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THEME: Using Research

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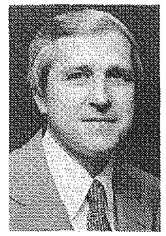
EDITOR'S PAGE

In Search of Who We Are



JASPER S. LEE, EDITOR
(The Editor also serves as Professor and Head, Department of Agricultural and Extension Education, Mississippi State University.)

There is much imprecision about the mission of vo-ag and who it is to serve. Are we involved with only vocational-technical education in agriculture or do we take on the larger area of agricultural education as our mission? Federal legislation has been specific in terms of the mission of vo-ag. Discussions at professional meetings and articles in professional literature would lead one to believe that the mission of vo-ag has changed considerably from that in vocational education laws. Further, the name of this magazine uses "agricultural education," and it has been the professional organ for vo-ag for over 50 years!

Many times the terms "agricultural education" and "vocational agriculture" are used synonymously. They are not synonymous, and this is precisely one of the biggest areas in need of clarification.

We must clarify the area (and hence the name) of our program if we are to know our audience. The charge in vo-ag is to serve secondary and postsecondary students with occupational preparation of less than the baccalaureate level for agricultural industry. Further included is adult/young adult education for advancing in employment in agricultural industry. Anything other than this thwarts our reason for existence. It puts vo-ag educators into areas they know little about, and for which they have no real legal basis.

Areas of Agricultural Education

There are at least five areas of agricultural education: elementary, general, vocational-technical, college/university, and international.

Elementary and general agricultural education are taught so that all people will have some knowledge of agriculture. Elementary agricultural education is taught in the pre-school and elementary grades. It is frequently concerned with how plants and animals grow, especially from the perspective of food and fiber production. The instruction is usually as units in science or social studies and may involve projects such as gardening or tending small animals. General agricultural education may be taught as separate classes or as units in other classes. Most often it is offered in junior high or high schools. It is intended to provide people with a knowledge of agriculture regardless of whether or not they are involved with agricultural industry.

College/university agricultural education prepares people for higher-level positions in agricultural industry. It may focus on research, education, management, production, or other areas of agricultural industry. The education may be achieved in a junior (community) college, 4-year college, or a university. Individuals may obtain associate, baccalaureate, masters, and doctoral degrees. Land-grant universities also offer non-credit agricultural education through the Cooperative Extension Service. Primarily for adults and youth who participate through the 4-H Club, Extension agricultural education does not lead to a college degree.

International agricultural education focuses on agricultural subjects from the perspectives of varying economic and political systems, climates, and cultures. It may be achieved through international agencies, foundations, governmental programs, and colleges and universities.

From the descriptions of these, it is obvious that vocational agriculture and agricultural education are not the same. Vocational agricultural educators are agricultural educators with responsibility for only a segment of the totality of agricultural education.

Accept or Redefine

It is time to accept the responsibility for the segment of agricultural education which is vocational-technical education in agriculture. This is essential if we are to find appropriate program orientation in order to fulfill the mission for which the program was established. This is our legal responsibility and the area in which we have a successful history of performance.

If we cannot accept this mission, we must go about redefining what vocational-technical education in agriculture is all about.

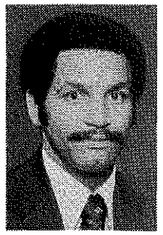
Using Research

There is often a sizeable gap between the practices taught and used in agricultural industry and those which have been found to be most efficient through research. Vocational agricultural educators are change agents. They are responsible for disseminating and encouraging the adoption of new practices. An observable trend is that vo-ag programs are increasingly school-based. In short, there is a trend for teachers to restrict their instruction and agricultural activities to the school campus, and lose their community orientation. The greatest danger is that they may become agriculturally ignorant. (The same may be said for teacher educators and supervisors.) And using research can help prevent agricultural ignorance!

The theme for this issue is "Using Reaserch." Dr. Blannie Bowen of Mississippi State University is to be commended for his role in soliciting authors and articles.

THEME

Why Use Research In Teaching?



By Blannie E. Bowen, Theme Editor
Editor's Note: Dr. Bowen is Assistant Professor of Agricultural and Extension Education at Mississippi State University, P.O. Drawer AV, Mississippi State, Mississippi 39762.

Research is one of the few words in the English language that can generate almost as many negative as positive responses. This may be related to the manner in which research findings are often presented. Research naturally involves numbers, but multi-syllable words, long sentences, endless charts and graphs, complicated statistical analyses, and thick publications that few people ever read help provide an elitist image for research and researchers.

The vocational agriculture teacher who labors through four to six hours of classroom and laboratory activities, an afternoon of visits, and a schedule of adult classes might justifiably look at a research publication and ask, "So what?" State supervisors of agricultural education might easily ask this same question. Many teacher educators in agriculture and future teacher educators (graduate assistants) probably do not ask this question with enough frequency. This theme addresses that "so what" question. Articles in this issue focus upon using and applying research findings, not so much upon conducting research.

Research: Two Definitions

The Scholarly Definition. Just what is this beast we call research? The definitions are as numerous as there are persons claiming to be researchers. One of my favorite definitions was offered by H.M. Hamlin, the noted University of Illinois researcher and vocational education leader. He wrote that "research is an unusually stubborn and persisting effort to think straight which involves the gathering and the intelligent use of relevant data" (Hamlin, 1962, p. 14).

The Practitoner's Definition. Simply put, research is an investigation to find new knowledge. This new knowledge is generated when a problem, a concern, or a question faces a person who has the patience, skills, and willingness to find a solution. Research is making decisions, identifying and solving problems.

Research Breeds New Knowledge

Technical Agriculture. Think for a minute about the situations and times when the following discoveries came about: internal combustion engines; blight resistant varieties of corn; the bacon-type hog; mechanical harvesters; and fungicides, herbicides, and insecticides. All of these innovations came about because society faced tremendous concerns and problems and a need existed for these discoveries. Fortunately, individuals who possessed the required skills and dedication were available to find the necessary solutions. American agriculture would still be in the 19th century were it not for these advancements.

Many of today's problems are being investigated, studied, explored, searched, and then re-searched with the same level of eagerness and vigor. However, so much of today's research is not generally perceived to have far-reaching and earth-shattering impact. This situation exists because many of the problems do not share as much of the national spotlight as did corn blight in the 1960's and the need for chemicals to control weeds, fungi, and insects in crops such as soybeans, corn, cotton, oranges, and tobacco.

Agricultural Education. This situation also holds true for much of the research conducted by agricultural educators. The problems of interest in most agricultural education studies are significant, but two concerns limit the findings that are produced. First, most of the studies are descriptive in nature and attempt to describe opinions, attitudes, feelings, and perceptions of groups such as students, teachers, administrators, supervisors, and teacher educators. The problems studied often focus on the FFA, adult instruction, classroom and laboratory instruction, supervised occupational experience programs, job satisfaction, and other similar topics. Second, many of the studies involve problems wherein there can be no clear-cut, immediate and complete solution.

For example, a petroleum engineer who is developing a new fuel for tractors will have two choices when the study is completed: The fuel works or it does not work. Now consider the decisions faced by an agricultural education researcher who wants to know if students learn more if they are taught by a teacher or by a self-paced instructional unit, then one would logically ask questions such as: In what classes? For what age groups? For what ability students? How do students feel about this type of instruction? What costs are involved? The list of questions is endless because of the very nature of research about education. This is why innovations in education come about at a snail's pace as opposed to other fields such as engineering, business, medicine, and technical agriculture.

Research Offers the Cutting Edge

Agricultural educators interested in staying current and seeing the latest that is available have no choice but to turn to researchers for this information. One common assumption, however, is made about how to learn of and understand what researchers have done and are doing. The notion of hands-on and first-hand experiences is often overlooked because vocational agriculture teachers, supervisors, and teacher educators often forget an idea offered by Seaman Knapp, a pioneer whose work helped get Cooperative Extension programs started via the Smith-Lever Act of 1914.

Knapp is quoted as saying, "What a man hears, he may doubt; what he sees, he may also doubt; but what he does, he cannot doubt . . ." (Vines and Anderson, 1976, p. 5). We as educators often fail to get out and see firsthand the excellent agricultural research being done by the Experiment Stations which form the third leg of the land-grant university's mission: research, service, and teaching.

For example, much of the research conducted by the Mississippi Agricultural and Forestry Experiment Station (MAFES) is done through branch stations scattered throughout the state. These branch stations sponsor field days which "showcase" the latest research being done on crops and livestock. The field days usually last just half a day and are open to the public. Literature about the research is made available to all participants.

One major benefit is gained when participants question the researchers about their work. This two-way interaction provides instant feedback that is not available when an Experiment Station publication is ordered and then read in an office or simply laid on a shelf to collect dust. Probably the best advantage gained from attending field days, however, relates to the idea of removing doubt. Vocational agriculture teachers who attend will see how plots are set-up and maintained and gain ideas for demonstrations and laboratory activities so their students have the opportunity to see, hear, and do — with the 1980's in mind, not the 1960's and 1970's. Teachers will also see a group of farmers who know the value of research.

The technical agriculture departments, primarily located at land-grant institutions, also conduct research and are willing to share their research findings with vocational agriculture teachers. This sharing might take place through tours, seminars, workshops, noncredit courses, and similar activities which could be held during the state teachers meeting or through a special technical update workshop similar to the one held in Ohio. (See the article in this issue by Darrell Parks, "Agricultural Education Research and the Supervision of Instruction.")

The Opportunity

Research offers agricultural educators the opportunity to stay abreast of technological advances. Being a hybrid — an agriculturalist and an educator — forces individuals in the profession to stay current in both agriculture and education. It is by no means an easy task, but is something that must be done to maintain the right to be called a professional.

A practitioner who is interested in applying research findings, not conducting research, must immediately answer two questions: How do I locate well-designed and conducted research? and What do the findings mean? Other later questions might include: How do I use research to improve teaching and supervision? What research problems can high school teachers investigate? and What is in the future for research in agricultural education? This theme addresses these questions to help agricultural educators know and understand the role that research plays in achieving and maintaining quality vocational agriculture programs.

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The Cover

Archie Abercrombie, horticulture instructor at North Forrest High School in Hattiesburg, Mississippi, is shown preparing an experiment to illustrate plants at various stages of growth. (Photograph courtesy of Blannie Bowen, Mississippi State University)

BOOK REVIEW

Raising Your Own Livestock, by Claudia Weisburd, Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1980, 314 pp., $7.95 paper/$15.95 hard cover.

This book is an excellent, practical handbook on livestock production. It is intended for the small scale livestock owner, but would serve extremely well as an introductory text to livestock production at any level. It is easy to read and is understandable. It assumes that the reader is a livestock owner and is written in a friendly personal style not usually found in textbooks. The author creates an affinity between herself and the reader by relating her personal experiences in raising livestock.

Selection, breeding, feeding, housing, health, and slaughter are included for dairy cattle, goats, beef cattle, swine, sheep, chickens, and horses. The information provided is sufficient to enable a person with little or no experience to successfully keep livestock. It explains for example, how to milk a cow by hand, how to castrate, dehorn, and slaughter animals.

The book is a comprehensive, technically-accurate guide to small-scale livestock production. It contains good, basic, general explanations of nutrition, genetics, animal health, and housing. The book is well illustrated with photographs and drawings.

The book would serve as an excellent text for an introductory course in livestock production at any grade or age level. It would serve as the reference text for an introduction in any major livestock unit or as the sole reference for a unit on a livestock species of minor importance in a high school vocational agriculture class.

The limitation of this book is that it does not include more species of livestock and poultry. Rabbits, geese, ducks, and turkeys would also seem to be appropriate in a book for the small scale producer.

The book will serve as a handy, practical, what-to-do-now reference for anyone interested in livestock production.

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THEME

How To Interpret Research Findings

By Gary E. Briers

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Research! The word itself conjures up visions of scientists in smelly laboratories mixing chemicals in test tubes. Or, perhaps you think of laborious questionnaires to complete for some graduate student's thesis. Yet, if we stop to think about the process a little, we realize that through research we advance the frontiers of knowledge; we discover hidden facts or prove certain theories.

The purpose of this article is to examine how practitioners in agricultural education interpret research findings — not how to conduct research. As educators in agriculture, we must look to both education and technical agriculture for answers to questions. The emphasis on "answers to questions" is deliberate, for "research," the word that sometimes bothers us, might be defined simply as "an unusually systematic process for finding answers to important questions." Given this definition, practitioners can rest a little easier. In fact, don't you as a teacher try to guide your students in "finding answers to important questions?" Our orientation in vocational agriculture toward a problem solving approach to teaching implies that we do just that. So, perhaps the key difference between our approach to teaching and research is nothing more than the words "unusually systematic" used in our definition of research.

In our problem solving approach to teaching, we develop a situation; in research, we develop a background and a rationale for the study. In our teaching, we state a problem (e.g. should Farmer Jones sell his or her cattle on the basis of live weight or grade-and-yield?); in research, we develop a "statement of the problem." In teaching, we conduct teaching-learning activities to arrive at an answer to our problem (Farmer Jones should sell his or her cattle grade-and-yield); in research, we typically collect data to aid us in solving our problem.

To set research off from teaching, we typically use statistical techniques to help us arrive at solutions to our research problems. If we subscribe to a problem solving approach to teaching vocational agriculture, then the research process usually employed in agricultural and educational research is already familiar to us. Only the use of various statistics may be unfamiliar to us as teachers and administrators.

Both teaching and research are systematic processes for finding answers to significant questions. Then, only the word "unusually" differentiates the research process from the teaching process. And, in fact, research is "unusually" systematic only in our eyes as teachers. Obviously, there is nothing unusual about research to a researcher! There may be one other characteristic of research that sets it apart from teaching: Ordinarily, in teaching, the teacher knows the solution to the problem. On the other hand, the researcher may be trying to answer a question that has never been answered satisfactorily. In essence, the researcher may be "blazing a new trail" rather than following paths already walked.

Two Big Questions

Now that we've decided that research is not magical, let's examine more carefully the difference involving the use of statistical procedures. To do this, let's use examples of research questions in agriculture and in education:

Research question 1: What is the "average" 1980 total income of vocational agriculture teachers in the U.S.?

This question (problem) may seem to be easily answerable. All researchers have to do is ask all vocational agriculture teachers their incomes from 1980 and figure an average. But this would involve collecting information from 12,000 or so teachers — a rather overwhelming number and an expensive undertaking! Instead, our researchers may take a 10 percent sample — 1,200 teachers from across the U.S. — and collect the information from them. Now, let's suppose they present the following information on their sample: Mean = $25,000; Median = $20,000; Mode = $15,000.

Our problem is interpreting the findings of this "research." Let's examine all three figures. The mean is simply an arithmetic average; that is, the individual incomes are totalled, and this total is divided by the number of individuals reporting (1,200 teachers in this case). We know, however, that the mean may have problems. If several teachers owned land dotted with oil wells and reported incomes of $1,000,000, the average of $25,000 would be artificially high — not really reflective of our population.

Next, what is the median? This statistic is nothing more than the "middle income." In other words, if we ranked all 1,200 incomes from highest to lowest, the median would be the 600th income on our list. In this case, the median might be most representative of an "average income" for the teachers.

Finally, how about the mode? The mode is simply the most often reported income. In our data from teachers, a large number of young teachers reported incomes of $15,000; therefore, the mode would be $15,000. So, in interpreting our first research findings, we determine that the mean, median, and mode are three statistics for reporting a kind of "average" figure for a variable (e.g., income).

Actually, our researchers may choose to report the one statistic most indicative of "average income." Let's suppose they reported a mean of $22,000 and the following two measures of the dispersion of the data: 1) range - $8,200 to $1,200,000, and 2) standard deviation of $6,000. How might we interpret these two statistics? The range is simply the lowest value to the highest value; it does not tell us much about the numbers in the middle. The standard deviation, on the other hand, gives us a narrower "range" of incomes around the mean; $22,000 ± $6,000 equals $16,000 to $28,000. This range of the mean plus and minus one standard deviation ($6,000) should capture about two-thirds of all the incomes reported. So, anytime we are given a mean and a standard deviation, we can "interpret" these findings to give us a pretty good indication of both the average and the dispersion of values.

But, one more bit of information was reported to us about the "average" income of all vocational agriculture teachers. Because all teachers were not asked to respond, our researchers only have an estimate of the average income for all 12,000 teachers. So, rather than reporting that the "true mean" for all teachers is $22,000 (which was the mean for our sample of 1,200), our researchers report that the "true mean" should be $22,000 ± $500. This $500 on either side of our sample mean is called a confidence interval. The researchers can report with some degree of confidence that a mean for all teachers should fall in the range of $21,500 to $22,500. To increase their "confidence," all the researchers have to do is widen the interval, say $20,000 to $24,000. However, when they do this, they lose some precision. So, a "happy medium" has to be struck — a certain degree of confidence (usually 95%) without getting such a large interval or range as to be meaningless.

In summary, any time we see a figure reporting a measure of "central tendency," we need to interpret it in light of our knowledge about mean, median, and mode. Similarly, measures of dispersion such as range or standard deviation can be interpreted to indicate to us how "spread out" the scores are. Finally, the "confidence interval" is used to give us a prediction of a population value (e.g., the mean for all 12,000 vo-ag teachers) from a value (the mean for the 1,200 teachers) derived from a sample.

Research question 2. Will new feed additive "N" outperform old reliable feed additive "OR"?

This is our first agricultural research example. However, our interpretation of the results of this kind of research question would hold true for any similar question of an educational nature. What do our researchers provide us with to "interpret"? They report that steers on product "N" had a mean ADG (average daily gain) of 3.17 lb. with a standard deviation of .16 lb., while steers fed "OR" gained 3.02 lb. with a standard deviation of .14 lb. Further, they reported a "t-value" of 3.26 and concluded that product "N" was better than "OR." How do we interpret these results? Obviously, steers on "N" did better than those on "OR." Why do we need a "t-value"?

Let's just assume that we actually knew that there was no difference between "N" and "OR" — that they were really the same product. Even given this fact, however, if we fed 10 steers "N" and 10 steers "OR", we would not expect to get the exact same average daily gain. There would probably be some variation in the quality of the two groups of steers, even if an initial group of 20 steers was simply divided randomly. So, the purpose of the t-value is to answer a question: What is the probability that the difference in ADG would be that large (.16 pound) when the products are really no different? If this probability is less than five percent, researchers conclude that there is a "statistically significant difference" between the two groups. In other words, we would not expect this difference simply by chance; product "N" probably is better than "OR." Some would say that we can be 95 percent certain that "N" is better than "OR" given a "statistically significant" t-value.

The ultimate reason for the statistical treatment of data from our 20 steers and two products is not to determine whether or not these steers performed differently; rather, it is to venture an "educated guess" about the performance of similar animals in a real situation. So, our interpretation of these hypothetical results in the "real world" is this: We believe steers fed "N" will out gain steers fed "OR."

Another statistical procedure involving comparisons of performance is analysis of variance. This procedure is used similarly to the t-test just discussed, with the exception that more than two groups can be compared. And, rather than a t-value, an F-value is reported. The interpretation of findings is essentially the same as with the t-test. A "significant F-test" just means this: the groups performed differently enough that we can conclude that the products or procedures being tested are really different.

Next, we should ask ourselves an important question: "Did the results come about because of the feed additive, or might there be some other explanation?" Researchers say that this question tests the "internal validity" of the researcher. For example, if the steers on "OR" had been fed a lower energy ration than the "N-fed" steers, we might have interpreted the findings differently. Actually, we just would not have known what caused the difference in ADG: Was it the feed additive or was it the higher energy ration?

Another consideration of research findings involves our interpretation of the generalizability of the research. Once more, consider our steers. If these steers weighed 800 pounds when they were placed on the trial, we should hesitate to generalize the results to 500-pound steers. In research circles, this consideration of research is called "external validity." As teachers, we might consider this "common sense." Carefully controlled laboratory experiments may not approximate "our world." So, we must look at the research conditions and processes to interpret the findings.

Interpretations on the basis of research results are not always enough, however. For example, let's assume our new feed additive — product "N" — outperforms product "OR" by .10 lb. ADG. So, a steer fed "N" for 150 days would be expected to gain 15 more pounds than an identical steer fed "OR." Does our interpretation of this mean we should feed "N"? Not really! If product "N" cost $15 more than "OR" for that 150-day feeding period, our answer is certainly no — unless steers sold for $1.00 plus per pound!

Use Research

Interpreting research findings is difficult at best. So, the next time we try to do this, we must ask ourselves at least these kinds of questions:

1. Were the findings of the research the result of good research procedures?
2. Are the findings applicable to our situations?
3. Are the findings practically significant as well as statistically significant?

THEME

Researchable Problems For Vo-Ag Teachers

By Johnny Allen

Editor's Note: Mr. Allen is Vocational Agriculture Teacher, Alcorn Central High School, Glen, Mississippi 38846.

The modern teacher of vocational agriculture is responsible for teaching classes for in-school students, supervising occupational experience programs, advising the local FFA chapter, and teaching classes for adults in agricultural industry along with any other duties imposed by the local school. With all of these responsibilities, the vocational agriculture teacher may feel that there is more to be done than time permits.

One of the most important factors determining the success of the vocational agriculture teacher is not how long the teacher works, but how effectively the teacher works. Of paramount importance is the teacher's ability to identify and effectively solve problems related to the local vocational agriculture program. This can easily be done by a well-planned and conducted investigation into the local agricultural situation.

Do Research Yourself

All too often, we as teachers elect to leave all research to university or state department personnel because we feel that research is too complex or time consuming for our busy schedules. On the contrary, a local research project need not be excessively complex or time consuming to be helpful to the vocational agriculture teacher. The type of research most vo-ag teachers would conduct may be classified as descriptive. Descriptive research is done to describe the condition or the status of an event. A descriptive research project can help the teacher determine what agriculture businesses exist in the local district, how many people these businesses employ, and what entry level skills the employers look for in prospective employees. This information can help the teacher decide what to teach. It can also help the teacher identify placement stations for the supervised occupational experience programs. Time invested in local-level research can pay dividends in planning the vocational agriculture program.

After a problem has been selected, the first step in organizing a local study is to state the objectives for it. A local study has some special problems that the teacher should be aware of before undertaking it, however. Local studies often suffer from the personal bias of the teacher. Therefore, one should be totally committed to eliminating bias from the study. Unclear or poorly worded questions are often the source of unintentional bias. The best way to eliminate this problem is to write the questions with the objectives of the study in mind. The questions should then be examined by several people to be sure that they elicit the same kind of information from each person. When the teacher is satisfied that the questions will collect the information that he/she desires, the instrument is ready to be administered.

Normally when the population or group to be studied is very large, teachers should use a technique called sampling. However, when the population is small, sampling can introduce bias that would seriously affect the study. The teacher with a small population should survey everyone while collecting the data from a local community.

There seems to be some division among researchers as to how the survey should be administered. However, when teachers understand the problems associated with each method they can decide for themselves. The mail survey is a fast way to contact a large number of people. The biggest problem here is the inability to get back all of the instruments with the needed information. Low return rates can seriously affect the quality of the information obtained since less interested people tend to not return the instrument. Be prepared to follow-up non-respondents at least a second or third time. If the mail questionnaire is chosen, a cover letter should be included explaining why the study is being done and whether respondents will be anonymous.

An alternative to the mail survey is the telephone survey or the personal interview. Both the telephone survey and the personal interview have an advantage over the mail survey in that the teacher can guarantee almost a complete response. Also, the respondent is at liberty to ask about any points that are confusing in the questions. A note of caution is necessary here. The teacher should exercise reasonable care to present the questions in exactly the same manner to each respondent. This will also help to avoid bias in the study. The most serious liability encountered here is the time required to contact and interview each respondent. However, this time may be well spent if it builds good rapport between the teacher and the agribusinesses.

When the data are all collected, it is relatively easy to tabulate the results and compute the percentages and other simple statistics which help describe the current situation.

Thus far, only research to determine the current agricultural situation in the local school district has been discussed. However, research should be an on-going process and should include studies of the various clientele of the vocational agriculture program.

The following is a list of possible groups to study:

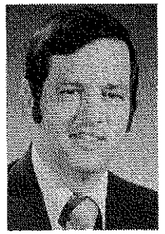
1. Former students to determine their placement status and the relative worth of their vocational agriculture training.
2. The employers of former students to determine how well they were prepared for entry-level employment.
3. Employers who have students with supervised occupational experience programs to determine their perception of the merits of the program.
4. Parents of vocational agriculture students to determine their opinions as to the worth of classroom instruction, FFA activites, and supervised experience programs.
5. Adults involved in agricultural industry to determine their needs for adult classes.
6. Students currently enrolled in vocational agriculture classes to determine their needs for revised or new programs of instruction.
7. Others as the local situation dictates.

Research Gives You Information

The truly successful teacher of vocational agriculture is one who knows where his/her program is, where it should go, and how to get there. A well planned research project on the local level can help point the direction for these questions and help the vocational agriculture instructor be a more effective and efficient teacher.

THEME

Research and the Supervision of Instruction



By Darrell L. Parks

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Allegations are sometimes made within the agricultural education family that much of the time and effort invested in research by and for the profession has little utility, particularly as applied to supervision.

In reflecting upon this charge, if it has any merit, it is perhaps attributable to one or two basic points: (1) the fact that much of the research has been historical or descriptive in design, and (2) supervisiors in agricultural education have not demonstrated a keen interest in or dependence upon good, sound research data for decision making.

Especially, in the latter case, such a circumstance is indeed unfortunate and risky. As pressures and competition continue to mount for diminishing resources at both state and federal levels, agricultural education can ill afford to make intuitive judgements about the program's future without having access to and effectively using the best possible information available.

Research in the Supervision of Instruction

From an instructional perspective, research implications for supervision in agricultural education include the professional, technical, and social categories.

Supervisors must maintain a sensitivity to the inherent needs and latest research findings that have a direct bearing on teacher effectiveness in the classroom and laboratory setting. Applicable research that addresses the questions of teaching style and methodology, the value of supervised occupational experience programs to occupational preparedness, the relationship of year-round programming to employability and employment success, and the effective use of microcomputers in teaching agriculture are but a few examples of relevant research of a professional nature that is pertinent to supervisors.

Supervisors must also be attuned to the importance of technical research findings and their availability to vocational and technical instructors in agriculture. Particularly with the technological explosion that all facets of the agricultural industry are caught up in, supervisors play a key role in recognizing the importance of the latest technical research findings and must serve as a catalyst to bring such findings into the hands of the teachers.

Finally, with the major social legislative emphases that were incorporated into the Vocational Education Amendments of 1968 (PL 90-576), and expanded upon via the 1976 Vocational Education Act (PL 94-482), agricultural education can profit immeasurably by creditable research efforts that address critical social concerns. Research activities related to the disadvantaged and handicapped, increasing the numbers and effectively accommodating nontraditional students in traditional instructional programs, and impacting upon the unemployed and the underemployed populations are but a few illustrations.

The Role of Supervisors in Research

With a few exceptions, research seems not only to have been of little importance to supervisors in agricultural education, but there also seems to be little interest in or desire on the part of supervisors relative to understanding the relationship of research to effective program management. Reasons for such a perceived posture may very well include the fact that many move into supervisory ranks directly from the practitioner level. Hence, they may not possess an appreciation for good research products because of the limited number of success stories that can be pointed to where research really made a difference, from a supervisory point of view.

If supervisors are to make more effective use of research in the future, it must be by design rather than by chance. The following suggestions could provide a basis for a greater dependency upon research and perhaps stimulate

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Research and the Supervision of Instruction

(Continued from Page 9)

the profession to concentrate upon relevant and timely research questions that would have greater utility to program managers and decision makers.

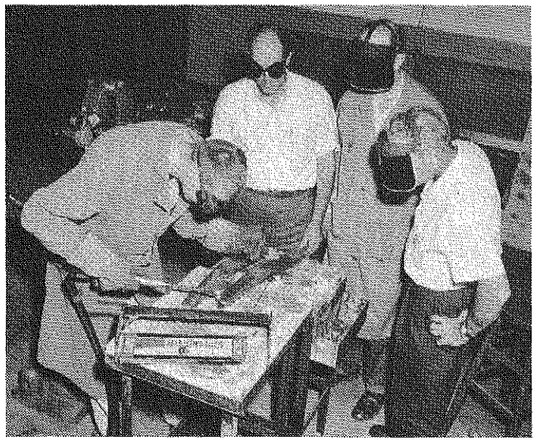
There needs to be an attitude change on the part of supervisors so that they recognize the importance to the profession. Such a change in attitude must include a recognition of the necessity for good research and the appropriation of resources to support research activities that are commensurate with program needs.

Supervisors must determine their roles in the research process. Perhaps a major function of supervisors should be one of managing research; that is, to identify research needs and then program accordingly to encourage research undertakings on the one hand and then serve as a catalyst for disseminating and using research findings on the other.

In managing research activities, supervisors would do well to classify research into professional and technical needs. Classifying research activities facilitates separating specific research efforts that may have to be undertaken by the profession from those that may already be available or are in process outside the profession.

To illustrate the above point, for the past two years supervisors in agricultural education in Ohio have collaborated with the College of Agriculture at The Ohio State University in conducting a "Technical Update" for teachers of vocational agriculture. The technical update has been coordinated through the College's Department of Agricultural Education. The purpose of the update has been to familiarize vo-ag teachers with the latest agriculture research that might be relevant to the teaching of secondary or postsecondary students of agriculture. Every department in the College has been involved in this major inservice activity.

All participants, including teachers and college faculty, have been enthusiastic about this activity. It has made the latest happenings in technical agriculture available to 469 and 385 registrants, respectively, during the past two years through more than 50 separate workshops on topics ranging from embryo transfer procedures in livestock production to small garden center layout and design.



Four Ohio vo-ag teachers are shown participating in a Technical Update session on hard facing alloys. This was one of 65 offerings in the two-day Update.

By managing research in this fashion, good use has been made of technical data and information by having it presented by specialists in their respective areas of expertise. Likewise, such an approach should free researchers in agricultural education to deal with their areas of expertise: learning styles, teaching methodology, evaluation, and others.

Once key questions and information needs have been identified, supervisors should discuss them with qualified researchers. Such dialogue will readily determine which questions lend themselves to appropriate research models and a concensus can be reached regarding what will be researched and by whom.

A key point of emphasis regarding this suggestion is that, generally, supervisors have neither the time nor the inclination to conduct appropriate research efforts. Most states have creditable researchers in teacher education programs who understand agricultural education and are interested in timely research needs and activities. The supervisor's role is to make wise use of such a ready resource.

Joint supervisory-teacher educator meetings should be held periodically at the state level to review research findings, analyze and interpret those findings, and discuss implications for program direction. In addition to being up to date on the latest in research happenings, these meetings can cultivate a growing appreciation for and an understanding of research as an integral professional component.

Supervisors must become more active and visible in regional and national research conferences and activites. Increased participation in these activities would seemingly encourage a greater relevancy of research efforts toward practitioner concerns. A forum should be established to discuss needs, interests, and results of research from the standpoint of influential researchers in the profession as well as from the viewpoint of those who should be among the primary recipients and users of research findings.

Traditionally, agriculture has been recognized as having been founded on a strong research base. From the passage of the first Morrill Act in 1862, establishing the land-grant institutions, through the evolution of the agricultural experiment and demonstration centers and a strong dissemination and education program, the American agricultural industry has developed into and maintained a highly competitive economic force throughout the world.

Perhaps agricultural education should draw an analogy from the rich and obviously quite successful "theory into practice model" that the agricultural industry has perfected. A strong linkage between vocational agriculture teachers, supervisors, and institutional research and research personnel could conceivably pay handsome dividends in the future.

Note: For more detailed informaion concerning the Technical Update, contact Dr. J. Robert Warmbrod, Chairman, Department of Agricultural Education, The Ohio State University, 2120 Fyffe Rd., Columbus, Ohio 43210.

THEME

Using Research for a Personalized Inservice Program

By John D. Parmley

Editor's Note: Dr. Parmley is Assistant Professor, Adult and Occupational Education, Kansas State University, Manhattan, Kansas 66506.

One of the historical cornerstones of vocational agriculture has been instruction designed to help students solve problems. After experiencing a real problem or a problem situation presented by the teacher, students have been guided to define problems and seek information leading to possible solutions. While searching for information, students have relied on advice from various sources, including sizeable use of agricultural research. After locating information, students tested proposed solutions and evaluated results. Through this approach and other similar procedures, vocational agriculture students have become highly effective agriculturists.

While problem solving approaches have had an impact on vocational agriculture instruction, they have also played an important part in the preparation of and inservice for agriculture teachers. Teachers must not only be prepared to guide students to solve the problems they encounter while becoming effective agriculturalists, but teachers must also solve problems encountered while becoming effective in their own profession. Not all problems encountered by teachers can be solved during preservice or inservice education.

On a day to day basis, teachers encounter provocative situations as they work to improve the effectiveness of classroom instruction, laboratory instruction, FFA programs, student occupational experiences, and adult education.

To supplement formal preservice and inservice instruction, teachers need to develop their own personalized inservice programs. Included in such an effort would be involvement in professional activities and a reading schedule to keep current with technical agriculture and educational developments. Teachers have long encouraged students to consider the findings of technical research, but often fail to adequately consider educational research. Just as it is important for students to be familiar with the results of fertilizer tests or feed trials, it is equally important for teachers to be aware of studies to determine leadership and personal development competencies needed by workers in agriculture or studies to determine what relate to student achievement.

The reasons why agriculture teachers fail to adequately use research are many and varied. Among the factors causing inadequate use are problems of locating research on specific areas. The development of a personalized inservice program would necessitate that a teacher become familiar with the sources of agricultural education research.

One of the most comprehensive references is the annual Summaries of Research and Development Activities in Agricultural Education in the United States of America. The compilation of this document is an activity of the Agricultural Education Division of the American Vocational Association. The document contains abstracts of university staff research, master's studies, doctoral dissertations, and undergraduate honors research. The studies are indexed by subject to help readers locate topics of interest. Copies of the publication are often found in university libraries and in document collections of agricultural teacher educators.

Another reference on research in agricultural education is Agricultural Education: Review and Synthesis of the Research (Newcomb, 1978). This publication offers an analysis of research conducted between 1969 and 1978. Not all studies are included in the review. Representative studies provide an overview of efforts in teacher education, instruction, curriculum, student services, recruitment and retention of teachers, disadvantaged students, program planning, evaluation studies, administration and supervision, adult education, post secondary agricultural education, and career education in agriculture.

Reports of agricultural education research may also be found in numerous professional publications such as the Journal of the American Association of Teacher Educators in Agriculture and the American Vocational Education Research Association Journal. Individual agricultural education faculties should also be contacted for additional research reports which might not be listed in previously mentioned publications. Additionally, teachers may obtain research information from the Educational Resources Information Center (ERIC). Access to the ERIC system may be gained through many college libraries.

In the current era of technological revolution, keeping current in any profession is a major problem. For a teacher of agriculture, the problem is doubly disconcerting. The effective teacher must not only participate in formal inservice education, but also develop a personalized inservice program that provides information on the latest scientific inquiry into technical agriculture and agricultural education.

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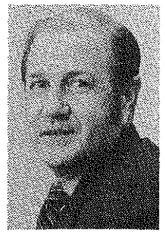
THEME

Research Goals in Agricultural Education for the 1980's

By J. Robert Warmbrod

Editor's Note: Dr. Newcomb is Professor, Department of Agricultural Education, The Ohio State University, Columbus, Ohio 43210.



What does the decade of the eighties hold for research in agricultural education? As we think about this question, consider the following statements made by persons who have reviewed and summarized the research.

— Our research has been miscellaneous and relatively individualistic.

— Studies are made largely by students in graduate schools.

— Research in vocational agriculture may be characterized as disjointed or lacking in continuity.

— A problem is not ordinarily selected because it is a part of a research program.

— The survey has been a dominant type of research procedure.

— There are studies which have not been carried far enough so that supervisors, teacher trainers, or teachers can see how the findings may be used.

Do these statements sound familiar? Probably yes, since similar appraisals can be found in almost any review of research in agricultural education written during the past 15 years. But most surprising is the fact that these statements were written in 1935 by Dr. R.M. Stewart and Dr. F.W. Lathrop in the first issue of Summaries of Studies in Agricultural Education.[1] Dr. Stewart, of Cornell University, was Chairman of the Research Committee of the Agriculture Section of the American Vocational Association. Dr. Lathrop was Research Specialist in Agricultural Education in the Office of Education, U.S. Department of the Interior. Incidentally, Dr. Lathrop was appointed to that position in 1929.

Perhaps these statements, written more than 45 years ago but apparently applicable to a considerable extent today, bring focus to several issues pertaining to research in agricultural education that should demand our attention during the 1980's. At least four concerns emerge. First, there is the question of the extent to which research is used as the basis for policy and program development. Next, there are the twin-issues of what problems need to be researched and the arrangements for conducting research that maximize cumulative rather than disjointed results. And finally, appropriate research methodology and the quality of research must continue to be concerns for scrutiny.

Research as the Basis for Policy and Program Development

The 1935 Summaries of Studies in Agricultural Education lists 372 studies completed in the twenties and early thirties. The most recent issue of Summaries of Research and Development Activities in Agricultural Education, compiled by the Research Committee of the Agricultural Education Division of AVA, includes summaries of 181 studies completed in 1979-80.[2] In similar reports between these two publications, several thousand studies have been reported. The haunting question is whether the degree of impact of this research on policy and practice in agricultural education is comparable to its quantity. It is difficult to escape the conclusion that we have more research than we have used.

During this decade the profession ought to implement activities designed to move research findings from library shelves and summaries published annually to conference rooms, classrooms, advisory group meetings, and state and local policy-making sessions where decisions are made about policy and program change and innovation. If we intend to increase the use of research as an input to policy and program development processes, it is imperative that as much attention be given to formulating sound and significant implications of the research as we now give to the design, conduct, and reporting of research.

Since almost all research in agricultural education is conducted in universities offering graduate and undergraduate programs in agricultural education, major responsibility for placing greater emphasis on the generation of warranted and defensible policy and program implications rests with teacher education faculty members. Generating alternatives for action and actively promoting policy and program changes substantiated by research will have to be given a level of priority equivalent to that placed on the publication of research. Prime candidates as forums to enhance research as an instrument for policy and program development are graduate and undergraduate courses in agricultural education.

Special efforts also need to be taken to insure that the results of research, including sound implications for use, are brought to the attention of persons and groups who are the decision-makers and policy-developers in agricultural education. These groups include the officers and members of state and national associations of teachers, teacher educators, and supervisors; officials in the federal Department of Education and state departments of education; university faculties and administrators; and teachers, administrators, boards of education, and advisory groups in local and area school districts. It is equally important that decision-makers and policy-developers adopt strategies that insure that appropriate research findings are brought to bear on significant problems and issues in agricultural education.

Research Problems

Important and significant problems needing research in agricultural education are plentiful. Select any phase of agricultural education — e.g. curriculum development, adult education, instructional techniques, or student organizations — and a multitude of research possibilities emerge. It is neither necessary nor appropriate to list here problems needing research in agricultural education. The difficulty is not a scarcity of research problems. It can be argued that one difficulty may be that we tend to research a wide diversity of problems rather than concentrate during any one period of time on a more narrow range of high priority research issues that have direct importance for agricultural education.

At the present time, the best source for identifying high priority research issues is the Proceedings of the National Agricultural Education Seminar, "Agricultural Education/ Shaping the Future," held in July 1980.[3] The profession has identified three broad but major issue-areas as crucial to the future of agricultural education — objectives of agricultural education as part of public education, the development of professional teachers of agriculture, and adult and continuing education in agriculture. The high-priority issues and concerns identified during the national seminar provide the foundation for a series of programmatic and policy analysis studies.

Arrangements for Conducting Research

Universities will continue to be the major location for research. Faculties in agricultural education have both the expertise and incentive to conduct research. It follows, also, that a significant portion of the research will continue to be conducted by graduate students, most of whom are former or present teachers of agriculture.

The challenge is to develop a more programmatic approach to research such that the results are cumulative rather than disjointed and lacking in continuity. To meet this challenge, faculties at the major research universities, in consultation with teachers and supervisory personnel, need to identify a limited number of high priority research areas for programmatic emphasis. Then, problems selected for investigation by faculty and graduate students are more likely to fit a programmatic pattern in contrast to the more prevalent individualistic pattern.

Renewed effort is needed to initiate cooperative research projects among states. A prerequisite for cooperative research is the identification of highly significant problems that have broad applicability.

Paying attention to the integration of seemingly individualistic and disjointed studies can also contribute to a more programmatic and cumulative research effort. An activity that will contribute directly to this goal, as well as to the use of research in policy and program development, is for small groups of researchers with common interests to make thorough studies of research in selected areas of agriculture education and publish reports that summarize the cumulative knowledge generated, identify emerging research issues, propose specific recommendations for translating the findings of research into policy and practice, and critique the methodology employed. These periodic, indepth analyses of research in agricultural education would be an appropriate activity of the Research Committee of the Agricultural Education Division of AVA. For instance, what have we learned about supervised experience in vocational agriculture from research on this topic during the past 5 to 10 years?

Quality of Research

Agricultural educators must continue to place high priority on further developing their expertise to design, conduct, report, and use research. It is evident that many in the profession are working diligently to improve the quality of research in agricultural education. The National Agricultural Education Research Meeting held annually and the regional research conferences in agricultural education attest to this fact. Those in the profession who conduct, supervise, and manage research must continue to stay current in the latest developments in research methodology and data analysis.

Another Decade of Research

Assuming we continue to produce research in agricultural education during the 1980's at approximately the rate we have during the past few years, we can anticipate some 1,500 to 1,800 additional studies by the end of the decade. Will the magnitude of the research be matched by its quality and its use as a basis for policy and program development? In addition to high quality research pertaining to significant problems and issues in agricultural education, our goals for the 1980's must also include renewed efforts to synthesize from the research new knowledge that is used in policy and program development.

In the foreword to the first issue of Summaries of Studies in Agricultural Education, the Assistant Commissioner for Vocational Education in the Office of Education stated, in 1935, that *"The continuous development of vocational education in agriculture depends in no small degree on continuous systematic study of its problems."*

How strongly are we — teachers, supervisors, and teacher educators — committed to this proposition in 1981?

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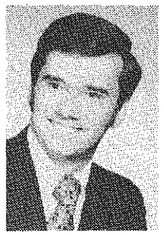
[2]Summaries of Research and Development Activities in Agricultural Education, 1979-80, United States of America. Compiled and Edited by Jimmy G. Cheek, Department of Agricultural and Extension Education, University of Florida, Gainesville, December 1980.

[3]Agricultural Education: Shaping the Future. Proceedings of the National Agricultural Education Seminar, Kansas City, Missouri, July 15-17, 1980. (Edited by Jasper S. Lee, Mississippi State University)

THEME

Using Experiments In Teaching



By L.H. Newcomb

Editor's Note: Dr. Newcomb is Professor, Department of Agricultural Education, The Ohio State University, Columbus, Ohio 43210.

Why would anyone ever want to use research in teaching vocational agriculture? To answer that question consider what teaching is all about. It is about helping students learn new information or gain new knowledge. This is precisely what research is about; it's a way of generating or discovering new knowledge.

The current way of practicing agriculture is often based on tradition. The job of the teacher is to provide contrasting examples of new practices so as to help the students see how to improve their occupational competence. When there are three turf plots at the school and one receives no fertilizer, the second receives approved rates and analysis of fertilizer, and the third plot receives one-half the recommended rates, then the results ought to be vivid and memorable learning for the students.

Many experts in vocational agriculture very properly advocate basing their teaching, which is of a problem-solving nature, on Dewey's steps of reflective thinking. Those steps are: (1) experiencing a provocative situation, (2) defining the problem, (3) gathering data, (4) developing tentative conclusions, (5) testing the conclusions, and (6) evaluating the outcomes. These same basic steps constitute the steps in scientific method which is the basis for most agricultural research. Hence, we can have students using the same process in their learning as the researchers use in their learning. This process can be built into instruction whether it is learning from supervised study, lecture-discussion, or conducting or reviewing an experiment.

The next time a student raises a question such as, "Teacher, why do we have to bother with shading poinsettias?" or "What difference does it make what amperage the welder is set on?" you have been given the clue that you might want to have the student conduct an experiment in order to learn effectively. When students raise questions such as these they may not need another lecture or even one of your good sermons. Rather they may need a chance to try something out several different ways and compare the results for themselves.

Why Use Experiments in Teaching

The use of experiments as a teaching technique has a number of desirable benefits. It allows students to practice inquiry into the subject rather than having to depend on a teacher to give them the answers. Students can learn to think more systematically and draw more careful conclusions when experiments are used as a part of the teaching-learning process than when they are "given" the truth by a teacher who acts as an expert. By conducting class and laboratory experiments, students become quite actively involved in their learning. The results of experiments graphically and concretely illustrate the concepts and facts teachers want students to learn. When the results of the experiments echo the points the teacher has been making, then the teacher enjoys renewed credibility and students see the usefulness of their classroom and laboratory learning.

Possible Uses of Experiments in Teaching Vocational Agriculture

Experiments can be used to create interest, gather data needed to answer questions or solve problems, and to test conclusions students have arrived at in their studies.

Create Interest. When teaching a welding unit a teacher could weld the same type of metal at three different amperages and then propose to the class that they break the different welds to determine strength. However, the teacher might want to inform them that they must first guess which will be the strongest and why. This will stimulate much discussion and interest. The students could then be allowed to test welds for themselves, followed by supervised study to gain a clearer understanding of why the amperage had the effect it did.

Answering Questions or Solving Problems. At the point where the students in the previous example tested the welds (recorded the facts) and then used supervised study to learn why, they were already at the stage of "answering questions and/or solving problems." In another case, students in a small animal care program might need to know which disinfectant was best for controlling bacterial growth in cages.

I recently saw Mr. Steve Johnson, an instructor at Montgomery County Joint Vocational School in Ohio, make beautiful use of having students use several types of disinfectants and contrast the results against a control (washing with hot water only). The data were gathered by growing cultures on an agar and then comparing the results. The question was answered and the answer was visual, dramatic, and memorable.

Testing Conclusions. Oftentimes vocational agriculture students finish studying a problem area and develop conclusions. For example, they may conclude that use of certain media is best in plant propagation. It is only natural to have them run a "trial" using their "best" media in comparison with agreed-on inferior media. They then produce their own results on which they can arrive at the validity of their classroom-generated conclusions.

Examples of Experiments

Experiments which answer the following questions can easily be used in instruction in vocational agriculture:

1. What herbicide controls weeds best?
2. What happens to baby chicks that are fed balanced rations versus junk food?
3. Which fastener is strongest?
4. What is the effect of temperature on oil viscosity?
5. How does the timing of an engine affect the horsepower?
6. How effectively are various erosion control practices?
7. How does plant population per acre affect yield?

Use of Existing Research

It's not always feasible or desirable to conduct one's own experiment at school. Oftentimes vocational agriculture teachers can make use of data from research conducted at the state experiment station, the United States Department of Agriculture, or in private industry.

Agriculture technology develops so quickly that vocational agriculture teachers who rely on textbooks for their new information will automatically be using information that is five or more years old. This need not be the case when one can easily obtain up-to-date research results in his/her state on an annual basis. The results are often physically portrayed during field days at each state's research farms.

In using research results of others in class, it is essential that the teacher introduce the background for the research in story fashion; then portray the data in "stripped down," straight-forward lay talk. Then the teacher can lead students to develop basic conclusions based on concrete findings that have been clearly presented.

The Final Step

In the case of conducting experiments in your own school or using the data of others, teachers must be sure to help the class summarize well and then create conditions that allow students to apply the new learning so as to improve their agricultural practice. Otherwise learning remains dormant and merely deposited in the vault of each student's mind. That is not our aim.

ARTICLE

The Admiral Peary Story:

Competency-Based Vocational Education Works!

By Himanshu Pandya

Editor's Note: Dr. Pandya is Instructor of Small Engine Repair at Admiral Peary Area Vocational-Technical School, Route 422, Ebensburg, Pennsylvania 15931.

Competency-based vocational education is an integral part of the instruction at Admiral Peary Vocational Technical School in Ebensburg, Pennsylvania. The classes in small engine repair could not function as efficiently as they do now without competency-based education because of the clientele served in the regular classes. Regular classes include juniors, seniors, advantaged, disadvantaged, and adult students in the same classes, as well as students with different learning abilities. One of the advantages of the system is that the teacher can work with each student individually and manage the learning and achievement experiences more efficiently. In the Small Engine Repair Class, where the students repair customer's engines, each comes with different repair needs.

A competency-based education learning-management system has been used for the past 10 years. Our experiences in administering competency-based education will be useful to many educational institutions since very few articles have been written that deal with the actual procedures for administering the education. This article will deal with how competency-based education was developed and is administered in Small Engine Repair and related courses.

Guidelines Used

The following guidelines were used for course development and administration:

1. Define scope of course.
2. Collect and validate occupational competencies.
3. Identify valid terminal performance objectives for each task.
4. Identify sequential performance steps for each task.
5. Determine resources required to perform tasks.
6. Determine required task sequence.
7. Evaluate student performance for each task and objective.
8. Identify student need and instructional program contents for each student.
9. Design a learning management system.
10. Conduct periodical task, objective and course evaluations.

After surveying the industries and people from the participating school districts and the nearby region, a two-year Small Engine Repair Program was developed as a part of vocational agriculture. Occupational competencies were collected from different available resource materials. Suggestions obtained from engine manufacturers were validated by the advisory committee consisting of area dealers and repairmen. A task glossary was prepared arranging 492 tasks in logical se-

(Continued on Page 16)

Competency-Based Vocational Education Works!

(Continued from Page 15)

quence for the particular unit and modules. Task names and numbers were stored in a computer.

How CBVE Works

At the beginning of the school year, students are provided with a Task Title Glossary as a course outline, a folder in which to keep time and work records, and computer cards. Once a student has completed a task satisfactorily, he or she fills out the computer card, and the teacher allows the student to take the computer card to the data processing class. After the teacher signs it, the data processing class punches the card and files the data in the computer's memory bank. Whenever a student's updated learning achievements are needed, the data processing class provides the output with the tasks completed by the student and the dates the tasks were completed.

Task performance evaluation is according to the task. For example, in a critical task such as safety procedures, the student is required to finish the task with 100 percent accuracy. For some of the tasks which are not so critical, an 85 percent satisfaction level. At the end of each school year the task glossary is revised and new necessary modules, units or tasks are added, while unnecessary or impractical units or modules are removed from the glossary.

Myth

There is a myth about competency-based education that once the teacher has prepared the tasks the only thing to be done is give a student a task and let him or her read and finish the task, and then give the student the next task. This belief holds that the teacher's work is more or less monitoring and handing out tasks. According to our experience at Admiral Peary Vocational Technical School, the teacher has to spend more time teaching than in the traditional method of whole class lecturing. Also, the lessons need more preparation since the teacher has to teach many different things at the same time in order to individualize.

Student reviewing a computer print out of task names and numbers.

In the Small Engine Repair Class at Admiral Peary Vocational Technical School, the system is proving its worth. Other schools should be able to achieve the same positive results which the educators at Admiral Peary have accomplished.

IDEAS UNLIMITED

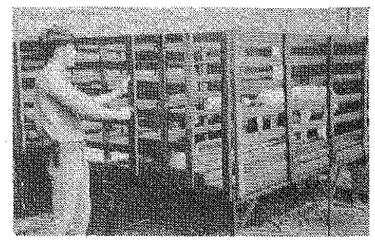
Using a Small Hog and Lamb Finishing Unit

Many students in vo-ag do not have farm situations for production agriculture enterprises as their supervised occupational experience. At Rockville High School in Vernon, Connecticut, a unique confinement structure has been developed. In this structure, students may finish from one to eight lambs or pigs and learn many animal agriculture competencies.

The structure is an 8' x 8' slatted oak floor pen with sides. If treated, the slats will last about 8 years. In constructing the facility, feeders and waterers should not be placed on the slatted floor since this will use valuable square footage needed for the animals. (The space requirement for feeder pigs on slatted floors is 4 square feet for animals under 100 pounds and 8-10 square feet for those over 100 pounds.

By Peter Sepe

Editor's Note: Mr. Sepe is Vocational Agriculture Instructor at Rockville High School, Vernon, Connecticut 29108. This article is based on his entry in the Ideas Unlimited Contest sponsored by the National Vocational Agriculture Teachers Association.



This is a front view of the finishing unit. The feeders and waterers are at the opposite end. A sliding door is at the front.

With feeder lambs, 4-5 square feet should be provided for each lamb.)

The photograph shows slats bolted to a metal angle iron frame 18 inches off the ground. A simpler procedure would be to nail the slats to a frame constructed of 2" x 10" lumber supported by concrete blocks at each corner. The floor should be constructed in 4' x 8' sections to make the unit easy to move. An alternate is to build the floor on a wagon chassis. This would make it easy to move the pen. Side panels should be about 40 inches high, with a door constructed in one side.

A complete, pelleted ration should be fed. Feeding hay to lambs creates a wasteful situation and the slats might become plugged. Feed efficiency is increased with this unit. Parasite infestations are reduced.

ARTICLE

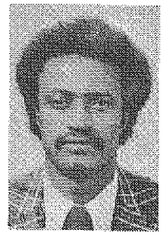
Parental Involvement in Supervised Occupational Experience

Parental involvement in vocational agriculture programs has been limited over the years. Parents can be valuable resources to teachers through the supervised occupational experience (SOE) component of the program. Parents can effectively assist the teacher in developing an understanding about SOE, providing direction in the selection of SOE, providing guidance in planning SOE, and providing techniques in supervising the participation phase of students' SOE programs. Many parents recognize that the SOE component of vocational agriculture programs is beneficial in developing skills for work in agriculture. It is generally recognized that parents will support educational programs if they can see the benefits provided to their sons and daughters.

The perceptions of the benefits derived from SOE programs along with unique characteristics qualify parents as potential resources in providing assistance to students' programs. At Iowa State University, parents of vocational agriculture students were surveyed and asked to identify selected characteristics of themselves and of their sons and daughters with respect to SOE program involvement. The investigation also asked parents to identify perceived benefits their sons and daughters derive from SOE programs and to identify the assistance they provide. [1,2,3,]

By Willie J. Rawls

Editor's Note: Dr. Rawls is Assistant Professor of Agriculture Education, Department of Vocational and Adult Education, Tuskegee Institute, Alabama 36088.



Characteristics

All but 19 percent of the parents surveyed lived on a farm. One-fourth of them had completed four years of vocational agriculture while indicating that two-thirds of their sons and daughters had completed four years. Twenty-six percent of the parents indicated having attained either a chapter, state, or national FFA award while enrolled in vocational agriculture. A chapter or state awarded FFA degree was attained by a majority (83 percent) of the sons and daughters of parents involved in the survey.

Parents of students indicated that their sons and daughters participated in a variety of SOE activities during their tenure in vocational agriculture. Of these, a majority (64 percent) perceived that farming SOE programs were most important to their sons and daughters. Employment in an agribusiness and employment on a farm were perceived most important by 10 and 9 percent of the parents, respectively. The remaining parents who responded indicated that laboratory and exploratory type SOE programs were most important to their sons and daughters.

Benefits Derived From SOE

The parents felt that their sons and daughters derived three concepts — work attitude, occupational development, and human relationship skills — from their SOE programs. Achieving basic skills in these concepts is prerequisite to entry-level employment and continuing education in agriculture. "Develop self-confidence," "develop independence," "promote acceptance of responsibility," "develop pride in employment," "provide an opportunity to learn on his/her own," "develop abilities in cooperation," "develop an appreciation for work," "provide an opportunity to plan work," "provide an opportunity to solve problems," "provide an opportunity to make decisions," "provide an opportunity to put plans into action," "develop pride in ownership," "provide motivation for learning," and "provide experience in conducting business" were benefits pertaining to WORK ATTITUDE that parents perceived their sons and daughters had derived from SOE programs.

The benefits pertaining to OCCUPATIONAL DEVELOPMENT that parents perceived their sons and daughters had derived from SOE programs included: encourage the use of approved agricultural practices, encourage the use of approved marketing procedures, encourage the production of animals and crops, develop skills needed in farming, promote interest in agricultural studies, provide a way to grow in farming, help attain advanced FFA degrees, encourage keeping records and provide an opportunity for individualized teaching.

"Contribute to relationship between school and home," "help maintain a favorable home environment," "improve school attendance until graduation," "promote student-vocational agriculture teacher relationship," "develop occupational skills needed in an off-farm agricultural occupation," and "extend education from school to the community" were benefits pertaining to HUMAN RELATIONSHIP SKILLS that parents perceived their sons and daughters had derived from SOE programs.

Assistance Parents Provide Students

Planning SOE, developing skills, and supporting SOE were three broad categories of ways parents felt they themselves provide assistance to their sons and daughters with SOE programs. "Setting educational goals in agriculture," "developing an agreement for SOE," "setting goals for SOE," "identifying agricultural skills to be developed through SOE," "making business arrangements for SOE," "expanding SOE," "developing a budget for SOE," "keeping records for SOE," and "summarizing records on SOE," were ways parents felt they provided

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Parental Involvement in Supervised Occupational Experience

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assistance to their sons and daughters in planning SOE programs.

SKILL DEVELOPMENT, the second broad category of ways parents felt they provided assistance to their sons and daughters SOE program included: setting educational goals in SOE, identifying agriculture experiences to obtain, learning skills in agriculture, producing agricultural products, marketing agricultural products, determining costs of producing crops and animals, determining interest in agriculture, and selecting animals for SOE.

"Financing SOE enterprises and activities," "providing equipment for SOE," "determining size of SOE," and "locating a place for SOE" were included in the third and final broad category of ways parents felt they provided assistance to SOE programs of their sons and daughters.

Summary

The results of this study show unique characteristics of parents of vocational agriculture students, their perceptions of the benefits derived from SOE programs, and the assistance they provided. The characteristics provide a basis for teachers of vocational agriculture programs. The characteristics identified of parents are tangible factors related to their perceptions of the benefits derived for SOE programs — work attitude, occupational development, and human relationship skills. Parents should be oriented and involved in the vocational agriculture program to help the teacher and ultimately improve the quality of SOE.

References

[1]Rawls, Willie J. "Parental perceptions of vocational agriculture supervised occupational experience programs in Iowa" unpublished doctoral dissertation, Iowa State University, 1978.

[2]Rawls, Willie J. and David L. Williams. Parental assistance in providing supervised occupational experience through vocational agriculture programs. THE JOURNAL OF VOCATIONAL EDUCATION RESEARCH, 1979, IV (2), 31-42.

[3]Rawls, Willie J. Parental perceptions of the benefits vocational agriculture students derive from supervised occupational experience. THE JOURNAL OF THE AMERICAN ASSOCIATION OF TEACHER EDUCATORS IN AGRICULTURE, 1980, XXI (3), 14-17.

BOOK REVIEW

BEEF CATTLE PRODUCTION, by John F. Lasley, Englewood Cliffs, New Jersey: Prentice-Hall, 1981, 468 pp., $19.95.

This is a book devoted to the scientific methods of beef production. The theory that underlies these methods is explained in the book in practical terms for better understanding. The 24 chapters are arranged in seven distinct parts as follows:

1. General View
2. Physiology of Reproduction
3. Genetics of Beef Cattle Breeding
4. Systems of Reproduction and Management
5. Nutrition and Feeding
6. Marketing Beef Cattle
7. Keeping Beef Cattle Healthy

The chapters vary from a brief look at the origin, development, and importance of beef cattle in the world to an unusual chapter on beef cattle behavior as related to management of beef cattle. This is an excellent textbook or reference for high school students in vocational agriculture or young farmers interested in beef cattle. Principles and theory underlying everyday practices are clearly indicated, making it a book that should be up-to-date for many years to come.

Cayce Scarborough
Professor Emeritus
North Carolina State University
Auburn University

PRODUCING VEGETABLE CROPS, by George W. Ware and J.P. McCollum, Danville, Illinois: The Interstate Printers and Publishers, Inc., 1980. 3rd Edition, 607 pages, $13.50.

PRODUCING VEGETABLE CROPS is 607 pages full of almost everything you might want to know about seeding, fertilizing, harvesting, storing, and disease and weed control of vegetables, plus a lot more. The book is divided into two section, Principles and Practices. The Principles section covers economic trends in vegetable growing, vegetable breeding and seeds, soil management, and transplants. There are also chapters on cultivation, rotation, irrigation, and pest and disease control. Other chapters are about harvesting, handling, storage and marketing the vegetable crop. The first section covers all the fundamentals that any grower should know, from the backyard gardener to the farmer with many acres in vegetables.

Each chapter in the Practices section covers the cultural practices of a specific crop. Also included in each chapter is a history of the vegetable, and a list of references. The chapters in this section are aimed mainly at the section(s) of the country where the vegetable is grown.

In the back of the book there is a glossary, an alphabetical list of contributing authors and the page numbers of their work, and an index.

Both of the authors have been involved in vegetable growing research for a very long time. George Ware was in charge of the Fruit and Truck Branch Experiment Station at University of Arkansas for 16 years. He has also written Southern Vegetable Crops and co-authored Raising Vegetables with J.P. McCollum. J.P. McCollum was a professor and researcher in the Division of Vegetable Crops at the University of Illinois. His research includes experiments in seed problems, asparagus production, and soil fertility.

The reading level of this book is 12th grade according to the Fry Readability Graph. PRODUCING VEGETABLE CROPS could be used as a text in college courses, as a handbook for the gardener or grower, a reference book for the horticulture class, and a guide for the vocational agriculture instructor.

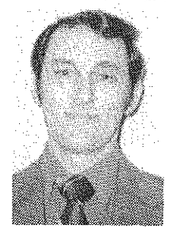
Lauren Warner
Cook College,
Rutgers University
New Brunswick, New Jersey

ARTICLE

The National Status of Adult Education in Vocational Agriculture

BY M.J. CEPICA

Editor's Note: Dr. Cepica is Associate Professor of Agricultural Education at Texas Tech University, Lubbock, Texas 79409.



As more emphasis is placed on adult education, vo-ag educators must begin to examine their adult programs. Adult education has been a function of vocational agriculture since the passage of the Smith-Hughes Act of 1917. This Act established a national system of vocational education, specifically including vocational education for adults who were involved in production agriculture. The programs have been expanded to include those persons with interests in all areas of agricultural industry.

Adult vocational agriculture education programs were organized and operated independently in each state. The result has been a variety of unique programs in each state. A lack of identifiable program characteristics has existed among schools, states, and regions that provided clear definition to program philosophy, objectives, content, procedures, and outcomes. In order to "bridge the gap" with regard to this problem, the Department of Agricultural Education at Texas Tech University conducted a national survey to determine the status of adult education in vocational agriculture. To secure necessary information for the study, each state supervisor or director of vocational agriculture in the Nation was surveyed.

The Picture

Designers of the Smith-Hughes legislation stipulated that vocational agriculture teachers were to conduct adult education. Although the quality of existing adult programs is generally high, only 40 percent of vocational agricultural teachers sponsor adult education. Considering involvement on a regional basis, the Southern region has the highest percent of vocational agriculture departments currently involved in adult programs (50 percent), followed by the Central regions (40 percent). Fewer of the departments in the Eastern and Western regions (36 and 19 percent, respectively) reported being involved in adult education.

Most adult education programs are organized at the state level (about three-fourths of all programs). However, there is little continuity between states. Only the "Young Farmer" program commonly exists in each of the four regions, representing approximately one-third of the programs organized at the state level. Farm management programs, representing eight percent of state organized programs, exist in the Central and Western regions. The Western region also provides a limited number of state organized agriculture mechanics programs. The remaining programs (representing 60 percent of all state organized programs) have no continuity between regions or states. One-fourth of the adult education programs in the Nation are organized by vocational agriculture teachers according to local needs.

Meeting Needs

Supervisors were requested to identify whether programs in their respective states met the needs of adult agriculturalists and to identify the priority level of adult education as a program area within vocational agriculture. Supervisors who believed their programs were doing a sufficient job could be assumed to have selected either the "Very Well" or "Moderately Well" categories.

Collectively, these two categories represented 50 percent of the respondents. The remaining 50 percent of the supervisors selected either the "Very Little" or "Not at All" categories, indicating their programs were not meeting the needs of adult agriculturists.

When supervisors were asked to rank eight priority areas of vocational agriculture, adult education ranked 6th, cumulatively. The complete rank-order was as follows: (1) classroom teaching, (2) supervised occupational experience programs for high school

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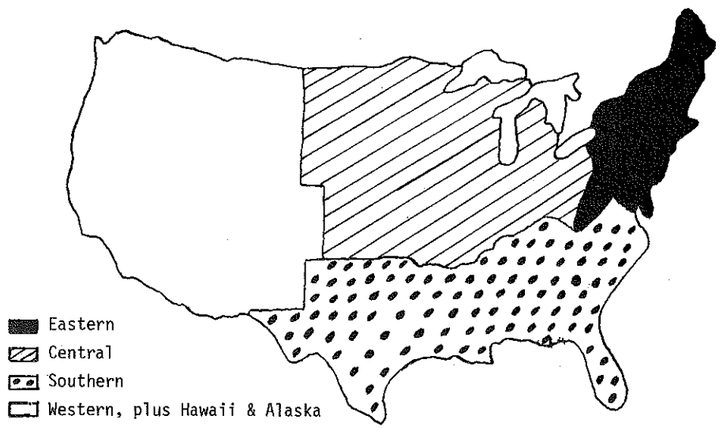

Regions of adult education in vocational agriculture

The National Status of Adult Education in Vocational Agriculture

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students, (3) Future Farmers of America organization, (4) program planning, (5) professional improvement, (6) adult education, (7) public relations, and (8) community service. Adult education was ranked fifth by the Central and Southern regions, sixth by the Eastern region, and eighth by the Western region state supervisors.

Statistical tests were used to determine if a relationship existed between state supervisors priority rankings of adult education and their responses regarding meeting the needs of adult agriculturalists. As adult education was placed at a higher level, supervisors rated the needs of adults as being met moderately or very well, conversely, as the supervisors rated adult education at a lower level on a priority basis, they indicated that adult programs were not adequately meeting the needs of adults.

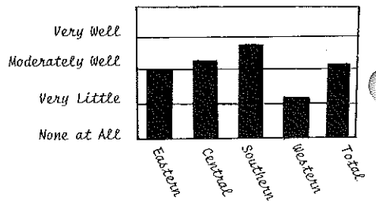
Additional information which gives a clearer picture of the present status of adult education includes funding for adult education, teachers role in adult education, percent time allocated for state supervisors to administer adult programs, and recommendations of state supervisors.

This survey showed that state governments provide the greatest amount of monies for adult education followed by local funds and the federal government, respectively. Furthermore, teachers in some states received additional compensation for adult work while other state agencies consider adult education a part of the regular work load.

The majority of the state supervisors (60 percent) reported that vocational agricultural teachers were both the instructors and coordinators of the adult program. Over 20 percent of the supervisors indicated that teachers should only serve as instructors, while 15 percent indicated that teachers were not responsible for adult education.

At the state level, almost two-thirds of the supervisors indicated a designated staff member spends less than 25 percent of his/her time or time "as needed "to administer the adult programs. Another one-tenth of the supervisors indicated 25-50 percent of the supervisor's time was spent administering adult programs. The remaining one fourth of the supervisors indicated that state staff members devoted at least 50 percent or more of their time to administering adult education programs in vocational agriculture.

State supervisors perceived that improvement in the adult program can be facilitated most by an increase in state staff, increased funding, greater commitment and change in priorities at the state level, increase in the number of vocational agriculture teachers, and increased inservice training and instructional materials.



Extent to which adult programs meet the needs of adult agriculturalists

Conclusions

When considering programs at the secondary public school level, vocational agriculture is considered a leader in adult education. Improved service must be foremost in the minds of program leaders from the "grass roots" to the "national level." To assist state supervisors, teachers, and other interested persons in further improving adult education in vocational agriculture, several points should be considered. First, to meet the objectives for adult education, as established in the Smith-Hughes Act of 1917 and specifically funded by the Vocational Education Amendments of 1968 and 1976, a higher percentage of vocational agriculture departments and teachers need to be involved in the adult education process. Secondly, state education agencies need to adopt policies which specify guidelines for adult education in vocational agriculture. Also, an analysis should be made to determine sources (future or existing) from which funds may be used for adult vocational education a higher priority item to become a more successful segment of vocational agriculture.

In general, the state supervisory staff should spend a greater amount of time supervising the adult program in vocational agriculture. The possibility of forming a national adult program in vocational agriculture, such as the Young Farmers, should again be investigated. More research is needed to determine if research specialists should be employed by the state to conduct systematic short courses. Leaders in vocational agriculture should continue to have regional and national meetings to determine goals and objectives for adult vocational agriculture education.

BOOK REVIEW

NATURAL RESOURCE CONSERVATION — AN ECOLOGICAL APPROACH, by Oliver S. Owens, New York: Macmillan Publishing Co., Inc., 1980, 3rd. Edition, 883 pp., $19.95.

NATURAL RESOURCE CONSERVATION presents an ecological approach to conservation in an expanded version of the previous editions. This edition covers a broader view of our environment. This book includes 21 chapters in a coherent and systematic approach to current environmental problems. Chapters cover such topics as the conservation movement in the United States; soil, rangeland, and forest management; fresh water fisheries; pollution (water, air, noise); the oceans; pesticides; solid waste; the energy crisis; nuclear energy; human population; economic considerations; and the future of planet earth.

The author, Oliver S. Owens, is Professor of Biology at the University of Wisconsin, Eau Claire. Dr. Owens received his B.S. and M.S. degrees from the University of Wisconsin, Madison, and his Ph.D. in ornithology from Cornell University.

NATURAL RESOURCE CONSERVATION is an excellent reference text for any vocational agriculture instructor and is appropriate reading for seniors in high school and freshmen and sophomores in college.

Thomas J. Piekarski
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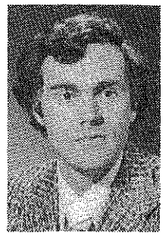
Poplar Grove, Illinois

ARTICLE

Implications For The Vo-Ag Teacher: Student Career Guidance

BY EUGENE ANDERSON

Editor's Note: Mr. Anderson is Extension Specialist, Program Development, Agricultural Extension Service, 405 Coffey Hall, University of Minnesota, St. Paul, Minnesota 55108. He previously taught vocational agriculture for three years at Minneota, Minnesota.



Why didn't Jim become a vo-ag teacher rather than a geography teacher? Jane, a veterinarian rather than a physician? John a tractor mechanic rather than an auto mechanic? Julie a farm manager rather than a fast-food franchise manager? Every vo-ag teacher has had students like Jim, Jane, Julie, and John.

Usually an instructor has had more than one or two, perhaps every day for four years. They were good students or poor students. They were highly motivated and not motivated. They had tremendous ability and very limited ability. When they finished high school, we have wondered why they made the career choice they did. We had taught units on careers and agricultural job opportunities in the ninth grade. During the remainder of their vo-ag courses they had been exposed to all sorts of agricultural careers through field trips, films, class visitors, and various classroom subject matter topics. We even encouraged them to think about career choices by asking them to write down their preferences every year.

We are concerned about the career choices of students because we know there is a continuing shortage of vo-ag teachers as well as in other careers in agricultural industry. We know that our students possess valuable agriculture backgrounds. Yet our students choose non-agricultural careers or pursue careers which do not challenge their abilities. Obviously, there are personal interests, abilities, and preferences which affect career decisions. Every vo-ag student can't become a high school vo-ag instructor. But, agricultural industry encompasses a vast range of careers. For most non-agricultural careers, technical and non-technical, there is a parallel, agriculturally-oriented career. Medicine, education, engineering, sales, and business management are easy comparisons. Law, theology, and computer programming include agricultural specialties.

The structure of education and training for agriculturally related careers is complex. All manners of education exist, ranging from vocational-technical courses to highly specialized post-doctorate study. The training and educational requirements are as varied as the types of employment.

The mass of opportunities is difficult to comprehend. It certainly is not understood by a high school student and probably not very well by teachers. The best we can do is try to understand a segment of the opportunities. The range of jobs and employment opportunities with which we are familiar is limited by our own experiences and education.

Role of Vo-Ag Teacher

The career guidance provided by vo-ag teachers is an area of concern. The reasons why we choose to become vo-ag teachers are many and varied. Where did the spark originate that set us on our path to becoming a teacher? What person or incident planted the seed? Was it a school counselor or a period of incubation before we decided? Was it made in spite of comments from the counselor and others that we really should do something else? It is interesting and enlightening to review why we became teachers ourselves.

The vo-ag teacher must accept student career advising as one of the professional responsibilities that goes with the job. This is not a responsibility usually detailed in the job description and the teacher can choose to ignore it. However, there are three areas of professional responsibility which should be of concern to the vo-ag teacher.

The first and most important is to the students. An active personal and professional interest in each student includes an interest in career choice. A second responsibility is to the agriculture teaching profession. We have a responsibility to our profession to help insure a continuing supply of interested and qualified teachers. The third area is our responsibility to the whole industry of agriculture to help our students learn about the careers and jobs which exist and to understand how they relate to their interests and abilities.

The vo-ag teacher's responsibility begins with the career awareness activities of the classroom. It also includes guidance, influence, and suggestions to individual students. It is often necessary to push a little, to plant a seed of thought, or "light a fire under a person." Career decisions are not made entirely free choice. They are not made in an open market. The amount and kind of pushing depends on the personality, attitude, and ability of the individual student.

Acceptance of this responsibility may result in opposition from the school counselor or the college recruiter or the vocational school administrator. It may mean advising a student to think about studying agronomy at a land-grant university rather than a pre-medical curriculum at a liberal arts college. It may be challenging a student to consider a four-year degree rather than

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Implications for the Vo-Ag Teacher: Student Career Guidance

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a two-year technical program. It may be counseling a female student to check out a career in veterinary medicine rather than a traditional female role as a nurse. It may mean leading a student to consider tractor mechanics rather than auto mechanics.

Career guidance involves concern for level as well as direction. It includes challenging students to aim as high as possible. For those with ability, a professional degree from a college or university must be considered. A college degree has the potential for placing the student on a career ladder that is longer and reaches higher than does a non-degree program.

Part of the reason for this greater potential is the liberal arts element which is a usual part of degree programs and helps to develop communication skills. The lack of communications skills among non-degree people is emerging as a major difference between degreed and non-degreed employees at middle and higher levels of management.

Leadership for Agriculture

The development of leadership skills is another reason why we should be concerned about encouraging our students to aim as high as possible. What are the implications for our rural communities if students stay in the community and pursue a postsecondary vocational course rather than a baccalaureate degree in agriculture? Is it possible that rural leadership will suffer because these people do not have the more liberal education provided by a college or university?

How does a vo-ag teacher fulfill the professional responsibility to guide students in their career decision making? The concept of a lifetime career in any one profession or occupation is fading. As our experiences in a job accumulate and our awareness of other jobs develops, we are better informed and more aware of ourselves and our desires.

In order to best help our students we need to push open the doors and windows on job possibilities. We need to expand horizons as far as our experience and education permits. This will enable our students to make choices which are satisfying to them. We need to teach units and conduct tours and invite classroom visitors who open job possibilities to our students. We need to know the interests and capabilities of each student and challenge them to make realistic and imaginative selections of entry jobs with some vision of where the future leads. Parents must be involved in this process so there is understanding and support for the decision made by the students.

Vo-ag teachers have a professional responsibility to students and to agricultural industry to promote high level career goals and choices. They also have the responsibility of providing the education and training to achieve them. Teachers need to challenge students to set high goals. Teachers need to provide the inspiration for realistic aspiration.

LETTERS

"Letters to the Editor" is a feature to encourage dialogue among readers of the MAGAZINE. Selected letters will be printed without comment or editing. Your letter will be welcomed! (Send letters to: Editor, THE AGRICULTURAL EDUCATION MAGAZINE, P.O. Drawer AV, Mississippi State, MS 39762.)

Editor:

Your forward looking comments on the Editor's Page in the Agricultural Education Magazine are timely and on target. This is particularly true when you suggest a departure from the old and traditional way. Too many "aggies" are, unfortunately, comfortable and contented in the status quo for agricultural education. Your thought provoking ideas are very refreshing.

Keep up the fine work.

Sincerely,
Ralph E. Matthews, Specialist
Agriculture/Nature Resources
Chancellor's Office
California Community Colleges
1238 S. Street
Sacramento, CA 95814

Editor:

I am concerned that in your editorial "Keeping Adult/Young Adult Education in Perspective" of the June, 1981 issue of the Agriculture Education Magazine, you neglected to mention the one area of adult agriculture education which is not served by the private agribusiness sector. And to us in Minnesota, the most important. This is Adult Farm Management Education.

Those of us in the field, who daily work with farmers, realize as you mention, that many services are provided either on a free basis or a user cost basis by the free enterprise agribusiness sector. We know of no programs offered under such a framework in the field of Farm Management Education. Presently there are some 5,000 farmers enrolled in the Minnesota Farm Business Management Program. This should indicate that there is a need for this program.

May I urge you to read Ed Person's contribution to your June 1981 issue which directs itself to this issue?

Sincerely,
Ed Sisler
Area Vo Ag Coordinator
Thief River Falls Area Vocational
Technical Institute
Thief River Falls, MN 56701

FFA PAGE

How FFA Camping Trips Pay Off

BY ELIZABETH SHORT

Editor's Note: Ms. Short is Vocational Agriculture Teacher, 181 Thorn Lane, Apt. 11, Newark, Delaware 19711. This article is based on her entry in the Ideas Unlimited Contest sponsored by the National Vocational Agriculture Teachers Association.

When my FFA president says, "FFA members, why are we here?," many of my students did not understand the meaning of the statement they had committed to rote memory. During this time, I had been searching for ways to increase my FFA chapter's membership through activities that would be fun and at the same time would provide a learning experience, something that would bring meaning to the words at the beginning of the meeting. Last year, I found the activity that fulfilled this goal: FFA camping trips.

My students comprise a wide variety of backgrounds — from the very rich to the very poor. They live from the intercity to the chateau areas. Even with this wide variety of backgrounds, many have never experienced the wonders of camping or even thought it could be related to FFA or agricultural studies.

How do I incorporate my classroom instruction with the camping trips? First, my students learn cooperation. In my classroom, they learn to respect both the other students and myself. Their behavior in the classroom has to be the best, or the trip will be canceled. On the trip, the students learn to get along even with their diverse backgrounds. This is something that does not happen anywhere else in the school system.

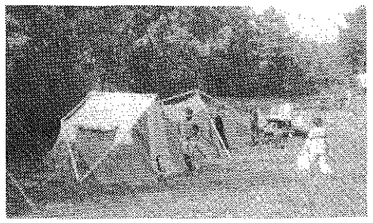
The students are responsible for planning the entire camping trip, including finding chaperones, collecting supplies, planning the menus, delegating cooking responsibilities and chores, and setting up the classroom work they have to bring back. They are also responsible for contacting farms in the area and planning hikes.

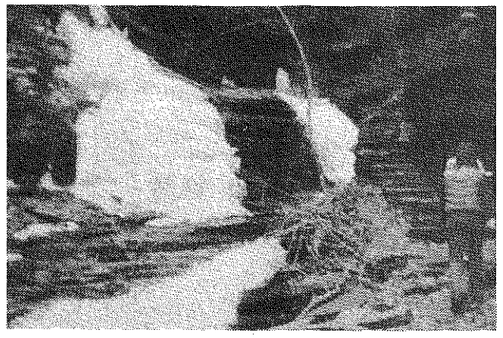
On the trip, the classes separate their activities. The wildlife class searches for birds and wild animals by tracking footprints and seeking habitats. The animal science class gains access to farms nearby. They are especially involved in horseback riding which is something most of my students have never done.

The plant classes also get into the act. Members of landscaping class will try their hand at tree and shrub identification in the wooded areas. The greenhouse and floriculture classes search for flowers that can be identified and dried for future dried flower arrangements.

The students learn survival techniques, how to survive in inclement weather, and how to survive extreme cold at night. Living off the land and finding out what it means to have no washers, showers, or bathrooms.

I can not begin to express my happiness with the students' conduct and interest in learning. These camping trips have been what I needed to inspire students into creating a top notch FFA. Now, when my president asks, "why are we here," they answer with pride and understanding. Maybe some of my fellow agriculture teachers could try this method of learning and also inspire their students as I have.

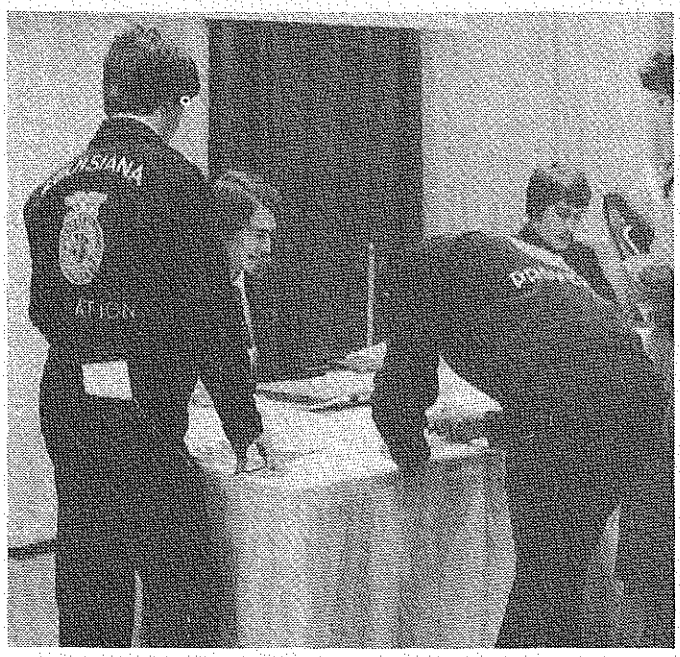




Photographs show various activities during a recent camping trip.

Stories in Pictures

The NVATA has operated a booth in the National FFA Career Show each year since the show was initiated. Elin Duckworth, 1980-81 National FFA Vice President of the Western Region, is shown making a presentation to Sam Stenzel recognizing the role of NVATA. Mr. Stenzel is Executive Director of NVATA.



The "Teach Vocational Agriculture" booth in the National FFA Career Show is popular with FFA members. Here members fill out cards indicating career interests. Several thousand persons annually fill out cards, with about 500 identifying agricultural education as their career choice. (Photographs courtesy of Sam Stenzel, Executive Director, NVATA, Alexandria, Virginia).