiences, training received during pre-service education, and their attitude toward activities in the different areas of competency.

At the beginning of their first year of teaching it was found that new teachers believed they were fairly competent in advising FFA activities, planning physical facilities, pursuing professional improvement, and conducting public information activities. It is likely that the teachers' perceptions were greatly influenced by student teaching. Most cooperating centers where the teachers received student teaching are considered above average departments in the areas of competency which the first-year teachers rated highest. Further analysis of the data seems to indicate that teachers may have reported a higher perception of their abilities in planning physical facilities, professional improvement and public relations than they actually possessed.

The teachers' degree of perceived ability began to fade slightly when they rated the areas of occupational experience, classroom teaching and program planning, guidance and counseling, and relationships with the school administration. "Assisting students in keeping and analyzing farm accounts and project records" and "on-farm placement of students" were two abilities rated low by most teachers in the area of occupational experience programs. Perhaps the needs for diversified occupational experience programs to meet the needs of students influenced the teachers' perceptions of their ability in this area.

**PERCEIVED ABILITIES OF FIRST-YEAR TEACHERS**

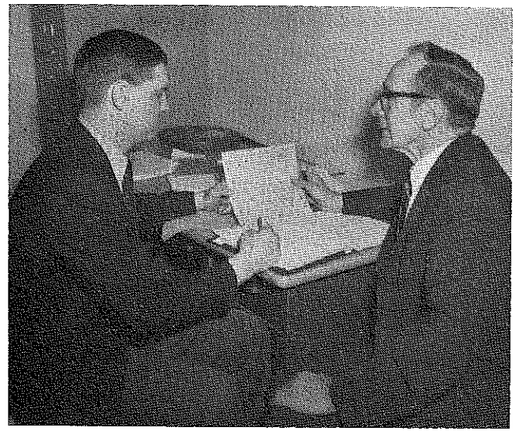
| Area of Responsibility | Average Rating[a] |
|---|---|
| **AT BEGINNING OF FIRST YEAR** | |
| Advising the FFA | 6.1 |
| Planning Physical Facilities | 5.9 |
| Pursuing Professional Improvement | 5.8 |
| Promoting Public Relations | 5.3 |
| Developing Occupational Experience Programs | 4.8 |
| Teaching and Program Planning | 4.7 |
| Conducting Guidance and Counseling Activities | 4.5 |
| Improving Relationship with School & Administration | 4.3 |
| Teaching Agricultural Mechanics | 2.5 |
| Conducting Young and Adult Farmer Programs | 2.2 |
| **AT END OF FIRST YEAR** | |
| Advising the FFA | 6.5 |
| Planning Physical Facilities | 6.1 |
| Improving Relationship with School & Administration | 6.0 |
| Teaching and Program Planning | 5.8 |
| Conducting Guidance and Counseling Activities | 5.6 |
| Pursuing Professional Improvement | 5.4 |
| Promoting Public Relations | 5.4 |
| Developing Occupational Experience Programs | 5.3 |
| Teaching Agricultural Mechanics | 4.8 |
| Conducting the Young and Adult Farmer Programs | 4.7 |

[a]Teachers rated themselves on a seven point scale for each of the 68 professional abilities. A rating of 1 indicated they did not have the ability while a rating of 7 indicated they had demonstrated the ability without help. The numbers reported are the averages for the perceived abilities pertaining to each area of competency.

Abilities on "a carefully planned four-year course of study," "maintaining discipline," and "effective testing and evaluation" unquestionably led teachers to expose apprehension about their abilities in the area of teaching and program planning. These findings have direct implications for the pre-service teacher education program.

It is not surprising to find guidance and counseling and relationships with school administrators rated relatively low. These areas are difficult to simulate in a training program in a realistic manner such as a teacher may experience during his first year of teaching. Consequently, a degree of doubt prevails until the real experience becomes a part of a teacher's life. Although these areas are important seldom has a new teacher failed due to his inability to counsel students or to work closely with school administrators. In another related study school administrators rated first year teacher rather high in these areas of competency.

Surprising as it may seem, two major and important areas of competency — teaching agricultural mechanics and conducting young and adult farmer programs — are rated lowest by new teachers. I have observed that conducting young and adult farmer programs has always caused considerable concern for new teachers until they experience some success with this responsibility. Needless to say, the low ratings of their perceived abilities in these two areas open some avenues of criticism, if we believe these areas are essential in programs of vocational agriculture. Certainly this finding has implications for in-service teacher education programs.



Gilbert S. Guiler (right), Associate Professor of Agriculture Education, The Ohio State University, counsels with Paul Beach, a new teacher of vocational agriculture at Somerset, Ohio.

### After the First Year

It is interesting to note the change during the first year of teaching in the teachers' perceived abilities. Their exposure to reality, the influence of other teachers, and the influence of their wives probably have much to do with the change in the perceptions of their abilities as teachers of vocational agriculture.

What really causes teachers to increase their perceived ability in some areas to a level double that at the beginning of the year? Apparently, that "incompetent feeling" during the first year is erased while some new apprehensions may become evident. Yet for the most part, the increase in confidence of new teachers stems from the fact that after a year of experience they are more sure of what they can do. This does not necessarily measure their degree of perfection or excellence; but based upon comparisons with other teachers and the success they realize during the first year, the end-of-year perceptions indicate their competency did increase during the year.

An analysis of the data showed that improvement in perceived abilities was significant for teaching agriculture mechanics and conducting young and adult farmer programs. On the average teachers of vocational agriculture in Ohio devote approximately 40 per cent of their instructional time to teaching agricultural mechanics. Ninety-two per cent of the teachers whose ratings are reported in this study conducted a young or adult farmer program during the first year. It is conceivable that their experience in these two areas played a major role in increasing their perceived abilities in agricultural mechanics and adult education.

### Implications

An effective teacher education program cannot expect all newly prepared teachers to express complete confidence in their abilities in all areas of responsibility. Neither can we expect complete confidence or ability at the end of the first year of teaching. However, considerable attention must be given to the abilities of high priority and importance which new teachers are expected to possess when entering teaching.

We are also reminded that a four year pre-service program is affected by the limited time devoted to technical and professional courses in agricultural education due to other required courses in the four-year curricula. Since this time appears to be well established, than a necessary alternative appears to be an intensive in-service teacher education program for new teachers.

All new teachers of vocational agriculture in Ohio participate in an intensive in-service education program including five days of workshops, four half-day seminars, and three instructional visits to their schools. I believe that such personalized instruction is of paramount importance in developing and increasing the new teachers' confidence and perceived ability.

# Advisory Committees for Vocational Education

J. W. GUILINGER
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J. W. Guilinger

For many years in many smaller Illinois high schools, agricultural education and home economics education have been the dominate force in a community's vocational education program. Certainly all would agree that the Vocational Education Amendments of 1968 as well as the Vocational Education Act of 1963 caused a revolution in vocational education. Agricultural education must play a stronger role than it is at present. Agricultural education, as now mandated, must become a part of the total vocational education program in a high school.

We must develop agricultural advisory committees to include more segments of the agricultural business community. We must also recommend or take the lead in the formation of general vocational education advisory committees with representatives from business and industry which are served by all areas of vocational education in the school system.

### Advisory Committees

At Sycamore (Illinois) High School we have three separate advisory councils working within the school system. Each council is for a specific area of vocational education such as agriculture, diversified occupations, distributive education, and welding and electronics. Each of the advisory committees has been in operation for a number of years. The advisory committee for agriculture has been in operation more than seventeen years.

A vocational education advisory council composed of representatives from advisory councils of all vocational areas in a school system is needed to aid in developing programs to meet the employment needs of a particular community. Each segment of a total vocational program should be specific to the appropriate occupational area; but if we are to meet today's challenge for occupational education, we must involve all areas of vocational education on an advisory committee which has the charge of assisting in the development and directing of a total vocational program for the school district.

### Coordination

If vocational education is to be considered a total program in a community, teachers of distributive education, diversified occupations, industrial arts, home economics, health occupations, and agriculture should meet monthly to inform each other of plans and goals. These meetings should be held in connection with a vocational advisory committee composed of representatives from each of the individual advisory committees. A vocational education advisory council composed of representatives of each division would be one of the best methods of improving vocational education in a community in order to meet the job placement challenge we face in the years ahead.

Through the use of monthly meetings of teachers and the council, a total vocational education program for the community could be discussed and reviewed. The general council could develop and map job opportunities for all areas of vocational education. Through studies of the local community and area industries, business and agricultural job openings for high school graduates would be known and necessary curriculum changes could be formulated to meet these needs. The general advisory council could also aid the school as an employment placement force in the community. Through the advisory group, local agricultural, industrial, and business enterprises could express their employment needs for the future.

We must consider the possibility of the school providing a job placement service for those who graduate from high school but do not plan to continue additional education. If a job placement service is provided, agriculture should become an important part of the jobs available to high school graduates, particularly if the graduates had progressed through an employment experience program during their junior and senior years. Surveys of the diversified occupations program at Sycamore High School show that approximately 70 per cent of the students not pursuing further education remain in the community's work force, thus becoming taxpayers who support the school system.

### Evaluation

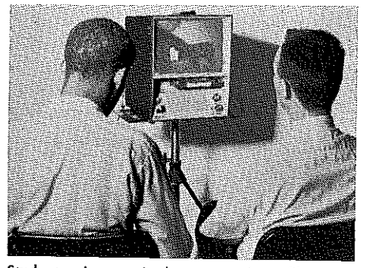
One of the major roles which the advisory council for vocational education might perform is the yearly evaluation of the total vocational education program. Subcommittees of the council might evaluate each area of vocational education in the system.

I feel vocational agriculture, with its strong advisory councils which have been in existence for many years, should take the lead and encourage the development of vocational advisory councils in school systems. This will enable us to develop stronger agricultural education programs than we now have. We should see ourselves as a part of a team of vocational educators working together rather than being at odds with each other's program with attempts to promote individual programs.



# The Media with a Great Future— 8mm Single Concept Loop Films

DONALD S. HEANEY
Superintendent of Schools
Garden Valley, Idaho


Students view a single-concept loop film using a more expensive magnetic sound projector with a front view screen.


Donald S. Heaney

The need for instructional materials to keep up with changes in agricultural education in high schools and junior colleges is greater than ever before. The 8mm loop film, sometimes referred to as single-concept loop films, can help meet the demand for effective instruction. The single-concept loop film is usually a one to five minute film involving a concept, information, or skill. The 8mm loop films are short, silent, continuous loops that offer advantages of economy and simplicity.

### Advantages

The loops can be produced commercially or by the teacher. Local productions of 8mm loop films are valuable in that they meet local needs and do it economically. The 8mm cartridge film is both simple and inexpensive to produce. You do not have to be a camera expert, but you must be an expert in subject matter. In many respects making good educational films is easier than making good home movies. Educational films require control of the action since the films have a purpose.

Single-concept 8mm loop films developed by teachers offer these advantages.

—Films can be programed so that information is supplied students in small, meaningful units with repetition when needed.

—Teachers are able to select subject material relating directly to classroom and laboratory instruction.

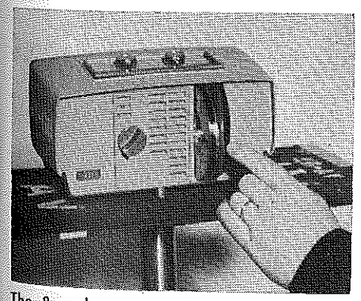
—The 8mm single-concept loop film and projector are easy to use and relatively inexpensive to develop; a color loop film can be developed for less than $10.

—The loop films are designed for individual use and for use by small groups.

—A student who is a slow learner can spend as much time as possible and repeat the film as many times as is necessary.

—Loop films can be used with gifted students to enrich instruction.

—Intricate laboratory exercises can be demonstrated effectively.


The 8mm loop or cartridge projector is easy to operate. The cartridge is easily slipped into the projector, and the simple and conveniently located controls facilitate its use.

### Using Loop Films

Single-concept films can result in a high degree of student involvement. Teachers who make their own movies quickly build up a valuable library of effective teaching aids. Project visitations, how-to-do-it techniques, developing skills, drill, repetition, field trips, and adjustment and maintenance of equipment are all easily recorded on 8mm film to be made into a single-concept loop film. The equipment needed is a regular 8mm or super 8mm camera, a tripod, an auxiliary exposure meter, photo lights for indoor shooting, imagination, and a knowledge of the subject matter.

The 8mm single-concept loop film lends itself exceptionally well to instruction in vocational agriculture. The following are some examples of how loop films can be used.

—Beginning instruction in the agricultural mechanics laboratory such as tool conditioning, acetylene welder setup, striking an arc, and use of electrical equipment.

—Advanced techniques and skills such as valve grinding, tuneup, hardfacing, reconditioning, concrete work, carpentry, and electrical wiring.

—Classroom instruction in areas such as soil testing, dehorning and docking, feeds and feeding concepts, milk testing, seedbed preparation, cultivation, plant reproduction, animal reproduction, parliamentary procedure, and presenting occupational information.

—Preparation of judging teams in meat identification, weed identification, livestock, and others.

### Availability of Loop Films

A number of companies are producing loops for use in vocational agriculture courses. There are a number of 8mm single-concept loop films dealing with the use of tools for industrial arts courses which can be used in agricultural mechanics instruction.

The silent single-concept loop films, either in regular 8mm or super 8mm, seem to be the most popular and diversified. The price range is from $15 to $25 for a single-concept silent 8mm loop film in a cartridge.

# Research in Agricultural Education
## *Studies Completed in 1968–69*

JAMES T. HORNER
University of Nebraska

The 161 research studies completed in 1969 provide evidence that agricultural educators are striving to meet the challenge of change through the investigation of significant problems. Intelligent application of pertinent research is one of the most important ways to bring about improvements in agricultural education.

Abstracts of studies were compiled by the Research Committee of the Agricultural Education Division of American Vocational Association. A limited number of copies of the studies reported in 1968-69 may be obtained from: C. M. Curtis, Louisiana State University, Southern Region; J. T. Horner, University of Nebraska, Central Region; C. O. Loreen, Washington State University, Pacific Region; and D. F. Shontz, University of Rhode Island, North Atlantic Region.

The abstracts briefly state the purpose, method, and findings and include information on where to obtain the thesis or published report. Doctoral theses may be purchased on microfilm; master's theses are available through inter-library loan; and staff study reports may be requested from the respective institutions.

In classifying the titles reported in 1968-69, thirteen major categories were utilized. The largest number of studies dealt with manpower needs and employment opportunities, student follow-up and evaluation, and teacher education. A number of studies dealing with cooperative extension were reported. Other areas receiving considerable attention included guidance and counseling, programs for high school students and others such as safety mechanics, occupational experience programs, administration and supervision, adult education and learning-teaching methods.

Fifty-nine per cent of the studies reported were master's degree theses, papers, practicums or problems; 32 per cent were doctoral dissertations; the remaining 9 per cent were staff studies.

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James T. Horner

*This compilation of titles of research in agricultural education completed in 1968-69 is a project of the Research Committee of the Agricultural Education Division, American Vocational Association. James T. Horner, Professor and Chairman of Agricultural Education at the University of Nebraska, is Chairman of the Research Committee.*



**SUMMARIES OF STUDIES IN AGRICULTURAL EDUCATION 1965-1967**

Abstracts of studies completed in agricultural education during the years 1965 through 1967 were recently published under the title *Summaries of Studies in Agricultural Education, 1965-1967*. The abstracts were compiled by the Research Committee of the Agricultural Education Division of the American Vocational Association and published by the American Association of Teacher Educators in Agriculture. Copies are available at $4.00 each from Interstate Printers and Publishers, Danville, Illinois.

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# Summer Experience for Prospective Teachers of Agriculture

JAMES C. POLLMANN, Teacher Education
South Dakota University


James C. Pollmann

The basic reason for a preservice summer experience program for agricultural education majors is to provide learning experiences and firsthand observations of instructional activities in vocational agriculture. The summer experience program at South Dakota State University is optional and offered on a variable credit basis with one semester hour of credit for each week spent in a vocational agriculture department. The course is open to either junior or senior students in agricultural education. The credit is granted primarily for the intellectualization of the experience.

### Nature of Experience

The experiences of the prospective teacher should be typical of those in which the regular teacher is engaged prior to the starting of school. The regular teacher of vocational agriculture is not expected to change his usual pattern of summer instruction. It is recommended, however, that the summer experience program be scheduled at a time when the prospective teacher-trainee can be provided a maximum opportunity to gain firsthand experiences in activities relating to the total program of vocational agriculture.

The summer experience program should be designed to provide instructional activities in which experience cannot be made available to student teachers at any other time of the year. The experience should contribute to latter work in student teaching by introducing students to a functioning program of vocational agriculture. The teacher-trainee should be able to see the relationship between the summer instructional program and the instructional program during the balance of the year. They should become familiar with the duties and responsibilities of vocational agriculture teachers during the summer months with particular emphasis to on-farm and on-job instruction, procedures and problems in getting a program underway during the first week of school, supervising FFA activities, preparing instructional materials, and eliciting and maintaining community support for the vocational agriculture program.

### Activities

Students are encouraged to seek as many different experiences as possible. Some of the recommended experiences are:

—Become acquainted with high school registration

—Become acquainted with the school's policies, curriculum, teachers, and administrative personnel

—Become acquainted with facilities and materials for instruction

—Become acquainted with the supervised occupational experience programs

—Become acquainted with the FFA program and activities

—Become acquainted with the community

It is felt that this program strengthens students and that upon graduation they will be much more effective teachers. Students who have completed the summer experience program make these comments. "It should be required of all senior Ag Ed majors." "I am especially glad I was able to participate in this course because up to this time I wasn't sure that agricultural education was really the field I wanted to be in."



# EVALUATION Essential for Program Planning

ALFRED STEWART, Supervisor
Louisiana Department of Education


Alfred Stewart

Evaluation means to appraise; sound appraisal must involve both an objective or anticipated goal and an awareness of accomplishments or achievements. But that evaluation of it does not follow educational programs is a simple process. In fact, the extreme complexity of evaluating educational programs needs to be emphasized. This complexity grows out of the fact that an educational program is concerned with all aspects of life, hence evaluation must be based on anticipated goals involving interests, ideals, understandings, attitudes, and habits.

In order to approach the task of program evaluation with hope for success, one should be aware of two facts: first, anything that exists, if its existence produces an effect that is in direct proportion to the degree to which it exists, can be measured; and second, there are available the necessary criteria for measuring the success of educational programs. The latter has often been the limiting factor to effective program evaluation.

### Importance

Evaluation is an integral part of program planning. It is through planning that certain areas are accepted or rejected and new programs developed. Figuratively speaking, evaluation is a process of holding a program with all its entities before a bright light so that all weak and strong points can be easily discerned. Thus it seems safe to conclude that the result of evaluation is program planning which results in the emergence of new or revised programs which are cut to fit more effectively the community and individuals than the old programs.

### What to Evaluate

Vocational agriculture programs are designed to increase the competence of students and prepare them for agricultural occupations. Emphasis is placed on the development of specific knowledge and skills necessary for successful community life. Consequently, a program in vocational agriculture should be based on a careful analysis of the specific needs of students and the community.

Effective evaluation depends on a total program concept. This requires an understanding of a desirable balance between the instructional activities of the classroom, the mechanics laboratory, and the practical experiences provided on the farm and in nonfarm agriculturally related businesses of the community. So evaluation must involve a careful appraisal of the curriculum and course offerings, instructional content and materials, organization for instructional purposes, physical facilities and equipment, teaching methods and techniques, and the instructional staff.

### Method

Local committees can be utilized in evaluating programs and for projecting possible adjustments in vocational agricultural programs. The committee should represent the school staff, the local advisory committee, the vocational agriculture teachers, the school guidance personnel, state education personnel, students, and the administrative staff.

Based upon individual and community circumstances and needs, objectives are established. When these objectives are compared with the program offered, the need for adding new items or deleting old ones is readily revealed. One thing to be kept in mind is the fact that as the needs of the community and individuals shift, the nature of the educational program must shift accordingly. Since needs and conditions change constantly, it is necessary that evaluation be continuous, thus eliminating ineffective and out-of-date elements and providing for program innovations.

A complete evaluation of vocational agriculture programs involves an analysis of the community and individuals which reflects present programs and unserved needs. This permits the building of a new program by combining strong points from existing programs with promising innovations. Evaluation is a continuous and complex process of equating educational goals with achievements so as to discern possibilities for improvement.

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# News and Views of NVATA

JAMES WALL
Executive Secretary

## NVATA --- USOE COMMITTEE ACTION

The NVATA-USOE Committee met in Washington recently to review progress to date and to develop a program of continued and extended action. Meeting with the committee were representatives from the National Farmers Union, the American Farm Bureau, the American Institute of Cooperation, the National Association of State Departments of Agriculture, and Successful Farming Magazine.

The Committee agreed upon the following action program.

—Continue to evaluate the problem

—Develop a brochure on "The New Look in Vocational Agriculture and the FFA"

—Establish state Ag-Industry groups

—Continue the attempt to have the problem solved administratively

—Conduct national and state basic public relations programs

—Continue to explore the possibility of special legislation

While in Washington the Committee also met with Congressman Carl Perkins of Kentucky, Chairman of the House Education and Labor Committee, and the Committee Counsel. An excellent meeting was also held with Congressman Albert Quie of Minnesota.

Jim Durkee, Chairman of the Committee, and Jim Wall, NVATA Executive Secretary, met with Lowell Burkett and John Hudson of the AVA Staff and the Vice Presidents of AVA representing Health Occupations, Guidance, T & I and Home Economics.

In support of the NVATA-USOE Committee, the AVA Agricultural Education Division Advisory Committee at their recent meeting in Washington voted to meet with Commissioner Allen and Associate Commissioner Venn to discuss proper identification and adequate staffing for vocational agriculture.

A special committee composed of teachers, teacher educators, and state supervisors met at NVATA Headquarters recently to identify some of the priorities for legislation and funds for vocational education in agriculture.

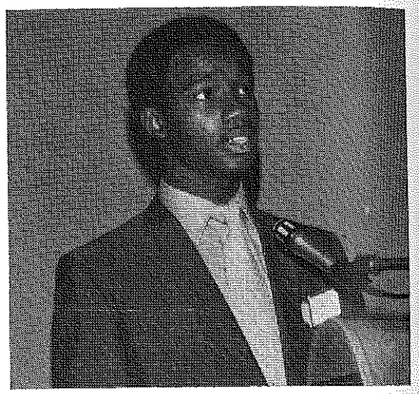
According to a national survey recently conducted by the committee on the question "What has happened in your state during the past five years?" it was found that: supervisory leadership had decreased in 33 percent of the states and lost its identity in 11 percent; leadership for FFA had decreased in 63 percent of the states and lost its identity in 24 percent; and federal and state funds for vocational agriculture had decreased about one-third. Bear in mind that these decreases have occurred while federal funds for vocational education have more than doubled.

Discussing vocational education legislation during the 1970 Central States Seminar in Agricultural Education held at the Sherman House in Chicago are (left to right) Congressman Albert H. Quie of Minnesota; Edwin St. John, Michigan; Edgar A. Persons, University of Minnesota; and Gene M. Love, University of Missouri. (Photo by Curtis R. Weston, University of Missouri)

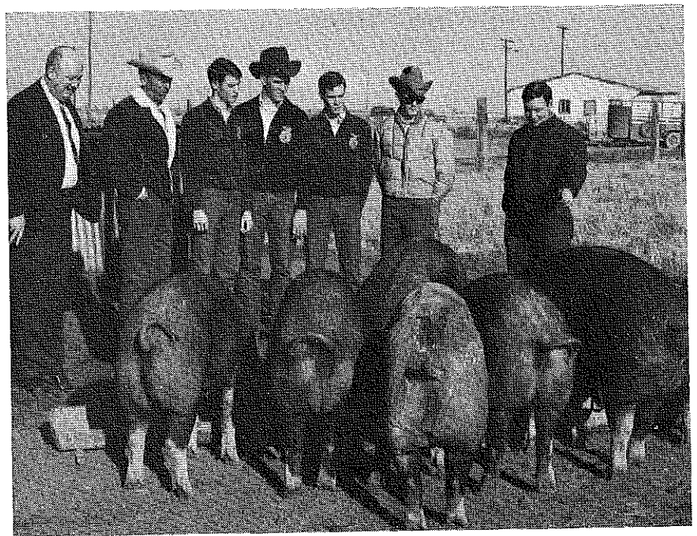
# Stories in Pictures

ROBERT W. WALKER
University of Illinois

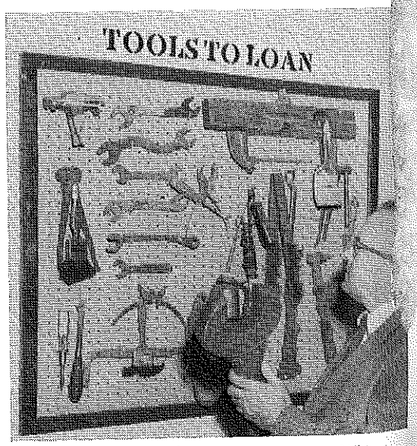
National FFA President, Harry Birdwell, receives a check for $10,000 for the FFA Foundation from Paul Herewagon (right) of the General Motors Corporation. D. N. McDowell, Executive Director of the FFA Foundation Sponsoring Committee, observes. The presentation was made during the Central States Seminar in Agricultural Education held in Chicago, February 1970. (Photo by Curtis A. Weston, University of Missouri)



Lester Williams, student teacher from Prairie View A&M College, Texas, presides at the Eighteenth Annual Conference of Student Teachers held during the National FFA Convention in Kansas City, October 1969. (Photo by Robert W. Walker, University of Illinois)



The Superintendent, a board member, the teacher of agriculture, and vocational agriculture students at Dora Schools, New Mexico, observe a student's swine enterprise during an evaluation of the farming programs of the Dora Vocational Agriculture Department. (Photo by L. C. Dalton, New Mexico)




A display of misused tools helps Loren Whitmore, Vocational Agriculture Teacher at Haxtun, Colorado, teach proper care and use of tools. (Photo by Paul Foster, Colorado)

AGRICULTURAL EDUCATION

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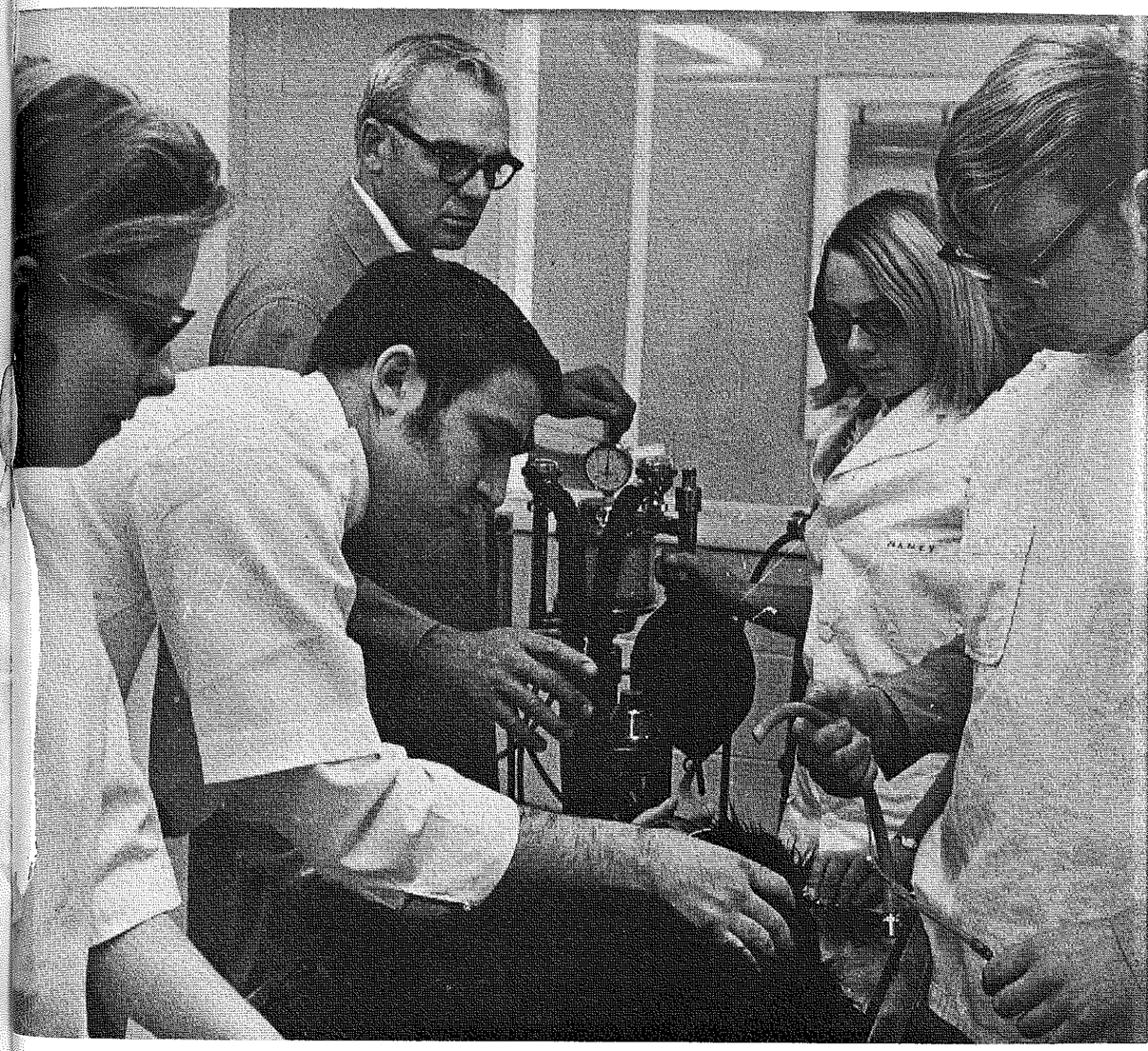

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