Stories in Pictures

Gilbert Gulker
Ohio State University

Experimental research is very much a part of the Vocational Agricultural Program at Kingsway Regional High School, Sewell, New Jersey. Direct seeding of sugarcane is being compared to the conventional method of planting canes. The consulting group here consists of Mr. Nick Ketner, Agway; Mr. Bud Johnson, Rutgers Vegetable Crop Specialist; Mr. George Longo, State Supervisor of Agricultural Education; and Raymond Warren, FFA Demonstration Chairman.

Robert Peterson and Dean Frederickson, teachers at Minneapolis Roosevelt High School, receiving instruction in use of landscape equipment for use in the horticulture work experience program initiated by the Minneapolis school this year. The program is conducted by Mr. Lake.

Bill Smith, Alabama's Future Farmer of the Year, is shown burning brush from a 30-acre lot cleared by hand. Most of the wood from this land was sold for firewood, Frank Hendricks is the vocational agriculture instructor in New Hope, Alabama.

Offering fertilizer to a customer. A thorough knowledge of fertilizer contents is imperative.

Kansas vocational agriculture teachers get in-service training in adjustment, care, and use of spray equipment. A sprayer was disassembled, inspected, and calibrated. A field trip demonstrated the effects of poor spray operation on weed control. (Photo by Stoll)
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**In-Service Education or Self-Education?**

Why do supervisors and teacher educators find themselves pushing in-service education? Some teachers have suggested that occasionally this pushing comes closer to being “arm-twisting”? Why? If the in-service education programs are for the benefit of teachers, why aren’t they helped? They are adult, intelligent individuals, interested in their profession and its future as well as their own.

The answer to this dilemma may lie in a mix-up of roles as supervisors and teacher educators have tried to assume to ensure their leadership. Perhaps they have “shoved” his education. Their statement in his self-study when he says, “to shift the individual the burden of pursuing his own education.”

The key point in this editorial is simply as suggested by Dr. Gardner. The teacher of vocational agriculture must take the initiative for his own further education, rather than wait for opportunities for someone else to provide them with whatever needs whenever and wherever it is most convenient for them. Such efforts at meeting desires of teachers have resulted in much of the in-service education being in the form of short workshops in all parts of the state. It is not that the profession needs such workshops, but for many teachers this approach is far from adequate.

As indicated by the heading of this article, it is suggested that we substitute the concept of self-education rather than continue to see all teacher needs being met through workshops and other forms of in-service education as something put on for teachers. It occurs to me that the teacher is investing exactly the same time in the profession than he does in his life. Therefore, he must assume the burden of pursuing his own education. So, supervisors and professors should help develop programs, but teachers must take much more initiative in these matters.

Is the teacher the only one in Agricultural Education needing to follow Gardner’s advice for self-renewal? Not! Gardner was talking to everyone. This editor includes every person in our profession, regardless of age, experience, etc. Too frequently one eliminates himself from such consideration on the basis that “the other fellow” needs to have more education. The other fellow means the young teacher (if I am older and had lots of experience I would be expected older teacher if I am younger and just out of college); any and all teachers (if I am a supervisor or professor); etc., etc., etc. In fact, limited research indicates that some supervisors in the area of supervision. Some professors have not been back to graduate school since completing their doctoral studies many years ago. That is, individual needs for self-education may be greater in these two groups than among teachers. A title does not substitute for education.

This is not meant to be critical of any person or group of persons. It is meant to be a challenge to each and every person in Agricultural Education, especially to Gardner’s idea, “the burden of pursuing his own education.” Each of us can do this. We will likely experience self-renewal and collectively this would result in collaborative growth.

Let’s talk about self-education rather than In-service Education. —Coyce Scarborough

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**Theory and Practice**

Can you remember such expressions as, "He’s finished his education?" Well, apparently we are living in an age where we are all discovering new forms of "Learning Education," "Life-long Learning." The other day I ran across a new term called "mooring." I like the built-in idea of this term—implying learning for a purpose within some sort of schedule. Anyway, I believe that we might as well face it, we are going to school as long as we live, if we want to stay alive personally and professionally.

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No voluntary yet for better explanation of modules.

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Students from high schools where certain teachers of vocational agriculture work are usually enrolled in Agricultural Education in college. Some of these teachers have one or more years of "their own" in college all the time. On the other hand, no boys from vocational agriculture schools. Why? Does anyone do any research in this area?

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"Men who know that the word is changing rapidly might be expected to be able to provide statements of aims. Changes that they would like to make in their knowledge, skills, attitudes, values, relationships with others. Definitions of areas of study, search for relevance or testing, Lists of activities, exercises, or questions that can help them accomplish their aim. Ideas about priorities, Feelings of preference or urgency about what should be learned first."

---

End of Business Review (Continued on next page)
Dear Dr. Scarborough:

For some time I had planned to write you about the Agricultural Education Magazine, and to recommend you the next issue as Editor of The Agricultural Education Magazine. The magazine is distributed to all students throughout the nation and its contents are of great interest to teachers and students alike. I am sure you will find the magazine a valuable resource for your work.

Sincerely,

[Signature]

Lowell A. Burkett
Appointed Executive Secretary of AVA

Lowell A. Burkett, 33, has been appointed executive secretary of the American Vocational Association. He will assume this position January 1, 1950, succeeding Dr. E. D. McElderry, who is retiring. Mr. Burkett is executive secretary of the AVA's successful vocational education program for more than 100,000 members including classroom teachers, administrators, and other officials in the field of vocational and practical arts education.

Mr. Burkett has been identified with the nation's vocational education programs for 10 years. He served as state supervisor of trade and industrial education in Illinois from 1945 to 1955, prior to being appointed to his present position.

New National FFA Advisor

H. Neville Huntley, newly appointed Chief of the Agricultural Education Service, U.S. Office of Education, was selected as the National Advisor, Future Farmers of America, at the 1956 National FFA Convention in Kansas City, Missouri, in October. He replaces Dr. A. T. Young, who has been named the Director of Organization Relations for the Division of Vocational and Technical Education in the Office of Education.

Mr. Huntley is the first National Advisor who is a former FFA member and a former high school student of vocational agriculture. He is a graduate of the Boyce, Clark County, Virginia, High School, and holds degrees from Virginia and Virginia Polytechnic Institute.

His new duties will include travel to high schools, universities, and other institutions to work with FFA advisors and administrators.
Five Ways to Improve the Quality of Inservice Teacher Education Courses

GENE M. LOVE, Associate Professor
WILLIAM R. TOWN, Jr., Instructor
SAMUEL M. CURTIS, Instructor
Department of Agricultural Education
The Pennsylvania State University

Research in agricultural education has demonstrated several ways of improving the quality of inservice teacher education courses. They include:

1. Plan more courses for the summer months
2. Schedule classes at close intervals
3. Assign responsibility for course organization to a single individual
4. Provide professional aids for the teacher and subject matter specialists
5. Use qualified teachers of agriculture as well as university educational specialists to teach courses

Ideally, inservice teacher education courses should be taught in summer workshops. Or, if held during the regular school year, courses should be scheduled at close intervals—no longer than one to two weeks apart. Research conducted by the Department of Agricultural Education at The Pennsylvania State University has shown that a three-day summer workshop is a superior scheduling technique when compared with one-week courses given during the regular school year. A similar comparison between three-day summer workshops and one-week classes held during the regular school year failed to show a significant difference on the basis of an objective multiple-choice test. However, the mean test scores of the workshop teachers were numerically higher than the teachers in the weekly sequence of scheduling. These facts suggest that teacher educators and administrators should consider increasing the amount of inservice teacher education during the summer months.

Inservice teacher education courses must be concerned not only with the practical aspects of the teaching of agricultural education classes but also with the subject matter needs of the student teacher. Only by concentrating on the needs of the student teacher can the inservice teacher improve the teaching of agricultural education classes during the summer months without loss in pay? Large industries do not give their personnel the time off for inservice education but also frequently pay tuition costs. Another vital point in the evaluation of the quality of inservice teacher education courses is the organization of the course. Many universities use technical subject matter specialists, often from the agricultural extension specialists staff, to teach or assist in the instruction of off-campus inservice education courses for teachers. Apparently the theory here is that technical people are better qualified for this job. It is true that these are well qualified technically but may have had very little formal instruction in methods of teaching. Unless someone assumes responsibility for the organization of the course and coordinates the instruction to secure the continuity needed to accomplish planned objectives, instruction is likely to be less effective.

In the previously noted research study, it was demonstrated that whether or not a “Qualified Teacher” or an “Educational Specialist” on a university staff was significantly more successful in teaching subject matter in a course on Quality Milk Production to a group of teachers than was a group of four “Technical Specialists” from the Dairy Science Department. This in no way conflicts with the qualifications of the latter group of men. It does point out that course organization is a responsibility which should be assumed by a single individual—preferably someone directly concerned with the needs of the teacher.

To be fully effective, inservice teacher education must be concerned both with the professional needs of the teacher and the subject matter needs of his students. Some research has shown that you can no more teach something you don’t know than you can do the work of the teacher in the inservice courses. Teachers need to use the curriculum materials provided to them and understand them. This means training. No one can teach the subject matter unless he has been trained to do so. Inservice courses should be given in a university agricultural education setting.

Continuing In-Service Education - A Necessity

By J. A. WHITE, Teacher, Bourgeois High School, Opelika, Alabama

In Alabama we have, for a long time, held the following types of inservice education: (1) County meetings (2) area meetings, involving teachers from several counties (3) block training (4) a whole district (4) a district on the State level involving all teachers.

State and District

At most of the state meetings, all teachers are given instruction for their entire term of service; however, the teachers in each district may study in a different area of work. Sometimes a corporal of teachers is trained by college personnel or factory representatives. This group, in turn, gives instruction to their fellow teachers at area or district meetings. This method has proven quite satisfactory and has been adopted by the State Teacher’s Association.

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Factual Education

Every teacher of a vocational agriculture should achieve as much as possible beyond the Bachelor’s Degree. I believe this additional training to be an absolute necessity for the teacher who has had some classroom experience. A majority of the courses should be taken in the field in which the teacher is working. However, courses in School Administration and possibly other courses are desirable. Many teachers of vocational agriculture have become distinguished in the principles, supervi- dents, supervisors and professors. School Administration courses can help the teacher understand the problems encountered by his superior in administering a school system.

Who is Responsible?

In-service education of all the teachers in any system is the primary responsibility of the school administration. They are responsible for selecting the proper teachers, selecting the proper courses, selecting the proper time and place for the inservice course. The school administration should ensure that the inservice education is administered and carried out.

Time and Challenge

You may say, “A teacher just does not have time for all these activities.” I really agree. But there are times for all of us, and I wouldn’t trade jobs with anyone who has a chance to participate in all we can. I wouldn’t trade jobs with anyone who has a chance to participate in all we can.
Soil and Fertilizer Competencies Needed by Farmers

WILLIAM C. BENNETT, Jr., Vo Ag instructor, Tama-Toldeo, Iowa
DUANE L. BLAKE, Teacher Education, Iowa State University

Least Competence

The outstanding farmers felt they had the least competency in the areas of: (1) Physical characteristics of fertilizer; (41) proper use of fertilizer; (2) fertilizing; (51) establishment of a balanced soil program, and (104) help soil and funds available through Agricultural Stabilization and Conservation, Soil Conservation Service, Extension Service, and Vocational Agriculture.

Proper Use of Fertilizer in Good Soil Management

Economic principles of fertilization.

Effect of composting systems on crop production, soil structure, and soil loss.

Soil fertility as it is related to crop production.

Conservation practices and their values.

Most Competence

The outstanding farmers indicated they possessed the most competency in: (1) responsibility for maintenance of soil productivity to improve their farm operations for future generations, (2) establish a profitable cropping rotation, (3) control weeds and soil pests, (4) conservation practices and their values, (5) proper use of fertilizer in good soil management, (6) use tillage practices correctly, (7) match plant population to soil fertility, (8) soil productivity of a separate field, (9) manage each field as a separate unit according to its soil capabilities, and (10) help soil and funds available through Agricultural Stabilization and Conservation, Soil Conservation Service, Extension Service, and Vocational Agriculture.

In the October 1965 issue of the Agricultural Education Magazine, the editor spoke of the definition of a 100 percent vocational agriculture teacher. Obviously, this definition would describe a teacher who has learned, mastered, and understood the need for a selection of Vocational Agriculture teachers in the four deep south states of Mississippi, Alabama, Georgia, and Florida. All supervisors in these states were sent questionnaires. Replies were received from 45 of 64 teachers and 18 of 22 supervisory teachers. The questions and answers are shown in the accompanying table.

Summary

Teachers and supervisors disagree to some extent on most of the questions. There is no doubt that teachers are not thought to be up to date on agricultural advances. This fact should be of concern to those in service training. Those training in service training should be scheduled.

On In-Service Needs - Teachers and Supervisors Don't Agree

FRANK E. KILLOUGH, Yo Ag Teacher, Auburn, Alabama

Both groups consider it more important to attend in-service training programs than to do summer teaching. However, both groups consider this training more important than those who do supervisory work, and most supervisors agree that there is a significant difference in the quality of teaching the various training programs. The teachers indicate that they are better prepared to teach and to control their classrooms than to do other things.

Q U E S T I O N S  A N D  A N S W E R S

The answers by teachers are listed first, the supervisors second.

1. Do you feel that teachers are keeping up with advancing technology in agriculture and related fields in your area?
   Yes: 95% 5%
   No: 15% 75%

2. Do you consider it more important for the teacher of Vocational Agriculture to be in-service trained, or attend well-planned in-service education programs?
   Yes: 95% 6%
   No: 5% 94%
   Attend in-service training

3. Do you think that you should participate in your training based on the needs of your community or continuing general training?
   Yes: 95% 4%
   No: 5% 96%

4. Do you think that teachers need in-service training more in subject matter or teaching methods?
   Subject matter: 88% 94%
   Methods: 12% 5%

5. When would it be most convenient for teachers to secure in-service training?
   a. At any time during the summer season
   b. Monday through the summer season, 1st choice
   c. Monday through the summer season, 2nd choice
   d. Tuesday through the summer season, 3rd choice
   e. Wednesday through the summer season, 4th choice
   f. Thursday through the summer season, 5th choice

6. How much in-service training is needed usually to keep teachers reasonably well informed on advances in agriculture and related fields? Check one.
   a. One week 25% 25%
   b. Two weeks 40% 40%
   c. Three weeks 25% 25%
   d. Four weeks 5% 5%
   e. Six weeks 10% 10%
SAAE—VA Serves the Nation in Ag. Engineering Technology

HOWARD TURNER, Editor, Southern Association for Agricultural Engineering and Vocational Agriculture

"How can a vocational agricultural student learn all he needs to know about farm mechanisms in the short time school is now permitted for training?"

Farm mechanization has added a whole new field to the already crowded agricultural education curriculum. And, to add more weight to the load, class time has been cut in half! It's pretty difficult to teach sufficient knowledge, understanding, and skills in one 50-minute period per day. But this is what seems to be expected of vocational agriculture teachers today.

Thanks to the foresight of some agricultural engineers and educators, this critical need was anticipated. Back in 1945 an organization was conceived that would aid teachers by screening and assembling information in agricultural engineering technology.

Participants were from the 12 southern states bounded by Texas and Oklahoma on the west, and Virginia and Florida on the east. Representatives of the agricultural engineering and teachers' organizations, and academic advisors from the state universities, were the prime movers. Their objective was to try and find a way to develop and make available information in agricultural engineering design for teachers in need. As a result the Southern Association for Agricultural Engineering and Vocational Agriculture was born.

A coordinating office was established to facilitate the work. The office is supported and controlled by the 12 member states.

The coordinating office is now a center for preparing subject matter and visual aids. The materials are widely used throughout the United States and many foreign countries by teachers, farmers, county extension personnel, electric utilities, health departments, dealers and others.

Teaching materials prepared by the office are carefully selected and adapted to fit the time period. Current information is updated and revised on a 5-year cycle and new material is added as it becomes available.

Without help teachers cannot possibly collect and screen all the information which is now available from research, industry, and other sources. SAAE—VA subject matter offices help fill this need.

What makes the materials developed by SAAE—VA different from other teaching materials?

SAAE—VA publications and filmstrips are:

Factual—each is a simplified summary of all known references on the subject available at time of preparation. It's not just another reference.

A teacher need not look any further for information except for advanced study, specific data or recent innovations. Therefore, he is able to teach more up-to-date facts and pertinent data in a shorter length of time.

Easy to Understand—The books are noted for simple illustrations, design to emphasize important points referred to in the text. Color and other artistic devices aid in clarity. The text is edited to a high-school reading level.

Authentic—Before printing, each publication is peer reviewed for clarity of language and accuracy of facts. All subject-matter field. Their comments, suggestions and corrections are edited into the copies you get.

Complete—The "why" and "how" are explained so you will not have to wonder why certain recommendations are made or how to do some things.

Information is organized on a problem basis so you don't have to reorganize it for teaching and to develop a logical understanding. Where scientific principles are involved, they are discussed and illustrated.

Available—A reserve supply of each publication and filmstrip is maintained at the Coordinator's Office, Agricultural Engineering Building, Athens, Georgia except prior to major revision. Then, the supply may run low until the revised edition is available.

Many teachers, and others, order additional copies. Some state departments of education order materials in quantities for distribution to their teachers.

What Subjects have been developed?

SAAE—VA is concerned with five areas generally recognized by agricultural educators. They are:

1. Farm power and machinery
2. Rural electrical distribution and processing
3. Farm buildings and conveniences
4. Soil and water conservation
5. Agricultural construction and maintenance

SAFETY DEMONSTRATION WORKS

STANLEY R. SAWYER, Teacher at Mauriceville High School, Carlisle, New York

What is the safety features for source materials from SAAE—VA?

The next publication on schedule for publication is one on electrical installation and repair of small gasoline engines. Also a filmstrip paralleling the publication "Thermal Maintenance—Principles and Procedures" is expected to be compiled in 1966. Other subjects will be selected and developed into publications, filmstrips, and other materials as projects are completed. Priorities are established for the development of subject matter by the Board of Directors of SAAE—VA. The Board consists of representatives from the 12 member states.

Purpose: To emphasize the necessity for the correct operation of Oxy-Acetylene Welding Equipment. What are the safety features? To acquaint the student with the hazards involved in the welding process, and to emphasize the importance of following the safety precautions when welding.

MATERIALS NEEDED: Oxy-Acetylene welding equipment, 5 ballpoints, 5 Red and 5 Yellow.

After students have had background information in class relative to fundamentals of Oxy-Acetylene welding, in preparation for actual demonstration, take them to the shop where equipment has been set up.

Demonstrate correct procedure for attaching gauges to tanks. Disassemble a gauge to show the different parts and how it is used to obtain correct working pressure for the various welding tips. Reassemble gauge and open tanks. Light torch and adjust to a neutral flame by use of the various regulating gauges. While doing this, review with the class the items necessary for combustion to take place—namely a combustible material (Acetylene), something to support combustion (oxygen), and ignition (spark).

At this point, demonstrate how to shut off torch and shut down equipment by turning off tanks and draining gauges properly. Emphasize the importance of preventing the two gases from mixing in the gauges.

Be open tanks, light torch and adjust to a neutral flame again by use of the working pressure gauges. Shut off torch. Inflate the green balloon to the size of a small ball by using oxygen as set for the neutral flame. Tie balloon and put on the red dye. Inflate the yellow balloon with acetylene as set for the neutral flame. Tie off and place both balloons on the end of a welding rod as before. Now open both controls on the torch with oxygen and acetylene being released as for a neutral flame. Fill red balloon to the size of a tennis ball (no larger), tie off and put on the end of a welding rod.

Relight torch and adjust to a neutral flame and torch time to green balloon. No noise results. Touch flame to the yellow balloon. A small pop occurs with considerable black smoke. Touch flame to the red balloon. A really loud explosion occurs.

The writer has found this demonstration to be one which holds complete interest and attention. It also leaves a lasting impression of the necessity for using Oxy-Acetylene equipment correctly.
Effectiveness of High School Vocational Agriculture Instruction

The Problem

The study was designed to compare farmers who had been and those who had not been enrolled in high school vocational agriculture classes in terms of the number of improved agricultural practices reportedly adopted in the operation of their farm businesses.

Specifically the objective of the study was to determine if there was any significant difference in the two groups in terms of their tendencies to adopt improved farming practices in the farm businesses.

Population

The researchers, after consultation with statistical advisors, determined that valid results could be expected by using sampling procedure and that the area probability block method would probably give a valid sampling than other methods under consideration.

Data Gathering Device and Teacher Instruction on Use of Same

An investigation study, including the list of improved practices which had been prepared with the assistance of Extension Service specialists, was completed in the fall of 1951. A teacher of vocational agriculture in each of the eight counties selected for study was asked to serve as data collector in his respective county. After a trial run was completed, the data was evaluated, and as a result, several changes were made in the original schedule.

Data and Analysis

After discussions with several of the agricultural consultant, the researchers decided to use chi square values to test the null hypotheses stated in their reference to each of the objectives listed in the study. It should be pointed out that several different chi square methods could have been used, but the researchers thought that a more refined statistical design or method was neither practical nor warranted.

The Study Groups

Of the 150 farmers whose responses were reported in the study, 90, or 60 percent, reported having been enrolled in high school vocational agriculture classes during their high school years. The remaining 60 farmers, or 40 percent, had no enrollment in vocational agriculture classes during their high school years. These two groups constitute the study groups involved in this study.

The respondents were asked to identify the two most important crops and the two most important livestock enterprises on their farm in terms of income received for the year 1951. See Table 1.

In order of importance, the five enterprises more commonly reported by farmers were swine, corn, beef cattle, poultry production, and potato. Least often reported enterprises included small grain, dairy cattle, egg production, broiler production, and peach production, in that order. The total number of farmers reporting the enterprises.

The farmers vocational agriculture in high school completed significantly, at the .05 level of the .01 level, more practices than did farmers in the non-vocational agriculture group.

Table 1

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<thead>
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<th>MAJOR ENTERPRISES REPORTED BY FARMERS</th>
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<tr>
<td>Number</td>
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<tr>
<td>--------</td>
</tr>
<tr>
<td>Swine</td>
</tr>
<tr>
<td>Corn</td>
</tr>
<tr>
<td>Beef cattle</td>
</tr>
<tr>
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<td>Small grain</td>
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<td>Dairy cattle</td>
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<tr>
<td>Egg production</td>
</tr>
<tr>
<td>Broiler production</td>
</tr>
<tr>
<td>Potato</td>
</tr>
<tr>
<td>Table 1</td>
</tr>
</tbody>
</table>

Swine

Farmers with vocational agriculture in high school completed significantly, at the .05 level or the .01 level, more of the improved agricultural practices listed in the study than did farmers in the non-vocational agriculture group. When a comparison was made between the two study groups on the basis of all the practices was made by chi square values, it was determined that farmers in the vocational agriculture group completed significantly, at the .05 level, more practices than did farmers in the non-vocational agriculture group.

Table 2

COMPOSITES OF THREE PRACTICES ADOPTED BY FARMERS FOR THE FIVE MOST COMMONLY REPORTED ENTERPRISES: BEEF CATTLE, CORN, COTTON, PEANUTS, AND SWINE PRODUCTION

<table>
<thead>
<tr>
<th></th>
<th>With Vocational Agriculture</th>
<th>Without Vocational Agriculture</th>
<th>Total</th>
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<tbody>
<tr>
<td>Number</td>
<td>Number</td>
<td>Number</td>
<td>Number</td>
</tr>
<tr>
<td>Meat</td>
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<td>756</td>
<td>3578</td>
</tr>
<tr>
<td>Live</td>
<td>1567</td>
<td>276</td>
<td>1843</td>
</tr>
<tr>
<td>Hogs</td>
<td>825</td>
<td>200</td>
<td>1025</td>
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<tr>
<td>Cows</td>
<td>460</td>
<td>100</td>
<td>560</td>
</tr>
<tr>
<td>Sheep</td>
<td>1200</td>
<td>300</td>
<td>1500</td>
</tr>
</tbody>
</table>

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Increasing Enrollment in Post-High School Vocational Courses Through Commercial Scholarships

PHILIP G. STILES, University of Connecticut, Storrs

The number of students taking post-high school, non-degree vocational courses over the past 15 years has been low. A gradual decline in enrollment occurred each year mainly due to a lack of student interest and lack of financial aid. However, students entering the vocational program are increasingly receiving financial aid. Students find vocational courses more appealing and are more willing to spend their time and money on courses that will help them in their future careers.

The vocational courses are organized into different categories, each with its own specific goals. Students can choose from courses that focus on agriculture, business, engineering, or other fields. The selection of courses is wide, and students can find the one that best suits their interests and career goals.

The success of the vocational program is due to the support of the community. Local businesses and organizations have actively participated in providing scholarships and financial assistance to students. This support has helped to increase enrollment in the program and has made it more accessible to a wider range of students.

Work with Industry

Prior to establishing the vocational program, interviews were held with food industry leaders. These interviews involved discussion of the needs of the industry, such as the demand for skilled workers, and the potential for collaboration between industry and the university. The goal was to create a program that would meet the needs of the industry while also providing students with practical experience.

The vocational program has a strong focus on practical learning. Students have the opportunity to work on real-world projects and gain hands-on experience in various fields. This approach is designed to ensure that students are well-prepared for the workforce.

The vocational program has been successful in attracting students and increasing enrollment. This success is due to the collaborative efforts of the university and the community, and the focus on providing practical, real-world learning experiences.

Philip G. Stiles, University of Connecticut, Storrs

Our Challenge—Experience for World of Work

W. T. Johnson, Assistant Professor, Vocational Agriculture, Greensboro, N. C.

For the next few minutes we will discuss some of the problems that we will soon face in the youth of this great country of ours. When a child is born he has in-ner ability to strive to live. All he learns until he enters school he learns from his parents, radio, television, playmates, Boy and Girl Scouts, Y.W.C.A., if available, Sunday School, Church, etc. All depends upon who people he associates with. Unfortunately, the majority of those who fail to enter college are born in the lower income families and the lower Negro families. This group, as a rule, lives in the same section of town, or community, with all the disadvantages of not being able to attend our better schools or mingle with the children who were privileged to be born into the homes with all the advantages of good family background, good relationships, well educated parents, and some of the above-named organizations that are designed to train the young people.

Early Training

Why should we complain about drop-outs when there seems to be very little being done to prevent it? During the past few years of a child's life there are often very few organized guide-lines given when necessary. Instead, the child was usually left alone and it is not until he is older that he has to defend himself against the outside world. The hold-ups and training facilities that are usually not available are too much for the child to handle. The child who is not trained for the work of any type of school is rapidly making his way into the class of drop-outs, and a very few succeed. The difference is great enough for young people to be expected. It is usually not until the youth is older that he has to adapt himself to the outside world. The child who is not trained for the work of any type of school is rapidly making his way into the class of drop-outs, and a very few succeed. The difference is great enough for young people to be expected. It is usually not until the youth is older that he has to adapt himself to the outside world.

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Table 1. Enrollment in New-----Course Offered by the Vocational Science Department

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Science</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>1973</td>
<td>1983</td>
<td></td>
</tr>
<tr>
<td>1961</td>
<td>1973</td>
<td>1983</td>
<td></td>
</tr>
<tr>
<td>1962</td>
<td>1973</td>
<td>1983</td>
<td></td>
</tr>
<tr>
<td>1963</td>
<td>1973</td>
<td>1983</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Enrollment in Vocational Courses

<table>
<thead>
<tr>
<th>Year</th>
<th>Course</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1959-60</td>
<td>1973</td>
<td></td>
</tr>
<tr>
<td>1960-61</td>
<td>1973</td>
<td></td>
</tr>
<tr>
<td>1961-62</td>
<td>1973</td>
<td></td>
</tr>
<tr>
<td>1962-63</td>
<td>1973</td>
<td></td>
</tr>
<tr>
<td>1963-64</td>
<td>1973</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1. Enrollment in Food and Poultry Marketing Courses

The enrollment in vocational marketing courses is presented in Table 2. These figure...
Occupation in New York State

HAROLD R. CUSHMAN, Agricultural Education Division.

7. Interviews were conducted during the month of July–October, 1964, with representatives of 541 agricultural occupations in New York State. Interviews were conducted on the 200 school districts offering agriculture instruction during the school year 1963-64. An additional 53 school districts or services were studied in two school districts in the Adirondack area. This sample adequately represents the vast majority of off-farm agricultural occupations. On the 200 school districts, the sample included 97 representative persons so employed.

5. Although full-time workers in off-farm agricultural occupations are at all levels of employment, they are most frequently found in small, semi-skilled positions. Part-time workers are most likely to be found in semi-skilled positions.

6. Interviews with persons employed in off-farm agricultural occupations are essential, but most frequently in semi-skilled, managerial, and professional positions. Interviews with off-farm workers are likely to be found in unskilled, service and semi-skilled jobs.

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9. A high school education is considered essential, but most frequently in semi-skilled, managerial, and professional positions. Interviews with off-farm workers are likely to be found in unskilled, service and semi-skilled jobs.

10. Interviews with persons employed in off-farm agricultural occupations are essential, but most frequently in semi-skilled, managerial, and professional positions. Interviews with off-farm workers are likely to be found in unskilled, service and semi-skilled jobs.

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Team Teaching in Vocational Education

OVERTON R. JOHNSON, Teacher Education, Virginia State College

We are constantly in search of better ways to accomplish a much needed task in education—improvement of manipulative skills of teachers in various fields through in-service training programs. Team teaching in in-service training courses is not a panacea but it is one answer.

The introduction of team teaching in vocational education was made with a graduation extension class in "Small Internal Combustion Engines" at the West End High School in Mecklenburg County, Virginia, during the fall of 1964. The purpose of this course was to help vocational teachers develop manipulative skills in maintaining and repairing small internal combustion engines.

The class was composed of sixteen high school vocational teachers—twelve in vocational agriculture and four in trade and industrial education. The class consisted of six men and ten women, limited to sixteen to facilitate use of vocational teaching principles.

The associate teacher, Mr. W. A. Loftis, a well-qualified mechanic, was employed to teach repairing and maintaining small engines in the area.

16 Weeks

The course was organized for a sixteen-week period, one day a week for four hours and thirty-four hours of instruction. Ninety per cent of the time was devoted to demonstrations and practical laboratory work.

Each student was supplied with one 4-cylinder, and one 2-cylinder small engine, and complete set of necessary tools. The agricultural mechanics shop at West End High School was spacious and well equipped. Supplies such as rags, motor oil, solvent, gasoline, emulator paper, liquid wrench, paint, valve grinding compound, etc. were provided.

The course content was planned cooperatively by the instructors.

Team Teaching Difficult

There was continuous planning each week for class activities. Team teaching was found to be more difficult when it was compared to cooperative teaching. It requires many personal-professional adjustments and is far more demanding on teachers than conventional techniques. This is particularly true of this teaching experience since the associate instructor was not a college graduate and had no training in methods and techniques of teaching. However, because of his excellent training and experience in small engines, he was ideally suited as associate instructor. We found it necessary to establish a very friendly relationship because it allowed for constructive criticism as well as equal sharing of work and responsibility.

Our team concept determined what areas of the subject matter belonged exclusively to which member and how administrative chores were to be shared. Clear-cut delineations were vital in planning course objectives, but many jobs fell into place automatically, so we found, when we learned to work together.

Co-op Planning

Team teaching in vocational education should involve at least two teachers who assume joint and simultaneous responsibility for planning, executing, and then evaluating an instructional unit or activity. One teacher teaching all "compressing" and another teaching all "carburization" in small engines is not team teaching because the responsibility is divided and not shared. The teachers should understand thoroughly that each has a responsibility for the conduct of an educational program.

Cooperative planning is essential and adequate time needs to be allowed for its accomplishment. Cooperative planning is perhaps the most important element of team teaching. Teams need to schedule meetings prior to each class to make decisions about class activities, evaluation of class activities and student progress, and choice and use of teaching aids and materials.

With job placement now a responsibility of vocational agriculture teachers, this means planning for just the best procedure and plan to follow. Here is an idea that seems quite natural for cooperative teaching. The school's objectives, teaching techniques, and evaluative criteria. Yet without this a teacher cannot function as a fully participating member of a team. Thus this aspect must be developed.

It is suggested that all team members possess varied competencies and interests and that these individual skills be capitalized with each class activity. This is not to suggest, however, that the team member who is "best" in ignition teach all ignition and the one who is "best" in compression teach all compression. Rather, the idea is that both team members teach all of the class, so that one member who is the most competent in a special area perform such tasks as giving demonstrations and reconstructions and the use of teaching aids in that area.

Responsibilities

This idea suggests also the necessity of differentiation of responsibilities. One teacher should be designated as team leader. The purpose of the team leader is to focus attention on important problems and then seek to get a thoughtful discussion of what should be done. This makes the teacher who is not a team leader a much more important person.

Lastly, we found that size and composition of the student group should fit the nature of the activity and the objectives sought. We found that in a practical course which included a one on "Small External Combustion Engine," the number of students should not exceed sixteen from the standpoint of super vision of individual activities and conducting small group demonstrations.

Study Guides for Agri-Business Classes

J. A. ROY, Teacher of Vocational Agriculture, Northport High School

Northport, Alabama

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O’Kelley & Lester

Contemporary Agricultural Practices

With small numbers of farmers and their families and groups of familiar members of the agricultural occupation in which the largest proportion of opportunities are found, the findings of this study suggest that the agricultural communities must be analyzed to determine just where these jobs titles of closely related occupations of families are sufficiently similar to provide a logical core for instructional programs.

The State Education Department should develop special courses in agricultural business for better early training. Plant Science, Forestry, Conservation and Outdoor Recreation, and the nature of the agricultural occupation is needed by workers for whom such courses are available for the education of school administrators, counselors and others. This means that teaching these courses will be carried out in the community by those who are engaged in the many activities carried out there. Therefore, it appears that early training should be provided in these activities.

W. T. Johnson

In the activities that make this world operate, when the child enters school, that man has a larger role to play than ever, and that a number of special teachers should be trained, re-trained, and employed with this program. Practical experience should be given in the world of work.

Most children have some kind of mechanical or practical activities which may be taken up early. You will find little children making different articles, such as: and others; weaving, carding, spinning, dyeing, sewing, making and cooking, and exciting. They grow older the boys begin to make tools, etc.; when girls grow older they begin to cook, sew, etc. Most children, at an early age, begin to notice the types of jobs that are done in the community by their parents, watching like their parents, and pretending to engage in the many activities carried out in the community. Therefore, it appears that early training should be provided in these activities.

Young-Year Programs

Much has been said about keeping the school open all year round; this suggestion has come about. When we think of the number of children in the public schools, it is clear that the school must be closed for summer vacation, very few of these children have jobs, or any other occupation for keeping their active minds busy. Some of our cities have recognized this and have provided for making adequate use of their creative abilities.

(Continued from page 183)
Purposes of the Supervised Practice Record Book

**Primary Purposes:**
- Serve as guides for occupational planning, analysis and choice
- Provides a basis for evaluation of learning, accomplishments and re-planning

**Contributory Purposes:**
- Promotes the development of the student's abilities
- Aids in developing the quality of the planning process
- Aids in developing record-keeping abilities and formal written expression
- Provides a means for cooperative advice and review
- Aids in self appraisal of objective standards
- Aids in determining financial progress and student's net worth
- Serves as a record of agreement between the parties concerned

**Definition of Terms**

**SUPERVISED PRACTICE IN AGRICULTURE**
- Supervised practice in agriculture consists of all experiences, related to instruction, which might select a shop activity in the morning, and a recreational activity in the afternoon. Such practices may involve no more than two special classes; instead, the student would be grouped according to interests, and the shop and recreation would not be a single experience.

**SUPERVISED FARMING**
- Supervised farming is a part of supervised practice. It consists of learning experiences involving managerial responsibilities and operational skills which are performed on a farm and in connection with the production and marketing of livestock and/or crops.

**OCCUPATIONAL EXPLORATORY EXPERIENCES IN AGRICULTURE**
- These experiences consist of a broad spectrum of short-term learning activities in various occupations. The primary purpose is orientation to the occupation rather than development of occupational competencies.

**OCCUPATIONAL EXPERIENCES IN AGRICULTURE**
- Occupational work experiences in agriculture consist of long-term, somewhat formalized, student employment for the purpose of developing occupational competencies.

The following is quoted from Public Law 98-210, 79th Congress, Part A—VOCATIONAL EDUCATION:

**Sec. 4**

(6) "Auxiliary services and activities conducted by all schools and communities, in connection with instructional education programs, such as teacher training and supervision, and programs evaluation, special demonstration and experimental workshops, developmental instructional materials, and State and local administration and leadership, including part-time evaluation of State and local vocational education programs and services in the light of information regarding the common standards of educational programs and the development of the necessary facilities and job opportunities.

From the above quotation, it appears that provision is made for the exploration of educational programs such as I have attempted to present.

Raymond M. Clark

Michigan State University
Stories in Pictures

Gilbert S. Guiler
Ohio State University
Columbus

Agriculture instructors received instructions on the actual process of picking tomatoes. Also, how
these should be handled and how handled for most rapid picking and that vines receive proper
care so a second and third crop can be obtained. (IN7TA Pilot Program, Davis Unified High School
District, University of California.)

One of the main buildings on the campus of Modesto Junior College, Modesto, California.

Featuring—
Agricultural Education
in Community Colleges