Stories in Pictures

GILBERT S. GUILBERT
OHIO STATE UNIVERSITY

Teachers in Montana Voc. Agr. departments take time for evaluation and planning of programs with students.

School administrators and teachers of Voc. Agr. in Washington agreed that planning coordination and evaluation are essential elements of success in a multiple teacher department.

Featuring SUPERVISED PRACTICE
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**The Cover**

Members of the Agricultural Education Society of North Carolina met at the Agricultural Education Society of North Carolina, NC State University, Raleigh, to discuss agricultural education programs in North Carolina. The meeting was well attended, with discussions covering various topics related to agricultural education. A letter to the Editor was written by a student, discussing the importance of agricultural education in North Carolina. The letter was well-received, and the Editor encouraged further contributions from students and educators.

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**Editorials**

**Supervised Practice or Occupational Experience?**

Developing a new concept is the heart of the educational process. Sometimes a new concept may be an up-dating of an old concept, sometimes it involves a change of focus from one concept to another. This concept is the idea of developing Supervised Practice as an educational program for the first time. It involves the creation of a new concept from the ground up, rather than modifying an existing one.

The concept is based on the idea that students should be provided with the opportunity to apply classroom knowledge in real-world situations. This is achieved through the development of a Supervised Practice program, which involves students working on projects that are relevant to their future careers. The program is designed to provide students with the skills and experience necessary to succeed in their chosen fields.

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**The Agriculture Education Magazine, September, 1966**

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**Theory and Practice**

Cory Scarbrough

As advocated in the editorial at the left, both occupational Experience and Supervised Practice programs will help students to develop these skills. However, the occupational Experience programs will focus on developing a modern concept of Supervised Practice, while the Supervised Practice programs will focus on the more traditional concept of Occupational Experience.

---

**(continued on page 52)**
The Vocational Education Act Of 1963
Vision Or Mirage?

ALFRED H. KREBS, Teacher Education, Univ. of Maryland

The Vocational Education Act of 1963 is really a vision; it is a vision of things being done that need to be done. It is a recognition of the many problems facing this country, some of which can be solved by sound educational programs. The law, however, is silent on how to solve these problems. The culture merely narrates what can be expected for the future.

Someone suggested that we kid nobody except ourselves when we talk about all of the changes we are making, even to the point of having rational community programs, and only make a few minor changes in the wording of some sentences here and there, this is an indication of the many people who take their time from busy schedules and go to Washington, or some other place, and work on these national "study" (7) committees. Unless major issues, including underlying premises, can be examined and changed considered, then it is obvious that the so-called major changes will result. Someone has suggested that if you really want to get down to bed-rock in talking objectives of a program, then you must ask the Number 1 question, namely, whether the program actually meets the needs of the people that it is intended to serve. This question may be only a mirage. This country is not ready for an honest effort to provide the kind of vocational education needed by all ages.

The Vocational Education Act of 1963 was designed to correct the failure of society to provide adequate vocational education by making it possible to broaden existing programs and to develop new programs so that persons of all ages, abilities and interests could be served. This vision may be only a mirage. This country is not ready for an honest effort to provide the kind of vocational education needed by all ages.

The broadening of vocational programs in many areas is proceeding slowly or not at all. New programs are not developing as fast as the number of vocational students. New programs are needed in a very short time if the act is to fulfill its purpose.

Vocational educators in one subject area publicly promote the elimination of vocational programs in other subject areas, which we need to state objectives in terms less subject to wide interpretations than is true under the old system. We suggest that the culture merely narrates what can be expected for the future.

Speaking of objectives, I. R. Ryalen, University of Maryland, says that we need to state objectives in terms less subject to wide interpretations than is true under the old system. We suggest that the culture merely narrates what can be expected for the future.

Curative programs for adults under a variety of public and private auspices are paid for by the federal government. The National Science Foundation, the Ford Foundation, and the National Institute of Education support the development of new and curative programs.

For example, the problem of air pollution has been identified as a major problem for the nation. The National Science Foundation has supported the development of new and curative programs in the area of air pollution. The National Institute of Education has supported the development of new and curative programs in the area of educational testing. The Ford Foundation has supported the development of new and curative programs in the area of economic development.

In addition, the National Science Foundation has supported the development of new and curative programs in the area of health education. The National Institute of Education has supported the development of new and curative programs in the area of educational testing. The Ford Foundation has supported the development of new and curative programs in the area of economic development.

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For the student who does not come from the farm and whose vocational programs lead him into production agriculture, there are work experiences available that can be most beneficial. Most of this type experience is seasonal but does give vocational agricultural students much more meaning than any type of program in a shop or project world. These seasonal jobs that are available to the student, in addition to the on-camp experience, that are available, would furnish some needed vocational training in production agriculture.

Some departments of vocational agriculture have rather elaborate facilities where students carry on supervised practices on-camp and this gives the student much more meaningful experiences in areas of work experience in processing, distribution, and service occupations. The business employing persons are constantly seeking more efficient employees and vocational agriculture schools are constantly isolating in young men consecutively preparing themselves to be needed by business.

We can look at these business firms to allow opportunities for students on-the-job training in various ways. Not only, will play a vital roll in determining the success or the job experience.

Many basic projects in the areas of lawn, orchard, ornamental horticulture, truck crops, and many others are carried out at home by the student with limited facilities, gaining invaluable experience, under the supervision of his teacher, in these areas. The needed experiences of the other ones of the instructional program can be gained on limited space.

Summary
In summary, we must have many opportunities for helping the student get started with a worthwhile supervised project in his home on the farm. This can be fertile ground for opportunities for work experience in agriculture and related fields, it is felt that this group project if properly supervised and followed through in the program called a Supervised Practice Program.

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Themes for the Agricultural Education Magazine

December

PROGRAMS FOR PROSPECTIVE TEACHERS

Do we have a Model T or 1967 Model Program? What are the major objectives of the undergraduate program? Are these objectives consistent with the current needs of agricultural education? Are we preparing students for the student going into other agricultural education positions? Recruiting. Needed guidelines. Needed research. Implications from other areas of Teacher Preparation.

January

GRADUATE STUDY

Need. Opportunities. Role of graduate study in professional improvement of teachers, supervisors, and teacher education. What is the present graduate status of persons in Agricultural Education? Areas of graduate study not being pursued by students at master's and doctoral levels. Full time vs part time graduate study.

February

RESPONDING TO CHANGING NEEDS IN AGRICULTURE AND EDUCATION

How are we responding to changing in agricultural and educational situations? Basis for change. Are we aware of basic and fundamental changes such as population shifts, social-economic changes, changing expectations of people, and outlook? A close look at research on innovation and acceptance of new concepts by teachers, supervisors, and teacher educators.

Conclusion

Teaching the youth with special needs will perhaps have to be taken from the heart of our most skilled educators. They must have a desire to work with students who have great problems. The emotional, psychological impact of all of these experiences will be essential in addition to those needed by teachers in the general student population. Teacher educators should be included in a teacher training program, but should be guided to these experiences.

BIBLIOGRAPHY


Instructinal Materials For A Gasoline Engine Unit

THOMAS MOERK, Pennsylvania State University,
RUSSELL JOHNSON, Iowa State University

The tools are stored in a 3/4" plywood tray which slides in and out on 1" x 1" slides at the top of each engine storage unit as illustrated in Figure 1. The tray is 2 1/2" high, 31/2" wide, and 15 x 12" high, and is cut to size as shown in Figure 2. The tools are stored in the tray on a 1/8" thick plywood base board. By placing a sheet of glass on top of the tools, they can be stored in the tray as shown in Figure 3.

Figure 1. Storage unit for gasoline engine. The storage unit is 18" deep, 14" wide, and 15 x 12" high, with a top cover.

Figure 2. Permanent base board illustrating all drive belts and nuts and bolts used in this trainer.

Figure 3. Tool storage tray for basic tools.

1. Flywheel wrench (as recommended for engine model)  
2. J. 1/2"-3/4" drive wrench  
3. An individual plywood storage unit as illustrated in Figure 1 should be provided for each engine. This will help keep the engine clean and orderly. It will also serve as a storage unit for parts for working on the engine. A permanent base board on each engine as shown in Figure 2 is needed to hold the engine at the base of the storage unit (note—bolt and wing nut) and can be used with a C-clamp to hold the engine to the workbench while installing.  
4. A complete set of hand tools for assembly and disassembly as listed below should be available for each engine.  
5. M. 1/2"-3/4" drive wrench  
6. Telescoping inside gauge 2" to 3" range  
7. Depth gauge 0-3" range  
8. Outside calipers 4" range  
9. Inside calipers 4" range  
10. Speed indicator  
11. Stop ring expander (expands to 3 1/2"")  
12. Rhythm suppressor (2 1/2")  
13. Vibration suppressor (2 1/2")  
14. Valve seat reamer or refacer (small engine)  
15. Valve guide 1/8"-3/8" range  
16. Valve stem removal and refacer (small engine)  
17. Valve stem removal (small engine)  
18. Valve spring compressor (for small engines)  
19. Flywheel holder (as recommended for engine model)  

Materials Needed

Many good instructional materials are available to aid instruction in small gasoline engines. It is possible to have a complete set of manuals for the engines which you purchase a repair manual for other more common engines which the students may be overhauling. Many books are published on engine service and some of these should be made available as references. Many of the listed companies publish and distribute information in the form of booklets or manuals. Some of these booklets can also be obtained for use in teaching this unit. The following are references and the number of copies recommended for a class of 10 students:

1. All Small Engine Repair Manual. Illinois State University. 87 t.
2. A-17 Small Engine Project Guide. Iowa State University. 89 t.

Acknowledgments

I wish to express my appreciation to Mr. Russell Johnson, Assistant Professor of Agricultural Engineering, and to Mr. Thomas Moerken, Extension Engineer, for their suggestions and advice on the development of this unit.
Providing Work Experience For Non-Farm Vo-Ag Students

GEORGE S. WILLIAMS, Vo-Ag Teacher, Andalusia, Ala.

A new approach to work experience programs for vo-ag students is not only urgent but essential to the present role of vocational agriculture. As the population shift from farm to urban areas continues, the number of non-farm students enrolling in vo-ag classes continues to increase. It is generally agreed that the traditional type supervised farm programs for on-campus work experience is necessary for the needs of this segment of vo-ag students. Since many of these students will benefit from studies in vocational agriculture, ways and means to provide work experiences must be provided.

Our school is a typical case where this problem is acute. It is a rural high school in a city of 20,000. It serves both city and rural students. The vo-ag department is a two teacher- unit with 115 students.* More than three-fourths of the vo-ag students live in a city. Most of this group lack farm facilities for conducting the old type supervised farm programs and many do not need the type work experiences found in a program of productive home projects.

In searching for a solution to the local problem, the traditional type supervised farm program has been retained on an optional basis. It is recommended for most off-farm students and for others interested in productive agriculture. For this group of students it has provided the first business venture and led to farm establishment of too many to be discarded.

At School
It was quickly realized that the school, rather than the home or farm, must provide facilities for work experiences to meet all students' needs. According to several programs are being explored.

A cooperative shop call program was sponsored for the past two years. A vacant dairy barn was located and converted into a shop. Each member of the coop shared a stake in cost, returns and feeding, listing and showing responsibilities. The venture provided work experiences for vo-ag students in beef cattle production who totally lacked home facilities for such projects.

*W. C. Locke teaches animal science and livestock enterprises, Geo. S. Williams teaches plant science and horticulture at Andalusia High School, Andalusia, Alabama when this article was written, is now at Andalusia, Alabama.

Greenhouse Valuable
A campus greenhouse was placed in operation. It provides excellent facilities for on-campus work experience in two classes studying Ornamental Horticulture. The work experiences engaged in by students is recorded daily on an on-campus work experience sheet. A sample copy of this form is shown and the work experiences listed are for a student during the month of September, 1965. The greenhouse is serving well to encourage individual home projects in the field of ornamental horticulture. In addition to stimulating general interest in plant culture, several students are using the greenhouse to propagate and establish woody ornamental plants that will be finished in containers in their backyards. Budding plants and perennials are managed in a similar manner.

Third year vo-ag students who have shown an interest and readiness to enter commercial employment are recommended for job placement. Placement will be in the areas of greenhouse, garden center, nursery and flower production; and, in seed, feed, fertilizer, pesticide, livestock marketing and food processing. Work assignments are for after school hours, weekends, holidays, and vacation periods. The teacher recommends the student for interview with employers and working agreements are formed between the student and the employer. The vo-ag teacher selects employers and has general supervision of all job training.

Summary
Summarizing, the traditional type supervised farm program is being supplemented by several work experience programs designed primarily for non-farm students enrolled in vocational agriculture. The supplements are providing work experiences for a group of non-farm students who enjoy working with plants and animals. Those will tell if the supplements prepare students for careers in the broad field of agriculture. If not, other approaches must be devised as preparation for agricultural careers in the private role of vocational agriculture.

RECORD OF ON-CAMPUS WORK EXPERIENCES

<table>
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<tr>
<th>NAME</th>
<th>COURSE</th>
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<td>Ornamental Hortic.</td>
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Work Experience
(1) Dressing Standard Mums
(2) Mixing Pot-Sand Mixes For Seed Plants
(3) Assembling Plants
(4) Fertilizing Mums
(5) Spraying Mums
(6) Spreading Soil With Methyl Bromide
(7) Installing Over-head Light Circuit
(8) Planting Pussy Willows
(9) Weeding Woody Plants In Shade House
(10) Potting Rooted Cuttings
(11) Kidding
(12) 
(13) 
(14) 

Note: (1) Entries all campus work engaged in for the major part of a period. (2) If work continues into another period another period is indicated in "period" column. (3) The right hand column is for teacher use.

"Agriculture, Agribusiness and Vocational Agriculture"

LOUIS H. WILSON, Vice President for Information, National Plant Food Institute

Inherent in all of us is the desire to work for advancement, promotion of our professions, to fight for what we believe in, for new ideas to grow, to see the weak grow strong, and the strong grow great in the best traditions of the American private enterprise system.

Within this concept, there is the continual challenge that can be met only with continued change. In fact, without this concept, our jobs and our future would be exceedingly dull and suffer from lack of imagination.

Eight now, as you know, vocational agricultural education is facing considerable challenge. The challenge to you is to adapt to that change and still retain those essential parts of vocational agriculture that have contributed so greatly to the development of American agriculture as the backbone for the world in efficiency of food and fiber production.

The fact that U. S. farm populations is becoming smaller increases the importance of the farmer in our economy and magnifies the role of those who teach and serve in his industry. In facing diminishing farm population, agricultural efficiency becomes even more vital to farm production and agricultural leadership takes on increased significance.

Expanded urban interests in education are forcing realignment in a great many governmental services and educational programs. The need for on-agricultural looks to the vocational agriculture instructor to continue to tailor his teaching so that young farmers will have the best training possible, the best tools available, and the agricultural leadership necessary to extend this nation's enviable position as the best fed, best housed, and best clothed in the world.

"National Plant Food Institute home office 201 North Market Street, N. W., Washin-

gton, D. C. 20006.

Don't Wait

Some reorganization of programs in the area of your interest may still be in the controversial conference and experimental stage. But don't wait for a hopeful outcome. Get the facts yourself. By all means, support your leaders in their efforts to provide direction. Don't be satisfied with the immediate impact of change, but look to the future impact of remodeling and experimentation, keeping in mind the importance of maintaining a strong economy, and particularly, keeping agriculture strong and productive and efficient.

Vocational agriculture has many friends, but they are no more effective than your communications—than the facts you provide to support your position that justifies enthusiastic support. In the big, important, and growing educational family, there are always some who are overzealous to 'dig out' (continued, page 64)
Dear Cayce: I have planned to enter this debate on the "mobile" because I have often agonized over the question, and I believe your point was well taken. I am an "in-your-own-territory" type of person, and I do not see why the current "mobile" lacks some of the old camaraderie and spirit that once marked the "mobiles.

"Our" problems are the same thing, which you have pointed out for the "mobiles." The term "in-your-own-territory" is one that has been used by the new times.

H. N. Hunsicker, Chief
Agricultural Education
Department of Education, Education, and
Western Oregon State College
Washington, D.C. 19502

Dear Nettie: I have read the Agricultural Education magazine from cover to cover. I found the June, 1959, issue of special interest. I have read the article you wrote and Dr. Brockett wrote for this issue, and I am sure that it is the best article that has been written in that journal.

The Agricultural Education magazine is a very important publication, and I believe that it is important to keep up with the times. The magazine should be used effectively at all levels and grade levels. Furthermore, I have never seen any magazine that is as important as the magazine you are referring to. It is the most important publication in the field of agriculture.

Cooperatives were created for the purpose of helping farmers and the economy. The magazine should be used effectively in helping farmers and the economy.

With thanks for submitting this letter, Howard Sidney, Oregon Agricultural Division

Editor's Note: May we again call the attention of this letter. Howard Sidney agreed for us to use it. Here, we do not have the time to take advantage of all the benefits that are available. However, we believe that the article you have written is an excellent example of what can be done in this field.

need of food and fiber in the entire world. It is the most important need of our world. This need is the key to the survival and prosperity of all mankind. It is the key to the survival of our world. It is the key to the survival of all mankind.

But we should remember that the agricultural sector can be divided into two main groups: the agricultural sector and the non-agricultural sector. The agricultural sector is the largest sector in the world, and it is the key to the survival and prosperity of all mankind. It is the key to the survival of our world. It is the key to the survival of all mankind.

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Agricultural Short Course and Four-Year Students Compared

DUANE I. ANDERSON, Sacramento State College, Sacramento, California

Agricultural educators constantly seek new and varied approaches to meeting the needs of short (1) and four-year (2) agriculturally oriented students. For the most part, this searching and experimenting is based on the belief that desirable innovations and change are not impossible; however, contributions of presently successful programs which are worthy of continued and increased support.

The following article is an attempt to report in a recent study (1) which analyzed two groups of agriculturally oriented students at Michigan State University.

The Two Groups

The two populations studied consisted of 190 degree students and 170 short course students enrolled in the College of Agriculture at Michigan State University for their first post-high-school educational experience during the fall of 1954. From this group, 75 degree and 14 short course students were not included in this study. Complete data were gathered on 37 degree and 132 short course students shortly after they arrived on campus. The MSU 3000 Computer analyzed the data using the United Normal Curve Probability or "Z" test and the Chi Square Test. The .05 level of significance was selected as the criterion in testing the statistical hypotheses.

Agricultural educators average 225 students in the Young Farmers Short and 375 students in the Agriculture Industry short course programs. Short course graduates are awarded certificates of completion and are assisted by program coordinators in selecting placement and post-graduate employment. Faculty members employed throughout the university, on a regular full-time basis, teach short course courses. Short course and degree students are taught in separate classes. The separation of classes, a long standing policy, has been maintained on the basis of improved understanding of the educational needs of both groups. The short course and degree students are substantially different. The purpose of the study was to accurately and clearly identify some of the psychological and sociological differences that were thought to exist between the two types of students. The information gathered was believed to be of primary value to the faculty members who teach and offer vocational and educational advisement to these students. (Also, for all agricultural educators at all levels in planning educational programs and student personnel services to meet the needs of agriculturally oriented students.)

Every teacher, facing his class for the first time, may subconsciously ask himself several questions: Who are these students? Where do they come from? What types of preparation do they have? What can be expected of them? These answers may never be verbalized by teachers, but, hopefully, each teacher forms the basis for the educational policies concerning these and related questions. One of the main goals of this study was to correlate reliable data with the intelligent opinions concerning these students could be formed.

Psychological Factors Examined

Data from the Minnesota Personality Factor Test (2) revealed significant differences between the short course and degree students on three factors. An overall view of the Test's results shows short course students are less emotionally stable, less intelligent, less self-confident, more worrying and suspicious, in- tend to be dependent, cautious, and conventional when compared to degree students. The descriptive terms of the Test's factors indicate short course students are generally less mature than degree students and require more personal counsel- ing and vocational educational training incentives than degree students. Since the process of maturation in- volves establishing a degree of independence and self-confidence, short course students appear to need more guidance in developing greater self-motivation.

Short course students have acquired the work-related beliefs most typical of extended-kiship families. The MSU Work Beliefs Check List (3) measures areas of work-related beliefs on a continu- um of beliefs common to extended kinship families as opposed to nuclear type families. The two groups of students differ on two areas. Short course students look less favor- ably on physical mobility, the ability to do many things, and less likely to move from one's home situation to obtain employment elsewhere, and upon changing work. The change in students' acceptance of new or different ways of doing things. Because our society does not value change, any segment of society which fails to accept and even encourage change through education will suffer from a stagnation and perceive little of society's economic and social growth. The Reckesh Dogma Scale, Form E, was used to measure the degree of dogmatism or "closed- fromness" among students. Short course students were found to be significantly more dogmatic or close to their belief systems than degree students. Mean scores reported by the author of the scale.
TABLE 2
Mean Scores of Agriculture Short Course and Degree Students in the College Qualification Test

<table>
<thead>
<tr>
<th></th>
<th>Short Course</th>
<th>Degree Students</th>
<th>Statistical Test</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Short Test</td>
<td>High Test</td>
<td>t Test</td>
<td></td>
</tr>
<tr>
<td>Verbal</td>
<td>28.224</td>
<td>35.600</td>
<td>3.546</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>30.483</td>
<td>35.600</td>
<td>3.046</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>General Information</td>
<td>15.996</td>
<td>18.123</td>
<td>1.781</td>
<td>0.080</td>
</tr>
<tr>
<td>Total Score</td>
<td>65.601</td>
<td>69.360</td>
<td>3.546</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

*As far as the 65 level of significance, there is no significant difference between the two groups.*

Academic Aspiration Score,1 developed by Haller and Miller, was used to determine levels of occupational aspiration. Short course students scored significantly higher than those of degree students, indicating higher occupational aspirations at the college level. More students attending the small college said they were prepared to enter college. This was also true for the degree students.

More short course students than degree students have made a decision concerning occupational aspirations. Among degree students, 76 percent of the total short course students completed their college qualification tests. A larger proportion of short course students had a degree, whereas only 58 percent of all college students were enrolled in the program. The majority of students and farmers were employed in farming occupations. They were the fathers of both degree students and farmers, whereas only 40 percent of the father's main occupation was farming or non-farming. The estimated mean age for degree students was 41.5 years, whereas the median age for non-farmers was 38.5 years as compared to 41.5 years for degree students. The majority of this significant difference was probably due to the larger proportion of fathers in professions among degree students achieving the higher prestige level occupation than short course training.

There was no significant difference in the number of older brothers and sisters among the degree students. There was not a significant difference in fathers' occupations, the majority of which were fathers of both degree students and farmers. Significant evidence that older brothers either hinder or facilitate attendance at college. Short course students were more likely to have had better job experience than farmers' sons.

Work Preference
There was a significant difference in work preference between degree and short course students. A higher proportion of degree students preferred to work in machines, plants, and people. The highest percentage of those preferring to work in plants was 28.8 percent, whereas 22.9 percent preferred to work with animals. A larger proportion of short course students indicated a preference to work with machinery. Similar, proportionately more degree students preferred to work with people. Working with ideas was preferred by only 11.8 percent of both groups. It seemed reasonable to conclude that the higher level of importance of the two groups of students. Several studies have noted that degree aspirations are related to educational aspirations of their children. Parents of degree students encouraged attendance at college, while only 9 percent of degree students receiving less than $200 from farmers' sons.

*Note: One of the students' education programs is directly concerned with educational aspirations of the parents. Since educational program selection is directly concerned with occupational career choices, the degree of these programs may be the crucial factor in choosing an agricultural career. The overwhelming support of degree programs among degree students' parents as compared to the almost total lack of interest for the short course program presents a vivid example of parental influence and parental attributes. A lower proportion of degree students place on short course is a reflection of their aspiration to achieve a higher prestige level occupation than short course training offers."

2. Bennett, George K. et al., College Qualification Tests. Michigan, 1965. (continued, page 69)
BOOK REVIEWS

New York: The Psychological Corporation, 1941.


5. Michigan State University Sociology Department, The MSU Work Relief Check List. East Lansing, Michigan, 1947 (rev.)


Self-Study Guide in Animal Science consists of 361 multiple choice questions covering entirely all phases of animal science. The guide, covering both finishing and general feeding principles and closing with twenty-five question forms, is a summary guide to the text material covered by this text. Students are instructed to score the questions and their answers on the reverse side of the text. The exam is to be scored by the instructor and the student is to have the exam returned to the instructor for further study. The instructor is to be able to give the student specific feedback on his strengths and weaknesses in the subject.

The book is designed for feeding producers, feeder dealers, and stockmen who are interested in providing feed or who want to learn about animal nutrition. It is beneficial for those interested in agriculture and animal science.

JAMES HAMMOND Michigan State University


This book is designed for farm managers, feed millers, and stockmen who use manufactured feed or who combine their own feed. It is a comprehensive guide to the questions of feeding and how to change the type of feed from one type of feed to another.
A rapidly growing associated field of agricultural education is the biological sciences. Many colleges, schools and departments of agricultural education are making major curricular adjustments to meet the biological science needs of future agricultural educators. However, there has been little opportunity for meaningful exchange of ideas about requirements in the biological sciences among teacher educators in agricultural education and related sciences in different institutions.

Seven action committees to study, report and recommend desirable instruction in the biological sciences for undergraduates majoring in agriculture and related sciences were recently formed. One of these committees was the Biological Sciences Action Committee on Agricultural Education. Four of the committee members are: Joe B. Ball, Cornell University; Lloyd J. Flippin, University of Illinois; Orville E. Thompson, University of California at Davis; and Robert K. Taylor, Committee Chairman, Ohio State University.

The committee was charged primarily with recommending desirable instruction in the biological sciences for undergraduates majoring in agricultural education. A secondary goal was to recommend courses in the physical sciences and mathematics required for the instruction in the biological sciences. Representing the related fields in biological sciences for agricultural education were: Dr. R. B. Westwood, School of Forestry, University of Missouri; Dr. Thomas J. Shedy, Applied Science, Francis T. Nicholls State College; Dr. Grover G. Miller, Department of Zoology, North Carolina State University and Dr. A. R. Hildebrand, Department of Agronomy, Purdue University.

The report of the Biological Sciences Action Committee on Agricultural Education, along with reports from the six other action committees, will be summarized into a single position statement. The position statement will then be reviewed by professional societies, modified, discussed during a conference of deans, directors of instruction and faculty members, modified again and distributed widely. The present timetable calls for distribution of the completed report to scientists and educators in the biological, agricultural and related areas on January 1, 1967. —Robert E. Kervin, Graduate Association, Ohio State University.

A Vocational agriculture student of Tuscarawas "Keep Virginia Green" receive up to date instruction in their curriculum on fire control from their state Forester. Photo—T. D. Burgess.

A Minnesota farmer in his own power program teaching instruction in artificial insemination. Adult take time to prepare themselves for employment in agricultural related fields. Instructor shown are Dr. JoAnn Whiles and Dr. Frank Hess.

Stories in Pictures

GILBERT S. QUOLER
OHIO STATE UNIVERSITY

The Vocational Agriculture students at Cosworth Junior High School, Lost, Ohio are conducting corn-plant checks on their projects. Mr. Tom Wiltz, a student from the Ohio State University along with Mr. Wiltz are supervising these plant checks.

Vice President Humphreys presents the Honorary FFA Degree award to a student who after visiting the Minnesota State Fair Livestock Exhibits. Photo by Krockowski.

To round out the experience program in this one-hour agricultural business, Roger is selling ornamental plants to a customer. Photo by St. John.

Gary Demerse, FFA president, Stillwater High School, Stillwater, Minn., is shown feeding a hog that officially kicked off Minnesota Pork Week. Governor Johnson of Minnesota presented the pig to the Stillwater FFA Chapter in return. Promises from the hog will go to the Chicago meat market. Photo by J. B. Dienerwalt.