FFA Study Committee

This Special Study Committee met to review programs and activities of the Future Farmers of America and to make suggestions for possible changes, particularly in view of the expanded role of vocational education in agriculture to train for non-farm agricultural occupations. The result of their study was presented as recommendations to the National FFA Board of Directors on the Board of Directors for consideration at their annual meeting in July.

Committee members, seated around the table, are (left to right) Walter Bonelli, Bangor, Michigan; past president of the National Vocational Agriculture Teachers Association; Dr. E. M. North, head teacher trainer, Prairie View A & M College, Texas; Kenneth Kennedy, Cadiz, Kentucky, national FFA president; Dr. Ralph R. Borer, Chairman, Department of Agricultural Education, Ohio State University; Nels Ackerson, Westfield, Indiana, 1963-64 national FFA president; T. E. Faulkner, State Supervisor of Agricultural Education, Montgomery, Alabama; Phillip Acuff, Secretary of the New Jersey State Department of Agriculture; A. G. Ballard, State Supervisor of Agricultural Education, Raleigh, North Carolina; Neal Andrews, on leave as State Supervisor of Vocational Agriculture for New Hampshire, and Elvin Downer, State Supervisor of Vocational Agriculture, Salt Lake City, Utah. Mr. Faulkner served as Chairman of the Committee.

U.S. Office of Education personnel who served as consultants to the group are left to right, standing, Malcolm C. Carr, A. W. Towe, H. N. Humm, E. J. Johnson, and Wm. Paul Gray.

Harris Named FFA Executive Secretary

C. J. E. H. N. Harris has been named State FFA Executive Secretary in Indiana. He was formerly teacher of vocational agriculture in Cass County, Indiana.

During the past year, Harris was a National FFA Fellow at the University of Maryland. In addition to graduate study, his year included experience in the National FFA Office where he worked closely with National FFA Executive Secretary, Wm. P. Gray, to gain understanding of the organization and functioning of the FFA.

Harris holds the B.S. degree in agricultural education and the M. S. degree in educational administration from Purdue University. While at the University of Maryland he continued study in agricultural education and educational administration and supervision.
Will Research Solve Our Problems?

Finally, there are dollars available to actually support research and researchers in agricultural education. The word “finally” may not mean too much to the younger members of our profession. It is used here to indicate that after many years of talking, planning, hoping, and trying, there are some dollars available for research. Efforts at the national level for many years were unsuccessful until there was one “man, part of the time,” assigned to research. Most of our state staffs have had specialists in many areas, but usually a researcher was not among these. Now, in these modern days, the demand is greater than the supply, which is good news for those few researchers in the market.

As indicated by the writers of several recent articles in this magazine, referring to new opportunities, a pertinent question to raise is, “Will we make most effective use of these opportunities?” This certainly applies in the area of research. Perhaps there is no area of educational endeavor today of which more is expected than the area of research. My guess is that we are expecting too much. More specifically, I believe that some are expecting research to solve problems that research cannot solve, no matter how well the research is conceived and done. See if you agree with some of these arguments.

One of the major concerns today of anyone in Agricultural Education who stops long enough to ask the question is “What direction should we go?” This is likely the number one question for our profession. Yet, Direction-Finding is not a research problem. Surely, research will likely be needed to furnish some food for thought in the most promising directions for programs in the years ahead. The answer is one of what should be. This means a consideration of possibilities, alternatives, beliefs, and values. These matters are more in the realm of philosophy than in research. Answering such questions in finding direction is more nearly a problem of philosophical analysis than of research design. Agree?

More pressing than direction-finding for most of us in our day-to-day routine is finding a satisfactory answer to the problems facing us now. I must answer this man now, I can’t wait for research to give me the answer,” said one state leader. I would suggest that research promises very little in the way of specific answers to a specific problem. In fact, this may be a good way to get poor research as well as poor answers. Again, research may be needed to use as a basis for answering some of the many questions facing us in such areas as Occupational Education. Research cannot supply the answers to most of the specific problems we face in our work. Agree?

Perhaps these two areas, that of long-range planning and meeting our everyday problems, will be enough to illustrate the limitations of research applied to Agricultural Education. Seeing limitations makes research no less important and needed. We desperately need research in most areas, I believe that there is little question about this. The purpose here is to suggest that we not expect research programs and projects to do things for us that we must do in other educational ways. Making decisions is a human matter, even if the facts used in arriving at the decision come from a computer. Agree?

Cayce Scarborough
Letters to the Editor

Dear Cayce:

Congratulations on the first two issues of The Agricultural Education Magazine. For a beginning in this field, it seems to me that you have started off in high gear and I want to express my personal gratitude for the quality of articles you have written. I was just pleased to see the article by Dr. Eilenbom in which he gives an artistic sketch. I think you might wish to bring him in on your editorial in regard to the nature and purpose of the magazine she was writing.

One thing that I noticed was a smaller number of illustrations in these two issues. Does this mean that you have not found the corners of the blank bar to print any of the ideas which you have presented in your editorial, please let me know if you have instituted a change of printing policy. As a newspaper editor, I think it is very important to have a well-organized plan for the distribution of your magazine.

I write to the August issue an article which uses the words in the title "New-Farm Agri-

culture". I was at a national committee meeting on this subject and it was very interesting. The suggestion was given that we should use the term "farm" instead of "agriculture". The point made by those who are in favor of "non-farm" agriculture indicated that anything that does not fit the term "agriculture" attached to it does not fit in some way because it is defined. I want to say that I am wondering if there is need for clarification. Is there a need for a situation in which it is clearer to the writer of the article that he is talking about the agricultural situation? With best personal regards and wishes for a successful career in an important area. I am

Sincerely yours,

Harold M. Byrom, Director
Agricultural Education
Michigan State University

Dear Dr. Scarborough,

I have just read the July and August issues of Agricultural Education Magazine. Both issues are very good. The article by Earl Webb and Lawrence Doolittle is among the best I have been able to find lately. It is a national article for the whole country. I am looking forward to the next issue. Particularly I would like to see more articles for the rural dwellers in the next issue. The editorial in which he has made some outstanding contributions to our profession, I do not agree with his conclusions.

Your editorials in the FFA in the editorial are well written and should lead into a healthy condition if continued. If you appoint a person to write a letter to the term "farm- ers" and find money, start from an organization, an agricultural- oriented and geographically oriented youth organization that is fully trained, expand it and write in at least twice as many times as you could. We were fine in 1924, but would you now be a better money?

Condolingly yours,

Thomas K. Shorthorff
Superintendent
North Carolina State College

Dear Dr. Scarborough,

How happy and unexpected I was when I opened the July issue of The Agricultural Education Magazine. I saw a picture of the President's new education plan which may soon disappear from our magazines. Among the pictures were several I was pleased with. The new education plan looks like a new era.

Condolingly yours,

C. E. Morehead
Superintendent
North Carolina State College

Ed. Note: Ed. Note: We always try to use our best resources to make sure that our readers are not disappointed. We are always trying to improve.

Dear Cayce:

I like the frankness of approach you are using on the editorial page. The department, and the "leader who fails" are remembered. How would a "question of the week" be asked on your Board? Mr. Eilenbom would be encouraged to stop in and ask questions.

Dear Dr. Scarborough,

How happy and unexpected I was when I opened the July issue of The Agricultural Education Magazine. I saw a picture of the President's new education plan which may soon disappear from our magazines. Among the pictures were several I was pleased with. The new education plan looks like a new era.

Condolingly yours,

C. E. Morehead
Superintendent
North Carolina State College

Ed. Note: Ed. Note: We always try to use our best resources to make sure that our readers are not disappointed. We are always trying to improve.

Teenage years

Loyd J. Nepp
Teacher, Education
University of Illinois

Agricultural education has been a very important factor in the development of modern American society. It is no accident that agriculture has been a major pillar of the nation's economy, providing food, fiber, fuel, and feed for a growing population. The opportunities available to young people in agriculture have expanded tremendously in recent years, with new programs and initiatives designed to attract and retain the best and brightest minds.

Dear Cayce:

I am writing to express my appreciation for the article you published in the August issue of the magazine. Your article was very well written and I think it is important for all of us to hear about the challenges that are facing agriculture today.

Sincerely yours,

Harold M. Byrom, Director
Agricultural Education
Michigan State University

Needed Research And Development

Loyd J. Nepp, Teacher, Education
University of Illinois

Having the ability to quickly and accurately produce food and other agricultural products is essential for the health and well-being of our nation. As technology continues to advance, new challenges and opportunities arise that require continued research and development.

One area where there is a lot of need for research is in precision agriculture. The use of advanced technology such as GPS and sensors can help farmers optimize their practices and increase efficiency. However, there is still much work to be done in this area to fully realize the potential of these technologies.

Another area where research is needed is in the development of new crops and livestock. With the increasing demand for food and fiber, it is important to continue exploring new possibilities for agriculture. This includes developing crops and livestock that are more resistant to disease, better suited to specific environments, and produce higher yields.

There is also a need for research on sustainable agriculture practices. As we look to the future, it is crucial that we ensure the long-term sustainability of our agricultural systems. This includes developing new techniques for soil conservation, water management, and renewable energy production.

In conclusion, continued investment in research and development is essential for the future of agriculture. By focusing on these areas, we can ensure that our agricultural systems remain resilient and adaptable to the challenges that lie ahead.

Sincerely yours,

Loyd J. Nepp
Teacher, Education
University of Illinois

Preparing For Jobs That Do Not Exist

Gordon Swanson, Professor of Agricultural Education and President of Phi Delta Kappa, noted in an interview in the April issue of the Phi Delta Kappa Magazine, that he said that the future vocational education curriculum should not be engage in preparing persons to...
An Opportunity—Research and Development in Agricultural Education—An Imperative Need

DUANE M. NIELSEN, Director of Educational Research Department, Division of Adult and Vocational Research, Bureau of Research, U. S. Office of Education, Washington, D. C.

Editor's Note: This article was prepared earlier this year. The Occupational Research and Training Program (ORTP), formerly the Division of Vocational and Technical Education, has become the Division of Adult and Vocational Research (DAVR) in the Bureau of Research, U. S. Office of Education. The broad changes and operating procedures within the ORTP are essentially the same as they were under the ORTP. Any questions? They should be directed to Dr. Duane Nielsen, address shown above.

Nearly half a century of vocational education in agriculture has verified the need for research and development activities in all phases and at all levels of program planning and operation. If vocational agriculture is to face effectively the challenges and opportunities which confront the programs, research and development must permeate all aspects of its planning, organization, administration, operation and evaluation. Lacking this, the program can achieve its potential.

Numerous research and development efforts have influenced vocational agriculture programs over the years. Increased activity, improved procedures and coordination characterize recent trends. However, such activities need to be greatly accelerated and intensified. Illustration I indicates some of the areas of concern and the magnitude of the task.

This illustration exposes the importance of research and development in the expansion and improvement of vocational agriculture. The three sides of the triangle represent the major components of occupational education: the vocational opportunity, the educational program and the vocational program. The effectiveness of vocational programs is measured in the final analysis by the ability of the vocational product, the graduate, to perform successfully in a technologically society. Research and development are imperative in this process.

The expanded opportunities

- make grants to colleges and universities, and other public or nonprofit private agencies and institutions, to State boards, and with the approval of the appropriate State board, to local educational agencies, to pay part of the cost of research and training programs and of experimental, developmental, or pilot programs developed by such institutions, boards, or agencies, and designed to meet the special vocational education needs of youths, particularly youths in economically depressed communities who have academic, socio-economic, or other handicaps that prevent them from succeeding in the regular vocational education programs.

The authorized appropriations for research and development under this Section of the Act are:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Appropriations</th>
<th>Total Appropriation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>$11,833,000</td>
<td>$11,833,000</td>
</tr>
<tr>
<td>1986</td>
<td>$12,775,000</td>
<td>$12,775,000</td>
</tr>
<tr>
<td>1987</td>
<td>$20,200,000</td>
<td>$20,200,000</td>
</tr>
</tbody>
</table>

To implement and administer this Section of the Act, the Office of Education has established an Occupational Research and Planning Staff in the Division of Vocational and Technical Education, as shown in Illustration II. This staff has been organized into three branches, each responsible for activities in one of the substantive areas of research and development identified in Illustration I.

The Employment Opportunities Branch is primarily directed to the demand side of vocational and technical education. Its major thrust is toward assuring the employment opportunities and competencies needed for successful entry, persistence, and advancement in the world of work.

The second, the Human Resources Development Branch, is focused on the supply side, on the agricultural student, his origin, characteristics, aspirations, motivations and their implications for program development.

The third, and perhaps more de


dicated Resources Development Branch. It is concerned with developmental or pilot programs and their evaluation, research and ex
Employment Opportunities In Off-Farm Agricultural Occupations

R. A. BAKER, Teacher Education, Auburn University, Alabama

Since the passage of the Smith-Hughes Act in 1917, programs of instruction in vocational agriculture have been largely designed to train persons for production agriculture. Rapid technological advances in agricultural production have caused shifts in jobs formerly conducted on the farm to those performed off the farm.

With the passage of Vocational Education Act of 1965 and the significant contribution that vocational agriculture can make to the preparation of competent people for agricultural occupations, a study was conducted in Alabama to determine:

1. The agricultural businesses, industries and services by main product service categories.
2. The existing off-farm agricultural occupations by main product service categories.
3. The nature and extent of employment opportunities in off-farm agricultural occupations.
4. The occupational specialties of off-farm agricultural occupations.
5. The methods used by businesses, industries, agencies, and services in recruiting employees.

Sample and Procedure

In order to resolve the research problem the study involved the collection and analysis of data relative to the occupational being held by individuals in agricultural businesses, industries, and occupations by the census of twenty counties in Alabama.

Table 1. Number of Firms Operating in Twenty Selected Counties by Main Product or Service Categories

<table>
<thead>
<tr>
<th>Main Product or Service Category</th>
<th>Number of Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Chemical Manufacturers, and Wholesalers</td>
<td>25</td>
</tr>
<tr>
<td>Dairy Products Manufacturers and Distributors</td>
<td>93</td>
</tr>
<tr>
<td>Crop Processing, Sales and Warehousing</td>
<td>54</td>
</tr>
<tr>
<td>Farm Machinery and Equipment Retail Sales and Service</td>
<td>23</td>
</tr>
<tr>
<td>Farm Service</td>
<td>44</td>
</tr>
<tr>
<td>Farm Supply Retail Stores</td>
<td>21</td>
</tr>
<tr>
<td>Food Manufacturers and Wholesalers</td>
<td>61</td>
</tr>
<tr>
<td>Food Processing and Distribution</td>
<td>45</td>
</tr>
<tr>
<td>Government Agricultural Services</td>
<td>21</td>
</tr>
<tr>
<td>Livestock Sales and Service</td>
<td>21</td>
</tr>
<tr>
<td>Flower Production and Sales</td>
<td>1</td>
</tr>
<tr>
<td>Flower and Wood Products</td>
<td>1</td>
</tr>
<tr>
<td>Meat Processing and Wholesalers</td>
<td>71</td>
</tr>
<tr>
<td>Nursery Production, Sales and Landscaping Services</td>
<td>120</td>
</tr>
<tr>
<td>Pest Control Service</td>
<td>7</td>
</tr>
<tr>
<td>Feedlot and Feedyard Processing and Sales</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>1,060</td>
</tr>
</tbody>
</table>

Personality Plus

Success in the farm recreation business depends heavily on the sincerity desire of the manager to serve people. It demands a manager who has the qualifications to put up with and cater to the wishes of a wide variety of customers.

It also requires a manager who is:
- willing to learn from experience;
- able to deal fairly but firmly with his customers in cases of vandalism, littering, theft, fire and vandalism;
- able to advertise and promote his business;
- able to spend enough money to set an efficient, profitable advertising campaign.

BOOK REVIEW

CAREERS IN AGRIBUSINESS AND INDUSTRY, St. Louis, The Interna.

The book is written for young people to introduce them to many of the opportunities available in agriculture. It describes many of the off-farm agricultural businesses and industries in the nation and lists kinds of jobs in these industries.

The nature and extent of employment opportunities in these occupations are described in detail. It is shown that many college graduates would be well served by the work of this book.
The Sampling Problem
In Research Design

J. Robert Warmbord, Teacher Education, University of Illinois

Teachers, supervisors, and teacher educators conducting research in agriculture or any other field, therefore, have the time, money, or inclination to study the entire population about which inferences are to be made. The teacher of agriculture willing to estimate the proportion of adult farmers in the community who have attended adult classes, the supervisor asked the teacher to estimate the proportion of all high school graduates who have completed at least one year of agriculture, and the teacher educator willing to design a study to estimate the number of workers employed in farm occupations are all faced with a common problem of research design. How shall a sample of the population be chosen? If reliable conclusions are to be drawn and relevant generalizations formulated?

Two facets of sampling will be dealt with in this article. First, to be considered will be the estimation of size of sample and, second, the method of selecting the sample. It is the intention to present the discussion in outline form, in unpretentious language, some general guidelines which researchers in agricultural education, particularly teachers, can follow in designing studies involving sampling. The presentation has been made to treat all of the problems of sampling that will be faced even by the most casual researcher. In fact, this article will be limited to a discussion of sampling techniques applicable to research designed to estimate the percentage of a population which possesses some characteristic associated with a specific class or category. Basic to the discussion which follows is the assumption that simple random sampling will be used in selecting the sampling units of the population to be studied.

Size of Sample

A teacher of agriculture in making a comprehensive study of the local community is interested in determining the proportion of the population who have attended adult classes provided by the school. The teacher asks how many farmers in the community must be interviewed to arrive at a reliable estimate. Interests enough, the teacher must answer some questions before an answer can be provided for his question.

First, he must define the population with which he is concerned. He must be asked what he considers to be the community and how many farmers there are in the area defined as the community. The teacher replies that he is concerned with all farms operated in the school district and that he has an up-to-date list which indicates that there are 400 farm operators in the school district. Now, the teacher must be asked how accurately he believes to estimate what percentage of the farms he has attended adult classes. He states that he would be satisfied if the estimate were correct within 5% percent, that is, if the sample of farmers interviewed shows 25 percent to have attended adult classes, the percentage for the entire school district is sure to lie between 20 and 30 percent. Here the teacher is specifying the degree of precision desired for the estimate, or stated another way, he is indicating what margin of error he is willing to accept to the estimate. It should be pointed out that absolute accuracy to within five percent cannot be guaranteed except by interviewing every farmer in the school district, for even when a very large sample of farmers is interviewed, there is always a chance getting an unlucky sample which is in error by more than the desired five percent. So the teacher must answer the question: What is he willing to have the actual error be? The teacher replies that he would wish to estimate, within the limits of error and risk of getting an unlucky sample indicated previously, the percentage of farmers in the school district who have attended adult classes.

Factors Influencing Size of Sample

This example illustrates that sample size is influenced by the estimated percentage of the population falling into the category of interest. It can be seen that if the estimated percentage of the population in the category of interest is 50 percent, the sample size need be determined only with half of the curve. If the estimated percentage of the population in the category of interest is 75 percent, then the size of sample would be the same as when the estimated percentage is 50 percent. Having the value of the curve, the succeeding discussion will be concerned with the statistical size of the sample in the smaller category — a percentage which will always be 50 percent or less. Calculation should be executed, however, when the estimated percentage of the population in the smaller category is 10 percent. In these cases, the sample size should be increased since larger samples are needed for accurate estimates when the percentage of the population possessing an attribute is extremely low.

Two additional factors influence sample size. As the degree of precision desired in the estimate increases, so does the size of sample needed to arrive at a reliable estimate. The size of sample needed was calculated assuming an acceptable error of 5 percent. The estimated error of 5 percent was used because it is a commonly accepted error. A 5 percent error is considered acceptable in many instances. The sample sizes were calculated using an acceptable error of 5 percent. However, if the researcher is willing to take a larger chance of getting an unlucky sample, the size of sample could be reduced slightly (Figure 2).

J. R. Warmbord

(Continued from page 106)

The AGRICULTURAL EDUCATION MAGAZINE, November, 1965

Reading from Table 1, the teacher in the preceding example should interview 150 or 400 farmers. If he was willing to take a chance of 1 in 20 of getting an unlucky sample. If he was willing to take a chance of 1 in 20 of getting an unlucky sample, he could reduce the sample size to 151.

Suppose a teacher wished to estimate the proportions of all high school graduates during the past 10 years completing one or more years of college. The teacher of agriculture was interested in seeing if the allowable margin of error or degree of precision is 2.5 percent instead of 5 percent, the size of sample should almost double (assuming, in both cases, a risk of 1 in 20 that the actual error is larger than the desired error). The risk the researcher is willing to take in getting an unlucky sample also influences sample size. The size of sample can be reduced if the researcher is willing to take a larger chance of getting an unlucky sample. If the researcher is willing to take a chance of 1 in 10 rather than a chance of 1 in 20 of getting an unlucky sample, the size of sample could be reduced slightly. (Figure 2)

Table 1 has been calculated to indicate the size of sample needed when studying populations of various sizes. The sample sizes were calculated assuming an acceptable error of 5 percent. However, if the researcher is willing to take a larger chance of getting an unlucky sample, he could reduce the sample size to 151.

The size of sample needed was calculated assuming a 5 per cent margin of error with a risk of 1 in 20 that the actual error is larger than 5 per cent. The sample size needed was calculated assuming a 5 per cent margin of error with a risk of 1 in 20 that the actual error is larger than 5 per cent.
How frequently have you heard of a former high school student say that his teacher of agriculture persuaded him to continue in school when otherwise he would have stopped? A study made to determine the relative importance of vocational education in agriculture as an influence that prevents students from dropping out of school.

Data for this study were gathered during the spring of 1965 by means of an open-end questionnaire. This instrument was administered by teachers of vocational agriculture to high school juniors and seniors enrolled in their classes.

Findings

Completed questionnaires were received from 1,859 students. A total of 1,537 (82 percent) indicated they had never seriously considered stopping school, 342 (17 percent) reported they had seriously considered stopping school, and only 8 (less than one-half of one percent) did not respond to this question. This means that more than four-fifths of the students who participated in this study decided very early in life that they would continue their education at least through high school.

The responses of the students in the accompanying table reveals that the individual student's 'own desire to continue his education was the most important influence causing these students to continue attending school. It is not known how many of the students had been influenced in this decision without recognizing the influencing factors.

The largest number of students who recognized influences which caused them to continue attending school, other than their desire to continue their education, gave credit to their respective parents. A total of 510 (11 percent) of the students indicated that their parents were the most important reason they continued to attend school and 1,037 (56 percent) reported that advice received from their respective parents was the second most important reason they had continued in school.

Summary

Because more than four-fifths of the students indicated in this study had not seriously considered stopping school and because nine-tenths of them reported that their own desire to continue their education was either the most important or second most important reason they had continued to attend school, it was concluded that the desire for education was the most important influence which prevented these students from becoming school drop-outs.

A majority (56 percent) of the students reported that advice received from their respective parents was the second most important influence which caused them to continue attending school. This is a tribute to the parents and was expected because a child normally spends more time with his parents than with any person outside of his family.

(Continued on next page)

Rank of Twelve Reasons Given by 1,859 High School Juniors and Seniors in Virginia for Continuing to Attend School

<table>
<thead>
<tr>
<th>Rank as in Influence</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Of my own desire to continue my education</td>
</tr>
<tr>
<td>2.</td>
<td>Of advice from one or both parents</td>
</tr>
<tr>
<td>3.</td>
<td>Of advice from my principal</td>
</tr>
<tr>
<td>4.</td>
<td>Of advice from my ministers</td>
</tr>
<tr>
<td>5.</td>
<td>Of advice from my teachers</td>
</tr>
<tr>
<td>6.</td>
<td>Of advice from my teachers</td>
</tr>
<tr>
<td>7.</td>
<td>Of advice from my employers</td>
</tr>
<tr>
<td>8.</td>
<td>Of advice from my friends</td>
</tr>
<tr>
<td>9.</td>
<td>Of advice from my relatives</td>
</tr>
<tr>
<td>10.</td>
<td>Of advice from my teachers</td>
</tr>
<tr>
<td>11.</td>
<td>Of advice from my teachers</td>
</tr>
<tr>
<td>12.</td>
<td>Of advice from my teachers</td>
</tr>
</tbody>
</table>

T. C. RICHARD, B. C. BASS, Teacher Education
Virginia Polytechnic Institute

(Continued from page 108)

The students indicated that their teachers and the courses they had taken in high school had been important influences in causing them to continue their education. Outstanding in this respect were the teachers of vocational agriculture and the programs they conducted.

Vocational education in agriculture had exerted great influence in causing the students to continue attending school. This influence was exercised only by the desire of the student to continue attending school and the advice the students received from their respective parents. A total of 510 (11 percent) of the students indicated that the advice of their parents was the most important reason they had continued to attend school and 1,037 (56 percent) reported that advice received from their respective parents was the second most important reason they had continued in school.

(Continued on next page)
Some Available—

Programmed Instruction in Agriculture Limited

Study Shows

F. K. T. Tom and J. A. Scanlon

(Continued from page 110)

Inventory* became available this fall. The form is generally applicable, but the latter is developed around the Cornell Farm Instruction Book: Colorado Agricultural College has made available to teachers of agriculture the following program.* The Act of Ruminants, Paramitry Procedure, Identification of Wheat Varieties, Cattle and R.S. Texas Technological College reported plans for making available a programmed unit on agronomic mechanics on welding.

What Does the Research Show?

The authors were able to locate only five completed reports of research studies on programmed instruction in vocational agriculture as taught on the secondary school level. Log* compares and contrasts results of instruction obtained under the lecture-discussion method with those obtained under programmed instruction versus the lecture-discussion method in teaching agricultural finance and credit and scoring ability in a lecture-discussion slightly superior, McCay* in a modification of the Sylabus method, found that the students in the lecture-discussion method had lower grade than the programmed instruction method, the difference was not statistically significant. Zane*

Availibility of Programmed Instructional Materials

A factor which has severely limited the use of programmed instruction in vocational agriculture is the absence of well-constructed programs on agricultural subjects, especially for classroom use. A study of several references which show commercially available programs in various subjects, including Programmed Learning: A Bibliography of Programs and Presentations, reveals that there are no programs especially for agriculture. There are, however, a number of supplemental materials for instruction in English and other school subjects for classroom use. In addition, several reference books which discuss and describe the use of programmed instruction are available to assist teachers in using programmed instruction effectively.

References


Teachers Not Overloaded With Extra Duties

During School Day

LAWRENCE W. DREBICK, Researcher, North Carolina State University

As a result of the concentration on teaching agriculture, most of the teachers were not overloaded with more than 100 per cent of their usual nonagricultural work. In contrast, the teachers who were overloaded had more than 100 per cent of their usual nonagricultural work. For example, the teachers who were overloaded had more than 100 per cent of their usual nonagricultural work.

TABLE 2. PER CENT NONAGRICULTURAL STUDENTS ARE TOTAL, BY PER CENT OF TEACHERS REPORTING

<table>
<thead>
<tr>
<th>Per cent of nonagricultural students</th>
<th>White teachers</th>
<th>Negro teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>79.6</td>
<td>96.5</td>
</tr>
<tr>
<td>1 - 20</td>
<td>2.2</td>
<td>3.7</td>
</tr>
<tr>
<td>21 - 30</td>
<td>7.4</td>
<td>6.0</td>
</tr>
<tr>
<td>31 and over</td>
<td>31.6</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Looked at another way, the majority of the teachers used only a portion of their classroom time to present agricultural subjects. Table 3, on the other hand, indicates that a minority used some classroom time to present nonagricultural subjects. As in the preceding analyses, there was more diversity among white than Negro teachers.

TABLE 3. PER CENT OF CLASSROOM TIME USED FOR NONAGRICULTURAL SUBJECTS, BY PER CENT OF TEACHERS REPORTING

<table>
<thead>
<tr>
<th>Per cent of classroom time used for nonagricultural subjects</th>
<th>White teachers</th>
<th>Negro teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td>1 - 20</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>21 - 30</td>
<td>6.3</td>
<td>0.0</td>
</tr>
<tr>
<td>31 and over</td>
<td>1.5</td>
<td>3.0</td>
</tr>
</tbody>
</table>

In summary, the teaching assignments of most agriculture teachers were not as demanding as those of other teachers. However, about 50 per cent of the white teachers had teaching assignments outside the field of agriculture whereas less than 10 per cent of nonagricultural students. The difference in per cent of classroom time for agricultural subjects was significant beyond the .05 level for the two teacher groups.

Assigned Nonagricultural Duties

It is customary to assign nonagricultural duties to teachers as a part of their general responsibility within the school system. These activities may include hall duty,monitoring the cafeteria, supervision of outdoor recreation facilities, and the like. Agriculture teachers are not immune to such obligations, as shown in Table 4. For the majority such activities did not seem burdensome, but for a few they constituted a considerable portion of the "school week." White teachers particularly were represented in the higher lower categories, in part perhaps reflecting a tendency for those teachers to substitute for the principal during his necessary absences from the school.

Service Activities

The teacher of agriculture, because of his extra duties and the facilities at his disposal, traditionally has been expected to perform extra duties for the school, as well as for certain non-school agencies. Such activity has been encouraged by the higher local authorities, in part perhaps reflecting a tendency for those teachers to substitute for the principal during his necessary absences from the school.

TABLE 4. HOURS PER WEEK FOR ASSIGNED NONTEACHING ACTIVITIES, BY PER CENT OF TEACHERS REPORTING

<table>
<thead>
<tr>
<th>Hours per week</th>
<th>White teachers (N=66)</th>
<th>Negro teachers (N=66)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1</td>
<td>28.6</td>
<td>28.6</td>
</tr>
<tr>
<td>1 - 5</td>
<td>43.1</td>
<td>43.1</td>
</tr>
<tr>
<td>6 - 10</td>
<td>18.9</td>
<td>18.9</td>
</tr>
<tr>
<td>11 - 15</td>
<td>7.5</td>
<td>7.5</td>
</tr>
<tr>
<td>16 or more</td>
<td>1.5</td>
<td>1.5</td>
</tr>
</tbody>
</table>

TABLE 5. FREQUENCY OF SERVICE ACTIVITIES FOR THE SCHOOL, PER CENT OF TEACHERS REPORTING

<table>
<thead>
<tr>
<th>Frequency</th>
<th>White teachers (N=48)</th>
<th>Negro teachers (N=48)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>3.4</td>
<td>3.4</td>
</tr>
<tr>
<td>Several times weekly</td>
<td>17.4</td>
<td>17.4</td>
</tr>
<tr>
<td>1 - 5 times monthly</td>
<td>31.3</td>
<td>31.3</td>
</tr>
<tr>
<td>6 - 10 times annually</td>
<td>17.4</td>
<td>17.4</td>
</tr>
<tr>
<td>Direct access</td>
<td>31.3</td>
<td>31.3</td>
</tr>
</tbody>
</table>

Non-School Activities

Non-school activities also reported in this study included time to perform services for them, such as playground activities, providing student counseling, and the like. Respondents in this survey indicated that for a quarter of them this required several hours per week. The majority found such activities occurred routinely although the number of hours so used varied widely. Table 6.

TABLE 6. HOURS PER MONTH FOR NONSCHOOL SERVICE ACTIVITIES, BY PER CENT OF TEACHERS REPORTING

<table>
<thead>
<tr>
<th>Hours per month</th>
<th>White teachers (N=66)</th>
<th>Negro teachers (N=66)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1</td>
<td>43.1</td>
<td>43.1</td>
</tr>
<tr>
<td>1 - 5</td>
<td>38.6</td>
<td>38.6</td>
</tr>
<tr>
<td>6 - 10</td>
<td>13.5</td>
<td>13.5</td>
</tr>
<tr>
<td>11 - 15</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td>16 or more</td>
<td>4.5</td>
<td>4.5</td>
</tr>
</tbody>
</table>

TABLE 7. FREQUENCY OF NONSCHOOL SERVICE ACTIVITIES, BY PER CENT OF TEACHERS REPORTING

<table>
<thead>
<tr>
<th>Frequency</th>
<th>White teachers (N=48)</th>
<th>Negro teachers (N=48)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>14.3</td>
<td>14.3</td>
</tr>
<tr>
<td>Several times weekly</td>
<td>14.3</td>
<td>14.3</td>
</tr>
<tr>
<td>1 - 5 times monthly</td>
<td>14.3</td>
<td>14.3</td>
</tr>
<tr>
<td>6 - 10 times annually</td>
<td>14.3</td>
<td>14.3</td>
</tr>
<tr>
<td>Direct access</td>
<td>14.3</td>
<td>14.3</td>
</tr>
</tbody>
</table>

Attitudes Toward Nonagricultural Obligations

To test the attitude of respondents toward the nonagricultural activities in which they are obligated to participate, they were required to indicate whether they believed these should be part of the agricultural programs. Responses in Table 8 show a very high majority indicated that the present amount of such activity was about right, although a few tended to vote for differences between the percentage of those who would like to engage in more of these activities and those who are engaged in some activity (Continued on next page)
NFA-FFA

Working Together in Maryland

J. C. King, Vo Ag Teacher
Princess Anne, Maryland

The basic difference between the Future Farmers of America and the Jr. Future Farmers of America was a division between the two groups in segregated practices in some states.

The New FFA Chapter was firstly formed to list each county’s existing unit in the Maryland County and Agricultural Service. The FFA Chapters were affiliated with the Maryland Agricultural College and the Maryland Agricultural University. The New FFA Chapter was formed in 1962.

Two Years Experience

During the years 1963–65 in which Maryland Agricultural College students have an opportunity to work with the FFA Chapter, the Maryland Agricultural College students have been working with the FFA Chapter. The Maryland Agricultural College students have been working with the FFA Chapter.

J. R. Warnbrod (Continued from page 114)

Much of the research in agricultural education, particularly survey research, will involve sampling. Sampling is advantageous in a study of this type, because in that sampling results in reduced costs, is faster, makes possible a greater number of samples and may result in more accurate results by allowing a greater concentration of effort on a group of responses to the problem being studied.

The size of sample must be carefully considered, as the sample estimates are to be made. Before the size of sample can be determined, three questions, the answers to which influence the size of sample needed:

1. What percentage of the population do you think falls within the category of interest? Is the research? Are you interested in a "guess" what he is doing research to find out? But this "guess" is necessary if you are going to be able to estimate, through research, by reliable estimates.

H. F. A. Chapter charter with the same rights as other chapters comprising the Maryland Association of Future Farmers of America.

If accurate do you wish the expense to be? The researcher must specify the degree of precision desired in the estimate. What are you willing to risk? It is not possible to set the造价 for the actual error of estimate will be larger than the degree of precision desired if you do not wish to take a risk in getting an unobtained sample, his alternatives are to conduct the entire population or abandon the study.

Sampling units comprising the population. It is important to use techniques of simple random sampling which insures that each sampling unit in the population has the same independent chance of being selected for study.

I have mentioned some of the activities which I consider assets to our F. F. A. as a result of blending. Much of the research in agricultural education, particularly survey research, will involve sampling. Sampling is advantageous in a study of this type, because in that sampling results in reduced costs, is faster, makes possible a greater number of samples and may result in more accurate results by allowing a greater concentration of effort on a group of responses to the problem being studied.

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Duane M. Nielsen
(Continued from page 116)

- Motivation
  - motivating the potential dropout to continue in school and achieve his highest potential
  - effective methods of reaching and serving the dropout
  - encouraging students to aspire to prepare for levels of employability communicable with their abilities and interests

- Improvements of community attitudes toward vocational education as preparation for employment

- Geographical mobility of the worker
  - factors which affect decisions of employees to move and seek employment in new situations

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  - factors which affect decisions of employees to move and seek employment in new situations

- Teacher employment opportunities
  - current and projected numbers of teachers in these occupations by job title and other essential qualifications
  - projected annual entry opportunities

- Job characteristics
  - competencies needed for successful entry, persistence, and advancement
  - activities and duties of the employee
  - salary and benefits
  - prerequisites to employment—background, experiential, formal education, age, licensing or certification, labor laws, union requirements
  - continuing education or training needs

- Human Resources Development
  - Socio-economically handicapped youth
  - ethnic and environmental conditions which have caused these youth to be socio-economically handicapped

- Factors affecting motivation of socio-economically handicapped youth to continue training for gainful employment and to seek employment

- Vocational education
  - preparing students to enter and advance in various occupations
  - efficient provision and utilization of instructional facilities

- Educational Resources Development and Training
  - Curriculum experimentation and development
  - core content common to various occupational categories
  - content and occupational patterns effective in preparing disadvantaged youth for successful entry and persistence in employment
  - curricula for new and emerging occupational fields
  - relationships between curriculum and dropout ratio
  - content and structure for various levels of instruction

- Adjustment to change
  - coping effectively with career changes throughout life
  - psychological factors which affect flexibility in anticipating and accepting change in employment situations

- Career choice
  - nature of a career choice
  - determining the potential occupational aptitudes, abilities, and interests of students (assessments, testing, guidance)

- Relationship between parental and student attitudes toward the status of different careers and their influence on the individual’s career choice

- Identifying persons who can benefit from vocational instruction in agriculture and types of training that would be most beneficial

- Employment
  - basic skills which are transferable from one occupation to another or which function in clusters
  - psychological adjustments required of persons when they leave the protective situation of

- (Continued on next page)
Raymond M. Clark
Michigan State University

An Introduction to Agricultural Education

Raymond M. Clark
Michigan State University

Vocational and Practical Arts

Raymond M. Clark
Rox W. Roberts

FPA Leadership Training Kit

The Interact Priests & Publishers

FPA Leadership Training Kit

Book Reviews

The Agricultural Education Magazine, November 1965

Programs Needed

As implied in the previous remarks we need to get into the technical education. An extremely important segment of vocational and technical education in the future will be the preparation of production workers.

The problem we are dealing with is how to effectively provide for the needs of the future. We need to develop a program that will be effective in preparing people for the future. This program should be designed to meet the needs of the present as well as the future.

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Stories in Pictures

Ohio Young Farmer Wins show boating awards at Young Farmer and 4-H Fair.

Pictures are needed for "Stories in Pictures" (this page). Dr. Dillor, photo editor, wants pictures from readers of this magazine. Please send your pictures to him at 3132 Fyer Road, Ohio State University, Columbus, Ohio.

A group of high school youth students study seed selection at the Beef Barn, University of Arkansas, Stone Experiment Station.

David Nash, Greenough (center) receives certificate and check for $200 and $500 from Joseph Purley, Meeh, New Hampshire, National FFA Vice President, for being named State FFA Star Farmer of 1965. Brian Brownell (at right) Greenough, leader of agriculture and FFA advisor to Nash hands the checks during ceremony at 46th Annual FFA Convention at Waco, Texas. PHOTO BY Charles Davis, Albuquerque

Awards for outstanding achievement are presented at the annual Arkansas Association FFA Awards dinner.

Four Michigan teachers of Vocational Agriculture preparing a unit of instruction on small gas engines.

Featuring Planning Local Programs