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JANUARY, 1969

147

Graduate Study and Inservice Education

In vocational and technical education in agriculture, The Agricultural Education Magazine serves an important function by providing a communication vehicle through which teachers, administrators, supervisors, and other educators are informed of developments and progress being made in this important field of education. Many leaders in this field believe the "Ag Ed. Maga-
the important medium we have for promoting unity and a sense of belonging among those who work in agricultural education throughout the nation.

The issue of our magazine marks another milestone in its long life—a change in ownership. Most of us cannot appreciate the amount of work our editors unselfishly give during the years in order to provide our field with a qual-

By professional journal. Dr. Scarborough has done an excellent job during the past three years as editor. Beginning with this issue and continuing for the next three years, Dr. J. Robert Warnbroe, University of Illinois, will edit The Agricultural Education Magazine. We must all help Dr. Warnbroe with his new responsibility as editor so that our professional journal continues to improve in quality and usefulness.

I believe the theme "Graduate Study and Inservice Education" is a very appropriate one for our new editor to tackle as his first assignment. It is a theme that is of interest and concern to every one of this nation's 11,000 teachers, administrators, and teacher educators in vocational-technical education in agriculture.

Most speakers at college and university commencements include in their remarks somewhere that graduation from college should not be the end of formal education for the person. This fact certainly applies to individuals entering the field of education. Graduate study and inservice education provide the educator an opportunity to keep up to date in the technology of his field; to keep abreast of federal, state, and local changes in laws, policies, and procedures; to

(Continued on next page)
The AGRICULTURAL EDUCATION MAGAZINE

OCCUPATIONAL EXPERIENCE IN AGRICULTURAL BUSINESS

JAMES E. DOUGAN and JOHN WATKINS
Supervision, Ohio Department of Education

The primary purpose of the agricultural education programs offered in Ohio is to provide classroom instruction and cooperative occupational experience to students to prepare them for gainful employment in occupations related to agriculture. It was determined in the initial state of development of this program that there was a need for all teachers conducting the program to receive some inservice training to prepare them as teacher coordinators. Teachers in schools planning agricultural education programs were requested to enroll in a three-week workshop developed specifically for this purpose. These workshops were held prior to the summer of 1967.

Intern Program

An intern program was initiated during the summer of 1967 to provide additional inservice education for teachers conducting agricultural supply and service programs. The intern training program consisted of the placement of teachers for a period of time in an agricultural business. The program was initiated by several businesses including the teachers who had conducted the program for at least one year. Teachers, businessmen, and state staff have worked together to ensure that there was a need for information regarding the operation of the business, employment patterns in the business, and better understanding of the products and services of the business.

The agricultural businesses experienced a strong desire to provide training centers for teachers in which they could become actually involved in many of the activities that students experience during on-the-job training as a part of their occupational experience programs. The training stations consisted of farm machinery dealerships, feed, seed, and fertilizer, one horticultural garden supply center, and a U.S. wildlife conservation facility.

Getting the Program Started

The program was initiated by the state staff bringing together representatives of agricultural business, vocational agriculture teachers, and others to discuss ways and means of implementing such programs. The following pages contain the discussion of the issues discussed at the preliminary meetings.

Should teachers receive on-the-job training in an agricultural business or establishment in their local community? Generally speaking, the state steering committee recommended that this experience be gained outside the local community but within commuting distance of the teacher's house in order to reduce the teacher's expense while in training.

What should the length of the internship program be? The committee decided that the actual on-the-job experience should be at least two weeks in length and that this experience should be preceded by at least two weeks of orientation and followed by three days of appraisal including the development of definitive guidelines for future internship programs.

Should the teachers receive on-the-job training at one place of business?

The committee was divided in their thinking on this matter. Therefore, some of the teachers were placed at business establishments for the entire training period and other teachers received their experience in two different training centers.

The state steering committee selected local agricultural businesses throughout the state for training. The teachers and the training stations were selected, a dinner meeting was called which consisted of the local managers of the training centers, the teachers, and the state steering committee for the purpose of developing the on-the-job training program. The Executive Secretary-Treasurer of the Ohio Farm Machinery and Equipment Dealers Association, the Executive Secretary-Treasurer of the Feed, Seed, and Supply Wholesaler Association of Ohio, and the Public Relations Director met with the committee to discuss this training program.

(Continued on next page)
Benefits of the Program

Evaluation by the teacher-interns, agricultural leaders, and the state staff revealed that the program was extremely helpful in creating the agricultural supply and service program in Ohio. Similar intern programs are planned for the future, some direct benefits of the program include the following:

- The occupational experience enabled the teacher to relate more fully to the students their cooperative experience program because they participated in the same kind of work as other employees.
- The prestige of the program has improved among businessmen since they know teachers are better prepared to conduct the program.
- The program provided more opportunities for agricultural students.
- The program added more training opportunities for the agricultural teachers.
- Teachers should not receive pay from the business while on the job.
- The training internship is required while in the training program.
- The local school must understand and endorse the program and approve the participation of the teacher.

Recommendations for the Future

- Part of the orientation period should be spent at the training station so the teacher can get involved in the regular teaching programs as soon as possible.
- The teacher must be assured of participating in a variety of agricultural courses during the internship period.
- Agricultural business leaders in the state should be involved in the planning of the intern training program.
- The wise selection of experienced teachers-trainers is important.
- The training station should be managed by men willing to cooperate with the teacher-interns.
- Full-time work by the teacher-intern is required while in the training program.
- The local school must understand and endorse the program and approve the participation of the teacher.
- Teachers should not receive pay from the business while on the job.

Instruction for Farm Machinery Occupations

JAY WOOD, Supervision
Washington State University

What knowledge and skills should be taught in high school programs to prepare students for employment in farm machinery businesses? A study of farm machinery firms in Spokane County, Washington provides information helpful in modifying high school curriculums that are oriented toward employment in the farm machinery industry. The Spokane area typifies the modern concept of agriculture. Large wheat farms in the Palouse region, an abundance of irrigated, diversified farming operations in the Palouse, and fruit country, plus proximity to the forest producing areas of Northern Washington, Northern Idaho, and Western Montana, make Spokane a natural link for agricultural marketing and manufacturing.

Jays in Farm Machinery Firms

The major functions of farm machinery firms are retailing and servicing. The job titles of workers in the firm are manager, salesman, mechanic, partsman, set-up man, bookkeeper, office manager, secretary, and purchasing agent. Farm machinery dealers indicate that important activities of employees are meeting people, selling, estimating costs, reading technical reports, service manuals, parts lists, planning production or service of the firm, keeping records, handling money, promoting the services of the firm, and writing business letters. Dealers emphasize that meeting people is of great importance for all job titles.

Need for Employees

Owner-managers and managers of farm machinery businesses report difficulty in finding qualified employees. The prospective employees must be over 18 years of age. Most employers prefer persons with a farm background who have some work experience prior to employment. All dealers require that new employees have at least a high school education. Post-high school education, including college, in some instances, is preferred frequently.

Areas of Instruction

Dealers indicate that employees need knowledge and skill in the areas of production, products, materials, and service pertaining to the farm machinery industry. In the areas of mechanics and engineering, it is essential that employees have technical training in:

- Basic mechanical skills
- Farm machinery
- Internal combustion engines
- Tractors

In agricultural business management, instruction is needed in:

- Agricultural economics
- Agricultural marketing
- Business administration

Plant growth, fertilization, control of insects, diseases, and weeds, plant propagation, soil types, and conservation are appropriate areas of instruction in plant and soil science.

In addition to instruction in agriculture, employers stress that high school courses in typing, bookkeeping, and general mathematics are valuable for prospective employees.

Curriculum Revision

Farm machinery dealers are interested in working with teachers in developing educational programs designed to prepare students for entry into occupations in the farm machinery industry. Employers are willing to permit high school students to visit and observe operations of the firm. Most dealers will provide reasonable employment for students and will release key employees to aid teachers in providing instruction. Managers are aware that problems involving liability insurance, the time involved in training and supervising student-employees, and the attitudes of students will be encountered in developing and conducting a cooperative educational program involving both the school and farm machinery firms.
Inservice Education for Leaders of Youth Organizations

George Luster and Harold Binkley
Teacher Education
University of Kentucky

This seminar had its beginning in the minds of a few people who felt a keen need for making youth organizations associated with vocational education contribute to the instructional programs. Over the years some youth organizations in individual chapters and clubs have garnered the local programs of activities to instructional programs. These activities have contributed significantly to effective teaching.

PURPOSE

The primary purpose of the seminar was to upgrade the professional leadership in the use of youth organizations as teaching devices. The Vocational Education Act of 1963 made it possible to broaden vocational education. It recognized the need for youth organizations to develop leadership and citizenship in all service areas of vocational education. There seemed to be a need for the professional leadership of youth organizations to have a "meeting of minds" in order to present a united and consistent front to schools and the public regarding the place and purpose of the youth organization in vocational education. Representatives from each of the service areas in vocational education shared in developing the specific objectives of the seminar and in planning the seminar program.

OUTCOMES

Selected items from the reports made by representatives of each vocational service on the last day of the seminar follow. These items are based upon reports on the topics "What We Have Learned From Other Vocational Services" and "Where Do We Go From Here?"

- Youth organizations are an integral part of vocational education.
- Activities of youth organizations should contribute to the effectiveness of the instructional program.
- The outcome of this program provides the basis for programs of activities of youth organizations.
- There is need for separate youth organizations in each vocational service. Each vocational service has needs which are unique to it, and which can be met best by a specific youth organization.
- There is need for all vocational youth organizations to work together. While the different youth organizations are unique, they also have common problems and concerns. More cooperation is needed on items of common concern at the local, state, and national levels.
- The role and functions of all youth organizations need to be stated clearly. These should center on the instructional program and the needs of youth.
- An appropriate and well-developed program of activities is the heart of each vocational youth organization.


This is an authentic, descriptive treatise of contemporary vocational and technical education in agriculture. It is neither encyclopedic nor is it a textbook. It is a book to tell teachers how to teach or administrators how to administer programs. Quotations from and comments regarding references that go into detail on process and procedure are well chosen. They are presented in such a way as to stimulate the reader to want to look them up. The appended bibliography of these and related references would be helpful to professors and students alike.

Evaluation should be an integral feature of all phases of the work of vocational youth organizations. It should be a built-in feature at every stage of the program and at all levels of operations.

EVALUATION

It was the general opinion of the participants that the seminar was a good beginning, but that many of the objectives should be considered in more depth. The participants felt that it was especially beneficial to have professional leaders of youth organizations for all vocational services participate in a meeting of national scope. Many felt that the seminar made significant contributions in helping professional leaders of youth organizations understand and appreciate more fully the programs of youth organizations in other vocational services. In general, the participants felt that this seminar needed to be followed by similar meetings at the state level. They also felt that additional seminars at the national level were needed on other important aspects of making youth organizations a more effective part of vocational education.

The Agricultural Education Magazine

January, 1968

BOOK REVIEWS

RAYMOND CLARK
Michigan State University
Book Review Editor


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AND CHANGE WE MUST

J. C. ATHERTON
Teacher Education
Louisiana State University

It is nice to revere the past, but . . .

A FORMIDABLE TASK

These facts have confirmed the old saw with a formidable task. A normal reaction to this is one of admitting that the situation exists but to rationalize that there is so much to do now that one does not have time to ever think about the future, let alone discuss anything about it. Such an attitude, if allowed to hold sway in the thinking of those engaged in agricultural education, can lead only to disaster. This must not be allowed to happen; too much is at stake.

The task facing the profession may seem awesome, but this should just make the challenge stronger and dedication to the task more profound. It boils down to the fact that the difficulty may be taken as an overwhelming food which will immediately undo it, or it may be viewed as an increasing opportunity and challenge in which planning, preparation, and perseverance are needed in large measure for the leading of agricultural education into the field of continuing useful service.

John Stuart Mill commented in the last century that "No great improvement in the lot of mankind is possible until a great change takes place in the fundamental constitution of their modes of thought." This view seems very appropriate for contemporary society. It is nice to revere the past and all of its glory, but reality dictates that we apply modern thinking to the situation which concerns us. Modernization should take place but only where it will be advantageous.

The task facing the profession may seem awesome, but this should just make the challenge stronger and dedication to the task more profound.

THE NEED IS OBVIOUS

Problems facing agricultural education within a state are many and varied. For several years we were nagged by one concerned with where to begin making change. The need has become obvious but not the road to follow. Pressures from all sides have been exerted to get the program moving although many of these are opposed forces to other pressures. These have produced a dilemma. One can not afford to remain stationary, but it is impossible to satisfy all of the pressures the undermining faces.

Possibly, President Coolidge had a good solution when he finally concluded that as Chief Executive he could not please everyone. So, he decided to do what seemed right and then to allow the critics to have their "fun."

Changes have been made in many states and others are being proposed. The subject of a good study might be to determine what portion of it is the result of doing little until the strong pressures have built up and the needs for change are obvious. It is realized that this may be stepping on a few toes but possibly the reaction to that may be stimulating to the profession. It seems that there must be a coordinated effort of those who are pleased, evaluating and reevaluating in a never-ending cycle if the job before us is to be done effectively. The profession must have the courage to take calculated risks if it is to regain its educational leadership. Otherwise, major opportunities may be lost and initiative may pass into the hands of others. Once lost it is difficult to regain the initiative. The obligation of leadership in the field of agricultural education is to see that there is no lack of courage or foresight in the handling of educational programs which meet the challenge facing the profession.

There is a need to recognize that man's vision is limited. To begin, he does not have all of the facts and it is not easy to interpret those he has. It is important to frame all of the changes which may occur. So plans must be made, must be partially at least, upon educated and wise actionaries are making the basis of past experience and the evidence on hand.

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Understanding the Need for Change

It is easy to note in history major changes which have occurred and the things which caused them to be made. It is a much more difficult task, however, to comprehend current trends and to deduce from them the direction of future developments. It is extremely difficult to get him to exert much energy and brainpower in such a venture. It seems important also that one recognize that change is an integral part of activity and that there must be continuous planning if one is to keep abreast of the current situation. What is vital and far-reaching currently may soon become obsolete unless it is updated periodically.

Accepting the Possibilities for Agricultural Education

The relationship and the extent of modification permitted will vary among the several states. Willingness by those in the power structure to innovate and to permit others to do so is essential for the bringing about of desirable change. A worker in agricultural education may run into lots of frustration when he goes counter to the wishes of those in a position to "call the shots."

Developing a Suitable Climate

It seems that program change in our field will be the product of leadership and not dictatorship. If this assumption is valid one must be aware that there is a need for enlightening people of the current situation and of the short comings of the traditional program. Not much constructive action can be taken where those involved in the situation are different. It is imperative that there has been built a spirit of perseverance as a minimum. An attitude of enthusiasm for program improvement is to be desired.

Working With Others for Change

Change affects and involves numerous people. To implement innovations successfully requires that there be a smooth working relationship with various groups and individuals. Many of the innovations before us are outside the profession of agricultural education. For example, it would be foolish to attempt to re-arrange academic schedules, arrange for off-campus work experience programs for students during school hours, or to make similar changes without securing the approval of the high school administrators. Vocational training in agriculture is a cooperative venture. Good working relationships are required if the program is to be run effectively.

Planning

A static position in agricultural education was maintained for a long period of time. Finally, the logic disintegrated and change was inevitable. The question now becomes whether there will be adjustments in the program. The program is one of the most dynamic changes facing Agriculture. The rate of change and the extent of modification permitted will vary among the several states. Willingness by those in the power structure to innovate and to permit others to do so is essential for the bringing about of desirable change. A worker in agricultural education may run into lots of frustration when he goes counter to the wishes of those in a position to "call the shots."

Implementing: The ultimate payoff in any program comes from its being put into effect. Seeing the need for change, getting public approval for change, and planning and working with others are all important parts of bringing about desired change. But there will be all little if implementation or follow-through is neglected. Leadership and informed follow-up are necessary to this phase in any other aspect of program development.

"The profession must have the courage to take calculated risks if it is to retain its position of educational leadership."
### ASSISTANTSHIPS AND FELLOWSHIPS IN AGRICULTURAL EDUCATION, 1968-69

**Harold R. Cushman and Larry E. Pierce, Cornell University**

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<td>9/15/68</td>
<td>5/31/69</td>
<td>Master's, Doctoral</td>
<td>1 year</td>
<td>$3,000</td>
<td>Teaching, Research</td>
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<td>New Mexico State University</td>
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<td>1 year</td>
<td>$3,000</td>
<td>Teaching, Research</td>
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This article was prepared as a project of the Publication Committee of the American Association of Teacher Education in Agriculture. Dr. Cushman, the editor of this publication, is chairman of the Publication Committee. Mr. Pierce is a graduate assistant in agricultural education.

-- Harold Cushman

-- Harry Pierce
Teacher Liability in the Agricultural Mechanics Laboratory

JOHN HILLISON
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Mt. Carmel, Illinois

Vocational agriculture has become a very complex and complicated field. The agricultural mechanics laboratory with its power equipment is a complex area of vocational agriculture. One very real problem that exists in agricultural mechanics instruction, that does not generally exist in other areas of instruction, is the possibility of student injury. With student injury also comes the problem of potential liability for the teacher.

Liability and Negligence

Liability does not exist for the teacher unless he has been negligent in some way. This aspect of negligence can occur because the teacher is guilty of ineffective supervision, poor instruction, or a lack of foreseeability.

Foreseeability is a term referring to the fact that a teacher or normally prudent person should be aware of and anticipate the consequences of a dangerous situation. The concept of foreseeability is very important in this respect. It is a very similar concept in the law of torts where a person is liable for the consequences of his actions.

One of these defenses is contributory negligence which says that the teacher is guilty of causing the accident by his own negligence. A similar defense is that of assumption of risk or that the teacher assumed the risk which eventually caused his injury when he started the machine or job. It should be pointed out that both contributory negligence and assumption of risk are rather weak defenses to use when the case involves an inexperienced minor.

A third, relatively new, defense is that of comparative negligence. The theory of comparative negligence assumes that the teacher and the student are 100 percent at fault in causing the accident. It assumes that both must be in part at fault. If, for example, a jury finds a student to be 50 percent at fault in causing the accident and the teacher to be 50 percent at fault then no damages would be awarded to the student. If the teacher is considered to be more than 50 percent at fault for causing a student's accident, then any damages awarded would be based on the proportional difference between the teacher's and the student's liability.

Defense to Charges of Negligence

If a teacher does become involved in a lawsuit involving student injury, he has several defenses that can be used.

Contributory negligence

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The teacher through instruction and example can prevent accident situations.

Another possible defense is the concept of "in loco parentis." This concept assumes that the teacher-student relationship is similar to a parent-child relationship. If a student does something wrong then a teacher is expected to punish and correct the student just as a parent would punish and correct his child. If a student is injured in an accident the teacher should be held liable for accidents that occur to his students while under the control of the school.

The landmark case establishing the philosophy of governmental immunity was a case decided by the Illinois Supreme Court in 1959. Most states that permit school districts to carry liability insurance have overruled the governmental immunity concept for schools. However, teachers should check to see if the liability protection includes both the teacher and the school district or just the district.

DEFENSES

Contributory negligence

Assumption of risk

Comparative negligence

Proximate cause

In loco parentis

A state's statute of limitations protects a teacher from having to wait an unlimited number of years to sue if a suit might be brought against him as a result of student injury. While this limitation varies from state to state, Illinois might be used as an example where a damage suit must be filed within one year of the accident against a school district and within two years of the accident against a teacher.

While it has been pointed out that there are numerous defenses a teacher may take, that there are a large number of factors and agencies that will protect the teacher when he needs help, it still should be emphasized that the best protection is accident prevention. If the teacher through instruction and example can prevent accident situations from occurring then he will never have to worry whether or not his lawyer has chosen the correct defense for him.
Continuing Education for Young Farmers

JOHN H. RODGERS, Teacher Education
Virginia Polytechnic Institute

Economic pressures are causing a decline in the number of farms and an increase in the size of farms. However, those who continue to farm will play an increasingly important role in our society and in the world. To meet this challenge the farmer of the future must be an ambitious, management-minded individual who keeps up with the latest developments in science and technology. He cannot rely upon the education received while in high school and college. It is imperative that educational opportunities be provided to allow this strategic group of citizens to stay up-to-date.

Purpose of Young Farmer Education

The purpose of young farmer education, presented in this seminar, is to provide organized instruction for those who are no longer enrolled in secondary school and are in the process of becoming established in farming or a closely related occupation. Instruction is considered relevant and of interest to young farmers when it contributes to the attainment of long-range objectives, the solving of immediate problems, and to efficient management in the production of agricultural products.

Young farmer programs are often responsibility for civic projects and other community endeavors. However, the greatest benefit to the community is economic. Young farmers introduce new techniques and new crops of high potential. They are responsible for the intensification of agriculture which strengthens the economy and makes the community more desirable.

Preservice Education of Teachers

The instructor holds the key to the development and expansion of effective programs of young farmer education. Some ideas advanced for strengthening preservice education for teaching personnel in young farmer education were the following:

- A philosophy and attitude must be developed with prospective teachers concerning the importance of young farmer education and the need for teachers of young farmers.
- Instruction must be provided in the methodology of teaching young farmers.
- Undergraduate students must have an opportunity to observe successful young farmer programs and successful teachers of young farmers.
- The undergraduate program should provide an opportunity to develop leadership qualities essential to organizing and advising young farmers.
- Prospective instructors need to know administrative policies and procedures and be able to use advisory committees effectively in conducting programs of young farmer education.

Inservice Education of Teachers

Recommended inservice activities in young farmer education included:

- A workshop or seminar for state staff, supervisors, and teacher educators, to determine the situation, needs, trends, and status of young farmers and young farmer education.
- Pilot programs in young farmer education.
- A research program in young farmer education.
- Credit courses and noncredit workshops for teachers engaged in young farmer education.
- Undergraduate courses for student teachers of young farmers.
- District meetings of staff and young farmers to identify effective procedures for developing educational programs.
- Well prepared professional and technical instructional materials.

Planning and Evaluating Programs

The point was made forcefully that in planning educational programs for young farmers attention must be given to formulating objectives that give proper recognition to the cognitive, psychomotor, and affective domains. These objectives should then serve as a guide in selecting instructors or specialists who will assume responsibility for guiding the learning activities of the young farmers.

Evaluation evoked a great deal of comment. The present scope of evaluation was seen as too limited. It was suggested that more attention be given to accomplishments resulting from young farmer organizations and to personal and group development. Also, attention should be given to programs that influence which lead to abundant living.

There was a great deal of support for the idea that evaluation efforts as we have known them over the years have not been satisfactory. Criteria have lacked uniformity and have been narrowly interpreted. Also, they have not been measurable. The need for realistic criteria based upon educational outcomes was stressed.

Committee Highlights

Reports from seminar committees contributed many ideas and challenges. A few of the highlights of committee reports follow:

- Instructional aids which should receive attention as a means of making instruction more effective include video tape, closed circuit television, programmed material, computerized instruction, telecourse teaching, and simulated experiences.
- Awa of instruction in which material designed for self instruction might be effective are agricultural mechanics, farm credit, wills, and insurance, and some facets of farm management.
- Long range plans should be established in each state for the number of young farmer programs needed and for continued and successful recruitment of staff to make such plans possible.
- The role which women instructors may play, particularly in teaching specialty subjects, should be considered.
- All capable graduates of a school or college of agriculture, regardless of major, should be recognized as potential instructors.
- At least one teacher in multiple teacher departments should be employed as a full-time instructor for young farmers. The need for high school teachers to continue to be involved in young farmer education was recognized.

State associations of young farmers are strengthened by members attending state, regional, and national leadership seminars and meetings.

- Specialists from industry, government, and universities should be used as resource persons in program development and expansion.
- The systems approach in education appears to hold promise for the future development of young farmer education. Research and development should be encouraged to develop this system which makes maximum use of available equipment, facilities, and staff to motivate students and properly sequence learning experiences.

- Young farmers, when associated with young farmer organizations, give generously of their time and energy to bring about civic and community development and improvements.

- On-farm instruction is a vital and necessary part of the total instructional programs for young farmers.

- Young farmer development committees have functioned successfully in matching young men who prove to be assets to the community with an economic farming unit. Committees composed of farmers, businessmen, county agents, area redevelopment people, FHA and FCA representatives, banks, and others advise and encourage individuals during the process of becoming established in farming.

Participants from forty states attended a National Seminar on Young Farmer Education at Virginia Polytechnic Institute on August 7-11, 1967. The seminar included study and discussion relating to program development, organization and administration, present and inservice education of teachers, methods of teaching and instructional materials, and evaluation. The seminar was funded under the provisions of the Vocational Education Act of 1963. Dr. John H. Rodgers, Head of Agricultural Education at VPI directed the seminar. A report of the seminar proceedings will be available in the near future.
A Teacher Views
Inservice Education for Teachers
R. M. McGin
Vocational Agriculture Teacher
Munford, Alabama

It is recognized that there are rapid changes taking place both in agriculture and business. Educators as well as lay citizens must be aware of these changes and be prepared to adjust educational programs to meet these ever-changing needs.

The nature and rate of technological change militate against the concept of terminal education. As technology upgrades the skill and knowledge requirements of jobs, education can no longer be confined to the traditional twelve, fourteen, or sixteen years of formal schooling. The Department of Labor projects that the average youth of today will probably shift occupations some five times over the approximately forty years he is in the labor market. A life of continuing occupational ad-
justment will mean a life of continuing education to meet changed or additional requirements.

The Up-to-Date Teacher. In October, 1965, issue of The Agricultural Education Magazine, the Editor speaks of a 1906 model vocational agriculture (Continued on page 164)

Assistantships and Fellowships in Agricultural Education, 1968-69

Pennsylvania State University
Research assistantships (12); 12 mos.; June and September; $400 first year; $500 second year; tuition and fees remitted; master's and doctoral; apply by February 1.

Purdue University
Teaching assistantships (21); 10 mos.; September; $1,000 plus room and board; reduced tuition; master's student; apply by March 1.

Graduate instructorships (2); 12 mos.; September and March; $750; reduced tuition plus travel expenses; doctoral students; apply by March 1.

Washington State University
Fellowships (2); 9 mos.; September; no stipend; master's student; apply by April 15.

Research assistantships (2); 9 mos.; September; no stipend; master's student; apply by April 15.

Assistantships (3); 9 mos.; September; no stipend; master's student; apply by April 15.

Assistantships (5); 9 mos.; September; $750, scholarship available; no stipend; master's student; graduate school; apply by April 15.

Wisconsin State University
Teaching assistantships (4); 9 mos.; September; $300, no stipend; $250 master's, first year; $275 master's, second year; apply by April 15.

Wisconsin State University, Platteville
Research and teaching assistantships (5); 9 mos.; September; $750, scholarship available; no stipend; master's student; graduate school; apply by April 15.

University of Wisconsin
Research assistantships (2); 12 mos.; June and September; no stipend; master's student; College of Agriculture; reduced tuition; no deadline on applications; usually filled by a graduating senior on basis of record and ability.

The Agricultural Education magazine

Difficulties Experienced by Teachers in Conducting Agricultural Mechanics Programs

EARL S. WEBB
Teacher Education
Texas A&M University

PURPOSE
The purpose of the study was to determine the difficulties encountered by teachers of vocational agriculture in conducting agricultural mechanics programs. A secondary purpose was to determine the relationship between the difficulties encountered and the number of years of teaching experience and the number of graduates who complete high school by teachers.

Research ranked the order of difficulty by teachers as follows:• Determine the tools and equipment needed for teaching electrical work.
• Determine the tools and equipment needed for teaching concrete and masonry work.
• Supervisors indicated the following tasks as needing much improvement by teachers:• Determining tools and equipment needed to teach tractor and machinery maintenance.
• Obtaining plans and drawings for student projects.
• Obtaining adequate funds to operate an effective farm mechanics program.
• Developing a budget for financing the farm mechanics program.
• Keeping all students busy during shop periods with worthwhile projects.
• Obtaining plans and drawings for suitable student projects.
• Keeping hand tools in good condition.
• Organizing written courses of study for each class in agricultural mechanics.
• Developing and maintaining power equipment in the shop.
• Determining the arrangement of power tools for maximum safety and use.
• Determining the tools and equipment needed for teaching concrete and masonry.

SUMMARY
Neither years of experience nor graduate hours earned had any influence on the relative degree of difficulty expressed by respondents. The degree of difficulty expected by teachers conducting agricultural mechanics programs tends to parallel the percentage of teachers estimated by supervisors to need much improvement. Tasks, in general, rated at the highest level of difficulty by teachers were those tasks that supervisors suggested needed much improvement by teachers.

PROCEDURE
Data were taken from two sources: teachers of vocational agriculture and area supervisors. Information forms sent to teachers requested the number of years in teaching, the number of hours of graduate credit acquired, and an indication of the degree of difficulty encountered in performing specified activities. Information forms sent to supervisors included many of the same data as the form sent to teachers. Supervisors were requested to estimate the percentage of teachers that, in their opinion, experienced difficulty in conducting agricultural mechanics programs. Level of difficulty for each item was expressed as follows: no difficulty, little difficulty, some difficulty, much difficulty, extreme difficulty.

The Agricultural Education magazine
RECOMMENDATIONS

Tractor and machinery maintenance work to be the instructional maintenance work to be the instructional program in the field of agriculture. The test of a good teacher is one who exhibits the qualities of a good instructor. A teacher who is interested in the welfare of others, who is able to inspire confidence, and who is able to guide students in the right direction is a valuable asset to any educational institution. The following are the qualities that make a good teacher:

1. Ability to guide students in the right direction
2. Interest in the welfare of others
3. Ability to inspire confidence

These qualities are essential for a teacher to effectively guide students in the field of agriculture.
Is your classroom showing?

CLAYTON RILEY
Teacher Education
University of Kentucky

Is your classroom for listening only?

Did you ever go fishing without bait? How about a trip without transportation? Sounds absurd doesn't it. How about these questions - teach welding without welders? Conducting an FFA meeting without members? I know that teachers of vocational agriculture would not attempt any of these examples, but are you guilty of teaching agricultural occupations in a production agriculture classroom?

How many of you teach an agricultural business course without the proper and necessary classroom equipment? John Dowey was purchasing classroom furniture for a school and the salesman, after listening to his needs, said, "I am sorry but we do not have what you want, our equipment is for listening only". Is your classroom for listening only? If we believe in the theory of "learning to do by doing," there must be changes and modifications in the classroom setting.

Facilities Add Realism

The purpose of an agricultural occupation course is to provide training for job entry and encourage students to explore the world of work. The classroom instruction must be practical and realistic if it is to be of any value to students and employers. The classroom facilities can aid in presenting to the students an atmosphere of real life which enhances the learning process.

Facilities are determined by the course of study.

The facilities in the classroom should be determined by the course of study. Equipping the classroom for an agricultural business course does not require changing the physical structure but rather adapting present facilities to new needs. In most situations, a little rearranging of furniture will develop an atmosphere to stimulate the activities and environment of a business.

I have visited departments where a section in the back of the room is used for teaching the agricultural business course. The teacher still uses the room for his other classes and simply moves to the rear of the room for his agricultural business course. A section of existing bookshelves can be used and other practical equipment can be constructed in the agricultural mechanics laboratory.

Are you guilty of teaching agricultural occupations in a production agriculture classroom?

Sales Tickets. For use by students to practice making out orders and charge tickets and in seeing the importance of figuring and writing legibly and correctly. Samples can be obtained from local business men.

Merchandise. Samples should be available to familiarize students with products sold in farm service stores and garden centers. The type of store students train in will determine the type of merchandise needed. The products needed most frequently include:
- Spray equipment
- Sprayers
- Dusters
- Feed samples
- Seed samples
- Fertilizer samples
- Chemicals, herbicides, insecticides
- Seed sovers
- Garden and lawn supplies
- Animal health supplies

Equipment Needed

The following inexpensive equipment may be considered for the classroom in schools teaching or planning to teach an agricultural business course.

Portable Counter. For use by students to practice selling and checking out customers. This gives the students experience in dealing with customers over the counter. The view from the other side is much different even in the classroom dealing with classmates.

Scales. For use by students to practice weighing merchandise, seed, and other small item purchases and in developing speed and skill. Three types of scales are recommended: a fan type scale with pan, a roller type, and a hanging type with pan.

Cash Register. For use by students to practice making change in developing speed and skill in handling money and in making change without errors. Older type cash registers can be purchased at low cost or they can be borrowed or rented from local businesses.

Telephones. Tele-trainers are needed to practice proper use of the telephone, selling on the phone, and taking orders on the phone. Tele-trainer kits can be borrowed from the local telephone company at no charge.

Tape Recorder. For use to record sales demonstrations, role playing, voice development, and greeting customers. The tape recorder serves an important role in evaluating students' performance by playing back and allowing the class and students to evaluate performance.

Display Area. Shelves or a unit built on walls as needed to allow students to practice building displays, stacking shelves, selling material, pricing material, and taking inventory.

Slide Projector. Slides of students can be shown in class to evaluate their skills. Pictures should be taken of procedures used in various businesses in the community for the class to study and evaluate. Slides are helpful for demonstrating ideas to the class without having the actual material on hand.

Mr. Riley is the former Director of the Demonstration Center in Nonfarm Agricultural Occupations at Redland High School, Paducah, Kentucky. He is presently a teacher educator in Distributive Education at the University of Kentucky.

Listening or Learning

If you are unable to secure all the items listed, start with the equipment needed first - these items most frequently used in your course of study and needed by the students in their training centers. If we are to train students for job entry in the agricultural business area, we need to "show them" not just "tell them" about it. Remember "one learns from his own activities."

Is your classroom for listening or for learning? I feel it should be for listening, showing, and doing.

In the past, teachers of vocational agriculture have done well in securing and maintaining a usable classroom. Let's continue to make adjustments in our facilities as our programs grow, expand, and change to meet the needs of the students and community.

If we are to train students for job entry in the agricultural business areas, we need to show them not just tell them.

Clayton Riley

[Image of students and text]

THE AGRICULTURAL EDUCATION MAGAZINE

JANUARY, 1960

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Stories in Pictures

GILBERT S. GUIER
Ohio State University

A good seedbed is essential for improved sugarcane production in India. Photo—Bidesi

Vocational agriculture teachers in Kansas receive in-service training on spraying equipment for weed and insect control during the summer months. Photo—C. C. Sides

Featuring—
TECHNICAL EDUCATION IN AGRICULTURE