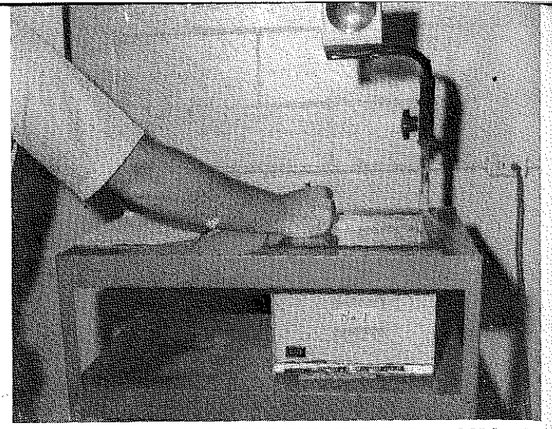
Agricultural Education

Volume 46 February, 1974 Number 8

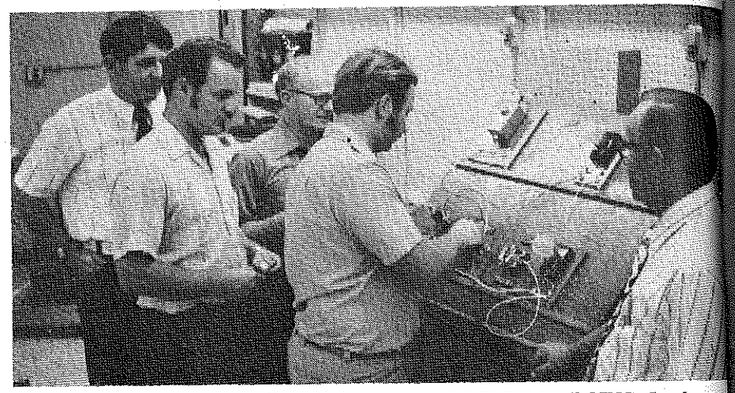
SUPERVISED EXPERIENCE REQUIRES ON-FARM-INSTRUCTION. Ord, Nebraska Instructor, Jack Morse and Student Teachers, Randy Kramer and Steve Schmit check feed tag. Danny Pokorney, center is Learning by Doing. (Photo by Richard Douglass)



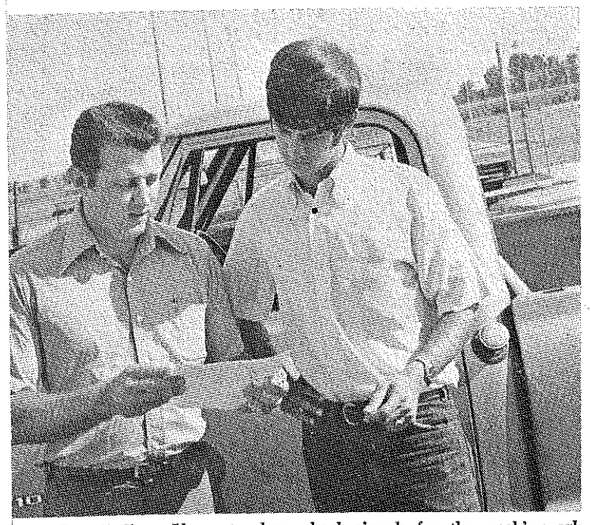
A TIP TO MAKE LIFE MORE ENJOYABLE. Several Nebraska Instructors have custom-fit their overhead projectors into an audio visual cart. Credit goes to Ray Becker, Dennis Cetak and Wayne Oberg, Nebraska Educators. (Photo by Richard Douglass)

Stories in Pictures

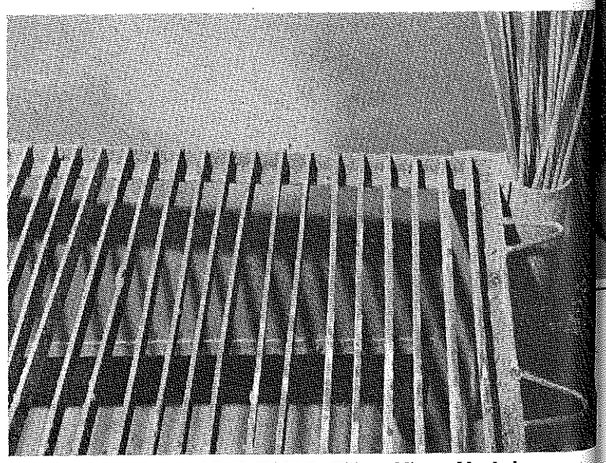
by Richard Douglass



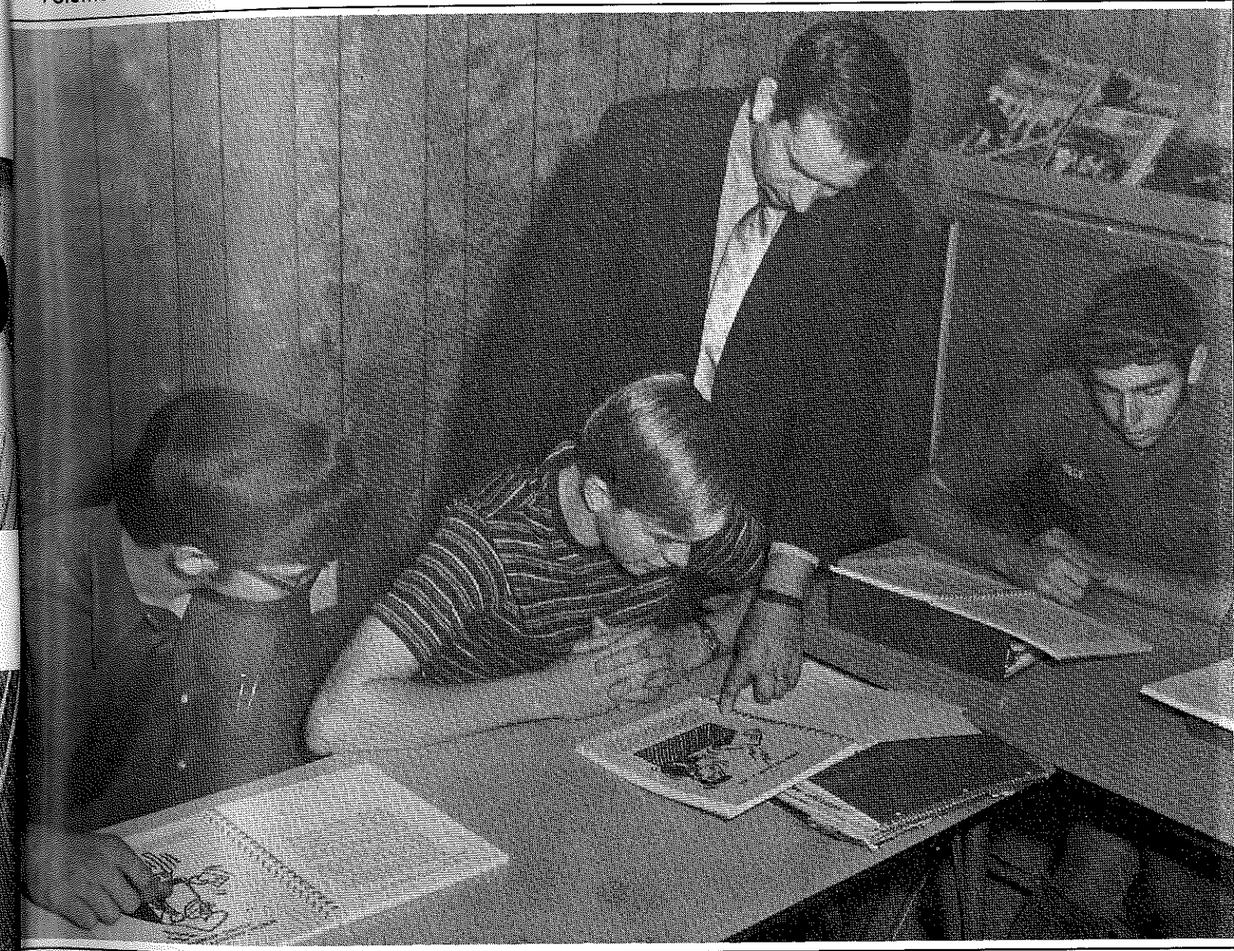
INSTRUCTORS ALSO LEARN BY DOING. South Dakota State University Staff member, Gary McVey provides lots of hands-on in-service practice in the Ag Mechanics area. (Photo supplied by Gary McVey)



Two Indiana Vo-ag teachers check signals for the week's work on Monday morning. Mr. Phillip Schmidt of North Posey High School confers with his student apprentice, Harvey Ricker. Scenes like this are common in Indiana where 14 ag education upperclassmen have been placed for ten weeks of summer experience in the local vo-ag departments in order to learn about the summer program. Dr. W. H. Hamilton, Purdue University, visits each of these apprentices three times during the ten weeks. (Photo from Bill Hamilton)



NON-WARPING WELDING TABLE. This welding table design is being observed in many Vo-Ag shops. It never has to be swept and is always flat. Minimum surface grinding is necessary to restore the surface. A metal deflector is usually installed under the table to protect the welder's cuffs and feet. (Photo by Richard Douglass)



Theme —STAFFING:

The Non-degree Teacher

The
Agricultural Education
Magazine

EDPRESS

Vol. 46 February, 1974 No. 8

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This publication is the monthly professional journal of agricultural education. The journal is published by THE AGRICULTURAL EDUCATION MAGAZINE, INC., and is printed at the Lawhead Press, Inc., 900 East State Street, Athens, Ohio 45701.

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COVER PHOTO:

As teachers of vocational agriculture, we must see ourselves as the manager of the Ag. Ed. team in the community. Classroom instruction is essential but is only one phase of our program. Our "total staff" should include our spouse, our administrator, parents, advisory council members, young farmers, adult farmers, FFA Alumni, off-farm agricultural businesses, commercial representatives, and our state and national leaders. Our challenge is to orchestrate the many talents of the team members and provide sound education in the nation's number one industry.
The team leader at Waverly, Nebraska has been Lyle Hermance. Now Director of Vocational Education at Waverly, he is responsible for the school's vocational team. (Photo by Richard Douglass)

Editorials

From Your Editor . . .

IS MORE RECRUITMENT THE ANSWER?

Martin B. McMillion

A nationwide shortage of teachers of agriculture has been a fact of life for the past several years, and some states have not had a sufficient supply of agriculture teachers since the returning WW II veterans entered the job market.

A moderate to intensive recruiting campaign has been waged since 1965 when the Executive Committee of the Agricultural Division of the AVA appointed the Professional Personnel Recruitment Committee. That committee was responsible for: the commissions for recruitment in state associations of agriculture teachers, the "teacher of teacher certificates," bulletin board posters, recruitment brochures, a career booth at National FFA Conventions and the annual "Woodin report" entitled "Supply and Demand for Teachers of Vocational Agriculture in the United States." These activities are just a part of the rather intensive activities and campaigns engaged in by state staffs, teachers of agriculture and student organizations such as Alpha Tau Alpha, Collegiate FFA, and Agricultural Education Clubs. After doing about all that could be expected in recruitment, there is still a shortage.

The point of this editorial was illustrated at a meeting concerning recruitment, by a teacher of agriculture when he remarked to those near him, "If they'd get the [agriculture] teacher's load down to fifty students, we wouldn't have to worry about recruitment so much." Although he was overheard by several individuals, including the leader of the discussion, the only possibility explored by the group for obtaining enough teachers was to sell prospective teachers on the idea of becoming a teacher of agriculture. Recruitment efforts have been commendable and they have paid off, but the returns from a given amount of effort is diminishing at this point while attention to improving teaching conditions has hardly been touched and has greater potential for a unit of effort.

Higher teacher loads is only one of the conditions that causes the teaching of vocational agriculture to be less tolerable than it once was. No useful purpose would be served by enumerating the contributors to decreased satisfaction in vocational agriculture teaching, and they will not be listed.

Teacher educators and supervisors are reluctant to speak out in behalf of improvement of the position of the teacher. They are more concerned with improving the teacher so he can presumably do everything regardless of conditions. It is not a realistic expectation that one teacher can operate programs in production agriculture, cooperative education, young farmer education, adult farmer education FFA, and work for a master's degree all in one school term; yet, the new teacher goes to the job feeling that all of these are expected.

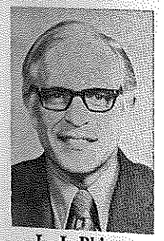
A move seems to be under way in state departments of education to set standards for class size and the number of classes. For example, a vocational agriculture class size of 15-20 students and a maximum of 60 students per teacher

(Continued on next page)

Guest Editorial . . .

STAFFING AGRICULTURAL PROGRAMS IN LOCAL EDUCATIONAL AGENCIES

Lloyd J. Phipps
Teacher Education
University of Illinois
at Urbana



L. J. Phipps

In recent years, three major developments in education have had, and will continue to have, profound affects on the staffing needs for agricultural programs in local education agencies. These three major developments are:

1. Recognition that vocational education in agriculture is needed and should be provided for all agricultural occupations and not be limited to the occupation of farming.
2. Recognition of the need for and the development of the career education concept.
3. Recognition of the need for and the development of agricultural programs at the thirteenth and fourteenth grade levels in community colleges and technical institutes.

These three major developments have created the need for personnel in agriculture with many diverse competencies. From the time of passage of the Smith-Hughes Act on February 23, 1917 to the early 1960's, the staffing needs in agriculture were relatively unvaried. Staff members were primarily needed with competence to teach ninth-, tenth-, eleventh-, and twelfth-grade boys preparing for farming and with competence to teach young and adult farmers. A staff member needed to be competent in the agriculture produc-

(Continued on page 177)

From the Editor . . .

has been set in Ohio. Hopefully, a teacher load in agriculture will become as reasonable and as widely known and followed as the standards of Distributive Education.

Students who have just completed four years of high school vocational agriculture have had a most intensive career exploration experience in the profession of agriculture teaching. What they have observed, both good and bad, outweighs what they are told by recruiters of teachers.

Is more recruitment the answer? No, it is only part of the answer. Making the job of teaching agriculture more attractive will both attract and **retain** teachers and will ease the teacher shortage.

The first suggestion is to encourage the association of agriculture teachers to sponsor a study of working conditions within the state and to make recommendations for improvement. This potato is not so hot that teacher educators and state supervisors cannot touch it. The second suggestion is to encourage multiple-teacher departments and a specialization in teaching responsibilities. Third, encourage full-time adult programs which are places for "shell shocked" teachers of high school students to move after several years of teaching as an alternative to leaving public school teaching. Fourth, teacher educators should be more realistic and truthful in stating expectations of a teacher in a one-man department. The last suggestion is for supervisors to provide load standards such as has been done in other vocational fields of teaching. More than recruitment is needed.

MBM

Guest Editorial . . .

tion activities prevalent in his community and he needed to be able to teach others. Typically, there was only one teacher of agriculture in a school.

Contrast this situation with the situation that prevails at present. Because of the expansion at the secondary level of the program in vocational education in agriculture to include all occupations in agriculture, instead of being limited to preparation for farming, the number of teachers of agriculture in local education agencies has expanded rapidly. The need for staff members with specialized competencies in one or more of the following areas has developed:

1. Production agriculture occupations
2. Agricultural supply occupations
3. Agricultural products occupations
4. Agricultural resource occupations
5. Agricultural mechanics occupations
6. Ornamental horticulture occupations
7. Forestry occupations

Many local education agencies will need one or more teachers in each of these occupational areas in agriculture. Some local education agencies at the secondary level will also be demanding teachers who have specialized competencies in one or more subdivisions of certain of these occupational areas in agriculture. For example, some schools will be demanding teachers who are specialized in certain areas of ornamental horticulture such as turf management and greenhouse management. The development of agriculture programs at the secondary level requiring several specialized teachers creates the need for persons to serve as agriculture supervisors and administrators in local education agencies.

The acceptance and implementation of the career education concept creates a variety of new staff needs in agricultural education. Staff is needed, and will be needed in increasing numbers, to provide career awareness programs in agriculture at the kindergarten through sixth grade levels. At this level, kindergarten and elementary teachers will have primary responsibility for career awareness programs in agriculture. But they will need to be assisted by a consultant staff in agriculture.

The career education concept places much emphasis on career exploration at the seventh, eighth and ninth grade levels. Staff in agriculture will be needed in rapidly increasing numbers to provide career exploration programs in agriculture. The specialized competencies needed by teachers for the exploration of agricultural careers will be considerably different from the competencies needed by teachers preparing students for careers in agriculture.

In addition to the new types of teachers and consultants that will be needed as a result of the acceptance of the

(Continued on page 177)

Themes For Future Issues

April —	Production Agriculture — Still In Vogue	August —	Teacher Education
		September —	School Organization and Articulation
May —	Summer Accountability		
June —	Administration and Supervision — Local to National	October —	Instructional Technology
		November —	Improving the Profession — the Job and the Teacher
July —	Program Planning and Evaluation	December —	Better Teaching and Learning

WHAT QUALITIES DO WE NEED IN A NON-DEGREE TEACHER?

D. L. Kindschy

D. L. Kindschy
Teacher Educator
University of Idaho

> Too often the tradesman relates to his students the same way he relates to his fellow workers in industry

Perhaps we should listen to our colleagues in Trade and Industrial Education who use many non-degree teachers to conduct high school, post-secondary and adult classes. The primary concern of the trade and industrial people is qualified journeyman's experience. The teachers must have made their living for a specified number of years in the trade they teach. Considering the shortage of agribusiness instructors, very often a former tradesman in motor mechanics, farm machinery, welding, nursery management or the farm supply business can play an important role in providing additional instruction and relieving the burdened vocational teacher so he can concentrate on the responsibility of meeting the needs of more of his regular students. The non-degree teacher must be competent in his area of instruction. If the agribusiness instructor can feel confident that the farm tractors his students have repaired, under the direction of his non-degree assistant, will return to the field and perform well, there is no doubt the vocational program will be strengthened.

Let us assume that several men with adequate experience are available, which one should be hired? What about age? Should a young, eager, hardworking individual be hired or a man who finds that his enlarged middle makes it more difficult to lean over a fender all day, or his touch of arthritis makes working under a truck for hours on end a painful task? Perhaps we should hire the man who appreciates the opportunity to watch young people do this physical work and enjoys relying on his many years of experience to help solve their problems.

Another quality essential to a non-degree instructor's success would be his appreciation of good tools and equipment. Oftentimes a mechanic in a commercial shop is so busy piling up the hours on his foreman's job sheet that the care of equipment and tools becomes secondary. A non-degree teacher who can be classified as overly fussy about tool care, orderliness and neatness can be more valuable to vocational students than the mechanic who is capable of completing a large volume of work but is a little careless about his equipment.

The non-degree teacher must have the ability to distinguish the fine line that is always present between the instructor and the student. Too often the tradesman relates to his students the same way he related to his fellow workers in industry. In order to increase his popularity with the fellows, so to speak, he may try to be "one of the boys," by relating experiences that have no place in a classroom, and generally giving the impression to students that he has little use for the rules and regulations of the school system. Students are impressionable and have been taught to hold teachers in respect. Any instructor's action that can weaken this respect seems to be appreciated for a period of time by the students, but eventually a detrimental effect can be noticed in the total vocational program.

The non-degree instructor has usually worked under a system in industry where he is directly responsible for all the tools and equipment he uses to the extent that if the item is missing during a periodic inventory, the value of the lost article is deducted from his salary. School systems usually do not require the instructors to be this accountable. When the non-degree teacher learns about his new freedom, it can cause him to relax his vigilance in regard to checking tools and equipment and before long the students get the same idea and many items seem to disappear.

The above described characteristic seems to be especially true of tradesmen who gained their experience in some branch of the armed forces where a large staff of people are continually checking inventory and holding individuals responsible. The non-degree teacher must have a professional attitude towards school equipment and supplies.

The non-degree instructor must have the desire and ability to express himself before a group of students. He may be a specialist in his field and may be able to talk for hours to another individual but the responsibility of a demonstration can be a traumatic experience. Oftentimes the professional teacher must proceed slowly in delegating assignments to his non-degree instructor that require speaking to a group. However, if the tradesman has the desire to meet speaking responsibilities, the problem can usually be resolved.

Patience is a quality that cannot be overlooked. The non-degree teacher has been working as an individual with the full responsibility of doing his work fast and well. He must be able to stand by while a student may take a small engine apart and put it back together three times before it is right. Or he may see a student ruin a valve by improper grinding immediately after he had given a demonstration on how to do it properly. The learning process can be very frustrating unless the instructor has the patience to accept mistakes, that seem stupid at the time, as part of the learning process.

Considering the above listed characteristics, the task of finding the right non-degree teacher seems very difficult, but many are available and, due to shorter hours, less physical work, more freedom, and generally more desirable retirement programs, the tradesman can often be persuaded to change employment for actually less take-home pay. Perhaps the key to finding the

(Continued on next page)

CERTIFICATION—A New Way at Kent State

Wayne E. Asche
Kent State University
Kent, Ohio

W. E. Asche

The birth of a new inservice educational program in Ohio places emphasis upon demonstrated competency. It is directed away from mere accumulation of credits for degrees as in the traditional degree curriculum. The teacher is held accountable for attaining a given level of competency in performing the essential tasks of teaching. This program facilitates the development and self-appraisal of the teacher's mastery of performance objectives that are determined jointly by the teacher and teacher-educator. Teachers have a part in designing the field-centered program in the school of teacher employment with special emphasis upon the desired accomplishments and professional role in agricultural education.

There is no dilemma in the leadership role of supervisors and teacher educators. Inservice education of the teachers in any school system is the primary responsibility of the school superintendent. Professional training of inservice agricultural teachers is directed to the Agricultural Education Service, Ohio Department of Education. The Agricultural Education Service along with the Ohio State Board of Education has approved Kent State University for the preparation of agriculture teachers with seven years of approved occupational experience and a high school diploma.

At present, this program is provided for the non-degree teacher who has obtained a one-year vocational certificate in agriculture and is working toward a four-year provisional vocational certificate in agriculture. Provisions for certification are in compliance with the stated laws and regulations governing teacher education and certification in Ohio.

The comprehensive in-service program is a two-year program. It follows the completion of a pre-service, six quarter hour, credit workshop where a teacher obtains a one-year vocational certificate in agriculture.

In-service is field-centered (in the school of teacher employment) on a bi-weekly basis throughout the duration of the school year. Along with eighteen hours of credit, a four-year provisional vocational certificate in agriculture is issued upon successful in-service program completion and three years of successful teaching experience, two of which must be in the area of the instructional program.

Together, the in-service and pre-service structured programs total twenty-four quarter hours of professional agriculture education credit.

TABLE 1
Two-Year In-service Pattern for Non-degree Teachers

YEAR	PROGRAM SCHEDULE
First Year	Bi-Weekly Instruction Follow-up Two Week Workshop
Second Year	Bi-Weekly Instruction

As shown in Table 1, the two-year in-service pattern does not include pre-service. It has flexibility during the second year to meet individual needs. However, a course of study is required.

The performance-based, in-service program is appropriate in today's world of accountability. An evaluation of the program has been conducted by a questionnaire to obtain teacher and administrator judgments. Twenty-eight teachers responded favorably to a four-point scale on twenty-five items.

The implications for agricultural education are as important as for any other service. Briefly, they are:

1. This comprehensive, performance-based in-service education can be used for degree teachers as well as for non-degree teachers.
2. All teachers might develop a more professional attitude toward agricultural education.
3. All teachers might change their organizational and management role in teaching agriculture.
4. All teachers function better in managing community resources, upgrading curriculum and lessons, and developing a total FFA program.
5. Teacher-administrative relationship might be improved for all teachers.
6. Classroom, laboratory, and office clean-up and organization are accomplished.

These implications were based upon the survey questionnaire responses.

The impact of this new approach to certification in agriculture will create much excitement because it is far removed from the completion of the traditional "one kingdom" college curriculum in agricultural education. This approach is doubly significant in view of the present and increasing undersupply of qualified teachers in the many instructional areas of agriculture.

There will be those teacher educators who will look at days in the past with sentiment. But for most, there will be more satisfaction gained through meeting the needs of teachers more fully.

More effort needs to be made on measurement fronts; it seems likely this performance-based in-service program in teacher education will continue to strengthen its role and facilitate accountability in agricultural education. It is more than a movement of the times. It is realistic expectation! ◆◆

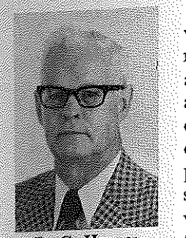
(Kindschy—from page 173)

right man is a complete job description of his duties. The job description should be written in clear outline form including all duties and responsibilities. It may be necessary to refer to the job description occasionally during the period the non-degree teacher is learning his duties, and if it is necessary to change the responsibilities, these changes should have the consent of all parties concerned. If a non-degree teacher is to act like a professional, he must be treated like a professional. ◆

TEACHER PREPARATION WITH THE AID OF A NON-DEGREE INSTRUCTOR

Robert C. Haynes
Teacher Education, Farm Mechanics
University of Idaho

Even though he is a non-degree teacher, he must be accepted as an equal and important staff member by the degreed personnel.



R. C. Haynes

A staff member who has had journeyman experience as a farm tractor and implement mechanic can be a decided asset in the preparation and in-service training of vocational agriculture instructors. The individual, to be of maximum value, must be carefully selected for his basic knowledge, pride in workmanship and ability to work with people. A natural or inherent ability to teach would be a bonus if included in this persons talents.

The writer of this article has worked with a person of these qualities, Mr. Ralph McGraw, since August 1, 1960. Mr. McGraw was employed by the University of Idaho Agricultural Engineering Department with the title of Assistant in Instruction and Shop Mechanician. His duties have included assignments in both teaching and research. As the portion of his title relating to teaching, Assistant in Instruction, implies; his duties have been to assist with the instruction but not to take the lead in the development of courses, course content or units of instruction. The leadership in these areas has been the responsibility of the professional staff whether in the service courses offered by the Agricultural Engineering Department for other departments in the College of Agriculture or in the professional agricultural engineering courses.

Mr. McGraw's qualifications for his position included a farm background, experience as a mechanic and shop foreman for automobile firms, experience as a welder and at the time he was employed by the Agricultural Engineering Department he was working for a farm tractor and implement dealership. Since the farm tractor and implement dealership was a small firm, Mr. McGraw's duties were many and varied including shop and field adjustment of farm machinery, small and multi-cylinder engine tune-up and overhaul, rebuilding or alteration of used equipment along with the fabrication of equipment such as machinery trailers and bulldozer blades. While working for this firm, he had also taught Lincoln arc welding schools for area farmers and worked with local high school vocational agriculture students on problems they encountered with machinery and engine repair.

In the courses team taught by Mr. McGraw and the writer, the writer has taken the lead in determining the course objectives, developing course outlines, making course assignments, assembling instructional materials, ordering supplies, tools and equipment, dealing with student problems relating to class attendance or conduct and paper work relating to grades and reports. Classroom presentations dealing with teaching techniques, correlation of material being presented and actual teaching situations were also the writer's responsibility. Classroom presentations utilizing teaching aids such as slides, film strips or films relating to a subject such as small engine repair were presented to the students jointly with Mr. McGraw supplying information from the expertise he has gained in his many years of shop experience. When the unit on small engine repair was incorporated into the course work and in-service training program, most of the demonstrations involving skills and procedures used in the disassembly, measurement of engine parts, repair and reassembly of the equipment were given by Mr. McGraw.

Mr. McGraw has developed equipment for student use in small engine overhaul and other instructional shop units. Use of this equipment has resulted in the ability of students to gain desired skills and do quality work with a minimum amount of practical work experience. Mr. McGraw has made and will continue to make decisions about necessary repairs when questions arise as to the extent of repairs needed on an engine or other piece of equipment.

In courses dealing with arc welding, Mr. McGraw has enriched the instruction by providing students the benefits of his experience in rod selection for specific jobs, techniques used in industry to control distortion and techniques used to make various welds. In other courses he has been able to make the instruction relevant by illustrating or relating actual problems he has encountered.

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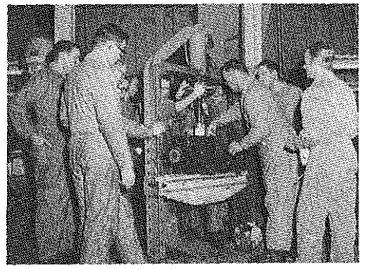
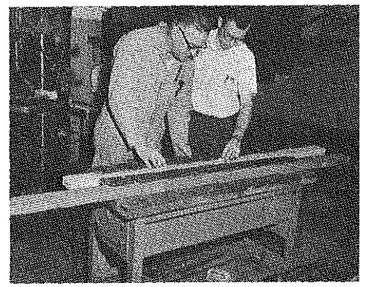


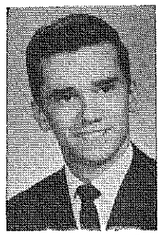
Ralph McGraw, a non-degree instructor, demonstrating sleeve replacement at the University of Idaho.



Ralph McGraw grading arc welding projects at the University of Idaho.

RELATIONSHIP OF FFA TO THE TOTAL INSTRUCTIONAL PROGRAM

L. H. Newcomb
Teacher Education
Ohio State University



L. H. Newcomb

One fact which is undeniable is that the cornerstone of the youth organization is and must be the advisor. The success of the group or lack of it is directly related to the competency and commitment of the local advisor. With respect to the competency of the advisor, several pressing concerns must be examined.

Self Help For Untrained Advisors

Across the nation, an increasing number of agricultural education instructors are entering the profession with no previous experience with either vocational agriculture or the FFA. Since this article addresses itself to the relationship of the FFA to the total agricultural education program, it is imperative that some consideration be given to the lack of competency in the area of FFA of an increasing number in our profession and more importantly that this article suggest how such instructors might individually improve this competency.

It is unrealistic for teacher educators or supervisors to expect the neophyte, with no previous FFA experience or formal instruction regarding advising the FFA, to perform very well in this area of his program. How can the neophyte be expected to prepare a parliamentary procedure team if he has never seen one? Why should we expect a teacher who has never been to a parent-son-daughter banquet to plan and conduct such an affair with any degree of success? The list could go on *ad infinitum*.

Even though the state and the national organization works to provide help for the teacher who lacks competence in the area of student organization advising, a few simple suggestions would be useful to teachers who feel an overwhelming need for help. There is no doubt that in the absence of formal course work, the instructor in need of assistance could begin to solve some of his own problems.

For instance, he should give high priority to visiting several outstanding chapter meetings. Likewise, by attending at least one well-organized and presented banquet, parliamentary procedure demonstration contest, or public speaking contest, the teacher who feels woefully inadequate should at least gain enough confidence to venture into such activities in his own department.

The local advisor is responsible, in the final analysis, for the success or failure of the youth organization. Now, how did this writer arrive at the conclusion that it is a **responsibility** of the local agricultural education instructor to advise the youth group in agriculture? To more fully understand this **vital** concept, a brief examination of the total program of agricultural education in the local school is in order.

Components of the Local Agricultural Education Program

The first and most fully acknowledged component of a local agricultural education program is the instruction of high school classes of vocational agriculture. This is the job for which most agricultural education instructors are primarily hired; and incidentally the basic reason for students being in the program. Now, the instructor does not decide whether he wants to accept the responsibility of instructing the class—nor are the students allowed to decide whether or not they will take part in the "happenings" in the classroom. Indeed, if an instructor reported to the local board of education that he did not feel like he wanted to teach his classes, that there were other things he would rather do or felt better prepared to do, then skipping FFA is fully predictable. Suppose a student informed the teacher he really did not care to be involved in the classwork but that he would go along with working in the laboratory. What reaction would be forthcoming from the teacher? Certainly the teacher feels classwork is a **component** of the program and one would hope that a program would not be considered to be complete without **all** of its components.

Turning to another component of the local program — the **laboratory phase of instruction** — does the same logic hold? Would it be acceptable for either the instructor or the student to abdicate their responsibilities for a meaningful experience with this component of the program? Certainly not, for without laboratory experience an incomplete program is the end result.

With respect to the final component of the local program, the youth organization, or in most cases the FFA, why should any different rationale be employed for its inclusion than the other program components?

With regard to a program of occupational experience for each student as yet another component of the local program, some instructors and students have tried to disregard the meaningfulness and essentiality of this component of the local program and the results have been indeed alarming. This is because it has relegated the program to an inferior position and has placed students without acceptable occupational experience in a position of unsuccessful competition in the market place. Furthermore, the results of a recent research study by Neavill* indicates clearly that students who have occupational experience programs (namely projects) received markedly higher scores on criterion referenced tests in the area associated with their project than students not having projects. Surely agricultural education instructors who are recognized for having complete programs of agricultural education would not disregard the need for

(Continued on next page)

(Newcomb—from page 176)
insuring that students have satisfactory occupational experience programs.

With respect to the final component of the local program, the youth organization, or in most cases the FFA, why should any different rationale be employed than the rationale employed for the other components of the program? Given that FFA is one of the components of the local program, how can either the teacher or the student be allowed to intentionally "write this component off?" If this is allowed to happen, then the instructor has an incomplete program. He is not performing all the duties for which he was contracted to perform. It is nothing less than professional neglect, much the same as a physician ignoring a small tumor because the patient has three other diseases in need of treatment.

An Analysis of the Relationship of FFA to the Total Program

From the perspective of the student, is he allowed not to participate in classwork and still receive full credit? Are students allowed not to conduct meaningful occupational experience programs and still receive full credit or are they allowed to "sit out" shop work and remain in good standing in the program? If the answer to either of these questions is yes, then this writer questions the quality of that local program. Yet, many instructors allow students to have nothing to do with the FFA and still receive full credit. Obviously, such instructors are saying, and being allowed to say, FFA is not one of the components of my program. ◆

* Arthur T. Neavill. "Criterion-Referenced Assessment of Ninth- and Tenth-Grade Instruction in Vocational Agriculture," Ph.D. Dissertation, The Ohio State University.

Guest Editorial Continued . . .

career education concept, staff will be needed to develop teaching materials for career awareness and career exploration in addition to the development of teaching materials for preparation for the many agricultural occupations. Staff for guidance and placement in agricultural occupations will also be needed.

The rapid development of programs for agricultural occupations at the thirteenth and fourteenth grade levels in community colleges and technical institutes has created and will continue to create the need for additional staff with many diverse and new competencies. In the community college and technical institutes, staff will be needed who have more specialized competencies in agriculture than are typically needed at the secondary level. Specialized teachers in each of the occupational cluster areas in agriculture and many teachers who are specialized in one or more subdivisions of these major cluster areas will be needed.

At all levels, elementary, secondary and post-secondary, the competencies of teachers, supervisors and administrators of agriculture programs will need to be supplemented by the generous use of paraprofessional staff personnel. This will necessitate teacher education for paraprofessionals by local education agency staff members in agriculture.

In summary, the staff in agriculture in local education agencies will perform many specialized tasks and will need many varied and diverse competencies. The staff will include:

1. Consultants for career awareness programs in agriculture.
2. Resource staff for career awareness programs in agriculture.
3. Curriculum development specialists for career awareness programs in agriculture.
4. Supervisors of career awareness programs in agriculture.
5. Teachers of career explorations programs in agriculture.
6. Consultants and supervisors of career exploration programs in agriculture.
7. Curriculum development specialists for career exploration in agriculture.
8. Specialist teachers in career preparation programs at the secondary level in each of the occupational cluster areas in agriculture.
9. Specialist teachers at the secondary level for many of the sub-divisions of the major occupational cluster areas in agriculture.
10. Administrators and supervisors at the secondary level of career preparation programs in agriculture.
11. Curriculum development specialists for career prepparation programs in agriculture at the secondary level.
12. Paraprofessional staff for agriculture programs at the secondary level.
13. Teachers for many very technical and specialized agricultural occupations at the post-secondary level.
14. Administrators and supervisors for agriculture programs at the post-secondary level.
15. Agriculture placement and guidance personnel at the post-secondary level.
16. Paraprofessionals with very specialized competencies for agriculture programs at the post-secondary level.
17. Curriculum development specialists for agriculture programs at the post-secondary level.
18. Teachers of agriculture with many specialized competencies for young and older adult education programs in agriculture occupations.
19. Administrators and supervisors of young and older adult education programs in agriculture.
20. Teacher educators in agriculture employed by local education agencies and by universities for upgrading programs and for teacher education programs for paraprofessionals. ◆◆◆

An Experience Program For Foreign Students

*Glenn McCarty**
Former Agriculture Teacher
Crothersville, Indiana


Glenn McCarty

Recently, the Crothersville, Indiana agricultural students and community were fortunate in having two guests from Columbia, South America, Cecilio Ortiz and Solomen Vivas, to visit and study about agriculture and the FFA in the United States. Mr. Ortiz is a vocational director for an agricultural school in Bogata. Mr. Vivas is an employee of the National Coffee Federation and also teaches in a private school.

The following experiences were provided during their five month stay. Upon arrival at Crothersville, the guests spent two weeks with local Vo.-Ag. Instructors, Gary Geswein and Glenn McCarty. During this period, much time was given to informing the guests about the agricultural programs offered at Crothersville and other schools in the area. The visitors spent several days studying the framework and organizations of local, state, and national educational systems including the FFA. They were somewhat amazed at the large scope and comprehensiveness of our education system and our FFA organization. During the same period, several tours were taken to acquaint them with the agriculture of the Crothersville community.

After this orientation period, our visitors were placed in new locations to broaden their experiences. Mr. Vivas went to Noblesville, Indiana to visit with Mr. Warren Sabre and later to Liberty, Indiana to stay with Mr. Dave Caldwell, both of whom are Vo.-Ag. teachers. The visitors also spent some time with the McCormick family, who are Indiana farmers. Mr. Ortiz was placed with the Byron Wetzel family, local farmers in the Crothersville community. Mr. Wetzel provided Mr. Ortiz with many learning experiences in the production of corn, soybeans, cattle, and forage production. Other experiences participated in by Mr. Ortiz included attendance at the Kentucky Walking Horse Show in Louisville, Kentucky, the Jackson County Fair, the Indiana State Fair, and meetings of the Crothersville FFA Chapter. Mr. Ortiz was favorably impressed with the efficient and business-like manner with which the meetings were conducted. Four weeks of working at Brownstown, Indiana, with the Jackson County Farm Bureau Cooperatives, rounded out the visitors' agricultural contacts.

In November, Mr. Ortiz traveled to Western Kentucky University, Bowling Green, Kentucky, for a visit of four weeks. His stay there was coordinated by Dr. James McGuire, Professor of Agricultural Education. While there he attended numerous classes and meetings and consulted with several professors and deans. During his visit to Bowling Green, he made his home with a dairy farmer and an employee of the U.S. Soil Conservation Service.

Why are Foreign Students Welcome?

There is certainly no financial reward or gain for hosting foreign guests. There is no increase in salary for the extra time and effort it takes to board them and coordinate their learning experiences. However, not all things of value in life can be measured in dollars and cents. Not only did our visitors gain much from their visit to the United States, but we were able to learn much from our guests. There was not only an exchange of technical knowledge, but also a sharing of humanitarian information and concerns. This exchange serves as one of the best avenues for promoting good will, allowing people and nations to be brought closer together in a peaceful atmosphere. It's the type of thing that makes your heart bigger and better. ◆

*Glenn McCarty is presently a doctoral candidate at Virginia Polytechnic Institute and State University.

(Haynes—from page 175)

In the writer's opinion there are certain points that will help make the employment of a person with a journeyman's qualifications a success. The professional staff must realize what this person has to contribute personally to the preparation of vocational agriculture instructors and make use of his talents. Probably this person will not have a degree; he was gaining knowledge and skills for which he is being employed, while professional staff members were becoming "professional." Even though he is a non-degree teacher, he must be accepted as an equal and important staff member by the professional personnel. The person selected should be a quality workman and for him to do quality work, he must be provided with quality tools. Other staff members must respect these tools and not abuse them. If a professional staff member misuses the shop tools, a bone of contention can easily develop between Mr. McGraw and that staff member. Professional staff members have the responsibility of making clear to the journeyman staff member what the instruction he is helping to conduct is supposed to accomplish. Many times the journeyman's ideas will help make the instruction successful.

The writer has benefited from working with Mr. McGraw and there is evidence that the students are also benefiting from his knowledge and talents. Students and vocational agriculture instructors show that he is making and has made contributions toward their preparation to be teachers by the advice they seek on shop problems they encounter. Mr. McGraw sometimes has the opportunity to visit local departments, especially when farm mechanics workshops are held in the field. The respect and enthusiasm instructors show towards him is a true measurement of his success. ◆◆◆

WHAT YOUNG FARMERS EXPECT FROM EDUCATIONAL PROGRAMS

Howard J. Siegrist
Vocational Agriculture Instructor
Canal Winchester High School
Canal Winchester, Ohio


H. Siegrist

One of the greatest challenges of a teacher of vocational agriculture is to develop a worthwhile, meaningful program for young and adult farmers. For this to happen, each community needs to study its own needs and develop programs that meet these needs. This was done in the Canal Winchester, Ohio community.

Canal Winchester is located twenty miles southeast of Columbus. The school district consists of thirty-six square miles of level farmland with considerable urban housing presently being constructed. The agricultural community consists of sixty-nine full-time farmers. The farms are primarily cash grain, swine and dairy. Vocational agriculture education during its early years consisted of a yearly series of general interest meetings and the agriculture veterans' programs. As a means of ascertaining the needs of the young farmers in the Canal Winchester area, a survey was conducted on a personal interview basis of one-half of the identified community farmers.

Young farmers were questioned concerning their present farming operation problems, concerns, aspirations, and the role a young farmer educational program should assume in assisting them. The survey, completed during on-farm instructional visits, revealed the young farmers were optimistic and enthusiastic about their future in farming. They expressed evidence of planning and projecting into the future. Many rated the problem of acquiring land as being a primary factor that limited their expansion. Both the availability and cost of land are concerns. Other problems the young farmers expressed in getting established in farming were scarcity of labor and the uncertainty of being able to continue farming in the present location for a given period because of the urban sprawl that is certain to become a more intensified problem. Many young farmers suggested this makes planning for long-term investments very risky. Most of the young farmers in partnerships indicated that their father-son partnerships were reasonably satisfactory.

During the survey, I was keenly concerned in exploring farmer opinion about the role an adult vocational agriculture program should play in assisting with young farmer education. The young men were asked to indicate those topics that would interest them. They expressed a desire for programs of current interest nature. They want to know more about new products. Many expressed a willingness to assist in planning for more in-depth educational programming rather as an alternative to an entire series of unrelated general programs. When I questioned them about the areas of greatest interest for in-depth educational programs, the items most frequently mentioned were investment considerations in machinery and buildings, marketing and contracting, livestock nutrition and health, and business planning and analysis.

Several interviewees expressed a desire for more demonstrations and classroom teaching to provide for more effective learning. The need for year-round adult education programming was evidenced by the interest in field demonstrations. The local program has provided summer instruction through tours to area farms and the conducting of crop variety, fertilizer and weed control plots for evaluation. These activities and young farmer participation in a one-hundred bushel corn club program, one of the first organized in the country, were often mentioned as strong segments of the local adult education program. The local corn club, sponsored by a community business, consists of farmers from the young farmer class as well as the local adult farmer class and FFA chapter. A summary analysis of these results is given at a meeting each year. These activities provide the author with many ideal opportunities for effective on-farm instruction.

The young farmers indicated that their participation in Ohio Young Farmer Association events including weekend camping programs, regional tours, president's seminars, and annual conferences were valuable. These statewide year-round activities, were considered to be both interesting and enjoyable as well as educational. As a teacher of vocational agriculture, I believe these activities in addition to chapter picnics, tours and tractor pulls, banquets and community service activities are necessary to afford young farmers social and leadership opportunities. These activities can complement a sound educational program in developing an effective young farmer chapter.

The World's Technical Agriculture Schools

D. W. Martens is Agricultural Education Officer for the Food and Agriculture Organization of the United Nations in Rome, Italy

D. W. Martens

The Technical Agriculture School, wherever it is found in the world, is a special kind of training institution where students are trained for semi-professional positions. The training program is usually at a lower level than university courses, but at a higher level than the high school certificate courses of the country. The training given is vocational in nature but technical in content and generally terminal in character.

In some countries technical agriculture schools operate under the administrative structure of the university, while in others they are under the Ministry of Education or Agriculture. Sometimes these schools are established in the early stages of a country's economic development while in other cases, as in the United States, they appear at a much later stage. The question of when to establish a technical agriculture school must be decided upon by each country. There are two considerations in making this decision. One involves an appraisal of the level of farm technology being used by the nation's farmers and agribusiness and the other is concerned with training and employment cost. Generally speaking, technicians can be trained at lower cost and employed at lower wages than university graduates.

Regardless of this, schools like these provide training for agriculture, the largest and most important segment of a developing country's economy; and a school's training program should provide routes toward a wide variety of personnel and professional goals in this broad field.

In this conceptual frame of delivering agricultural education to the farming population of a nation, the Technical Agriculture School should perform the following functions:

a) Train technicians for agriculture, agribusiness and agricultural development;
b) Provide in-service training on a regular and systematic basis to the personnel in the District Agriculture Institutes and for agribusiness and agricultural development, as needed;
c) Undertake applied research programs related to agriculture and agricultural development;
d) Prepare agriculture teachers and disseminate teaching and research information, where this is not done at the university.

Some or all of these functions could be performed by the university, and it is not the intent to argue the point here but rather to view the technical school as a separate unit in the agricultural educational delivery system.

Agriculture around the world today abounds with fascinating new technologies and the challenge for technical agricultural schools is to train young men and women to apply this new technology to the agricultural problems of a nation. The scope of opportunities is wide. It ranges from private enterprise of farm ownership through the field of atomic science. Advances in technology have created the need for highly competent technicians in every agricultural industry. Many people consider agriculture to be solely the enterprise of farming, but it is only one of the many phases of agriculture. The business of agriculture in farm services and supplies, the science of agriculture in research extension and development, the area of food processing and distribution, the mechanization of agriculture as represented by many agricultural engineering services, and agriculture as represented in the horticultural fields and home and family services have created the need for trained technical and scientific personnel.

Organizational Pattern

The technical agricultural school may consist of one national school or a number of schools each serving a region or an area of the country depending upon the size of the training program to be undertaken and the regional differences that might exist.

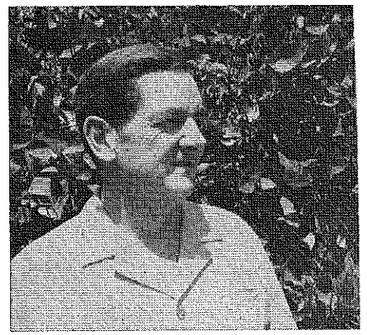
The professional staff of the school must be well trained and of a high caliber. They should come out of the universities for the main part; but this should not be held to so rigidly that other good staff from business and industry could not be employed in special training situations. The emphasis at this level should be upon performance rather than academic degrees.

The school should be headed by a director who would, in turn, be assisted by three deputy directors; one in charge of academic studies and job-related training; one in charge of in-service training and extension programs; and one in charge of research programs.

A governing body should guide the director and his deputies in carrying out the school's training programs. The size of the governing board should re-

(Continued on page 191)

MIDDLE LEVEL AGRICULTURAL TRAINING IN DEVELOPING COUNTRIES



Alan Kingshotte, B.Sc., D.T.A.
Bideford, Devon, England

The products of post-secondary vocational education are vitally important in developing countries. In agriculture they are the Extension Agents and Field Managers and do much of the work in Soil Conservation, Irrigation and Research Departments.

The quality of their training is of great significance and the author believes that the first essentials are to be very clear about the objectives and to take proper account of local problems and circumstances. In such countries relatively very few high-level scientists, theoreticians or highly-specialized people are needed and in many areas current training programs are producing such people in at least sufficient numbers. The really pressing requirement is for many thousands of highly-motivated people with the attributes listed below.

- A working knowledge of the sciences basic to farming.
- Sound education in the agriculture of their country, based on the above and incorporating the latest research findings and recommendations.
- A thoroughly practical orientation to farming, based on their own experience and learning by doing.
- Proficiency in many of the techniques which will be useful to them in their careers.
- The ability to bring together the different strands of knowledge in a total farm situation and to apply intelligently and practically their knowledge and skills.
- Enthusiasm and real interest in farming as a career.
- Many will also need to be highly motivated and skilled in the techniques of helping other and less fortunate people if they are to use effectively their knowledge and skills.

It is impossible to accept as an objective that each employer's specialized requirements will be exactly met in a two-year course but for nearly all middle (and higher) level people in agriculture sound training in general principles and some knowledge of most specializations is essential. This can be achieved in a two-year course after a sound basic education, twelve years schooling.

In planning vocational training, account must be taken of many problems, some of which are found frequently in developing countries. Many students are from urban backgrounds, and even for those from rural environments, education is seen primarily as an escape from the drudgery and low returns of farming. They may have little knowledge of basic sciences and have been taught that education is primarily a matter of memorizing notes to pass examinations. Vocational education is seen solely as a route to a safe and salaried job and interest in agriculture may be low. Because English or French is often their second or third language, comprehension of course material may be poor.

Teaching staff with similar backgrounds or attitudes may be theoretical in outlook or have limited interest, and often they have not been taught how to teach, particularly technical subjects. Curricula are not always correctly related or weighted in relation to the work the students will do. School farming activities are often far too extensive and it is difficult to teach adolescents or very young men how to deal with and influence adults.

To list objectives and problems points towards ways in which improvements may be made. Some of the suggestions made below have been or are being adopted, but in many territories they are thought worthy of detailed examination.

Particularly in agriculture, students will benefit most from training if they have valid previous experience. Following initial selection on academic ability, interest in farming, and character; a progression as follows would be ideal.

- A practical introductory course lasting three months.
- Two years of planned and supervised work in agriculture.
- A two-year course of formal instruction designed to meet the objectives set out earlier.

Some students will need more specialized instruction for their chosen careers. These could follow a short, intensive course, rarely exceeding three months, in such subjects as soil conservation, surveying or machinery.

At a later stage it would be valuable for many to return to the school for refresher courses or for training to prepare them for a major promotion. Not least, this would be valuable for the staff of the school.

The teaching staff should have at least three years prior field experience and if, in addition, arrangements are made for staff to return to field duties for a period or for regular exchanges between field and training institution the training is much more likely to be practically orientated and related to real needs.

Courses must be related to the work the students will do, be based on "learning by doing" and teach the students to think and apply their knowledge. Curricula must be regularly revised and emphasis be given to training

(Concluded on next page)

(Kingshotte—from page 181)

in problem-solving under field conditions. And in order that the curricula, particularly the practical aspects, may be properly covered, staff should be trained both in general education methods and the new techniques of technical education.

Examinations which test only the ability to remember and reproduce written notes test but one aspect of competence, and that aspect is not necessarily the most important. Despite the difficulties, emphasis should be given to testing the ability to solve problems in the field and apply knowledge in a practical way. Most students can give the "book answer" but in farming the book answer is usually wrong—wrong in the sense that it must be modified to meet an individual farmer's circumstances or give maximum profit.

These suggestions on curricula and examinations do not imply a lowering of academic standards. If they are adopted, students will be better prepared before starting formal instruction, introductory courses can be briefer, there will be less need for repetitive manual work, more time for advanced studies and standards will be more closely related to real needs.

Many institutional farms and livestock units are much too big. A disproportionate amount of staff time may be spent on them and if the farming is over-ambitious there is a strong temptation to use students as cheap labor. They may spend many days weeding or cutting grass and while they should learn the correct techniques of manual work and practice them, the educational value of repetition can soon be exhausted. The purpose of practical work is primarily to teach practical skills. It is also essential that the students see through a full farming season on the school farm; often they are absent because the long vacation coincides with sowing, growing or harvesting. But above all the author believes that it is better by far to have even 10 hectares of really well-planned and well-managed crops, field trials and demonstrations than 1000 hectares of poor or moderate farming.

There is a tendency for a school to become out of touch with the latest developments in farming, research or extension work, particularly if staff and function do not change much over the years. Constant liaison with all other development agencies should be encouraged and staff should be encouraged to carry out work-related investigations, attend research seminars and so on. And the valuable laboratory on their doorstep—the surrounding farms—should not be overlooked; staff and students can learn much there.

In considering accommodation, plant and facilities there is an average to be struck between the palatial and the patently inadequate. Any professional educator takes pride in having fine modern buildings, beautiful dormitories and dining facilities, superb laboratories and lavishly equipped workshops, but it must be remembered that most of the graduates will work "in the bush"; they will rarely have access to workshop or laboratory and the ability to improvise will be most valued. Their training should take account of this. Similarly, the move from a house to a mud and thatch hut without electricity, plumbing or nearby restaurants may be very unsettling. This is not an argument in favor of building collections of mud huts for use as schools but rather for a sense of proportion; to produce cheaply an attractive and appropriate working environment is often a matter of applying imagination and hard work to what is available now.

Particularly in the field of Extension Training some prior experience is needed. The attitudes and experience of very young men straight from school is inadequate to cope with training in dealing with and influencing adults. Even if students continue to start vocational training immediately after completing their basic education it is recommended that they seriously study sociology, individual and group psychology, learning theory and advanced techniques of extension work only after a period, perhaps three years, in the field.

The last topic, the atmosphere and traditions of the training institutions, is introduced with some apprehension but it is necessary to stress the heavy responsibility which devolves upon the administrators of vocational education. In particular, the atmosphere and traditions of such schools will have a great effect upon the attitudes and motivation of the students in their subsequent careers. In its every aspect a school is educational and the students will carry away with them much more than they have been taught in class; they will take with them an impression of the working agricultural world and, if the school is part of the Department of Agriculture, a view of the organization in which most of them will work. All schools have wide, non-curricular responsibilities but, at the risk of sounding sanctimonious, those of such institutions as are being discussed are wider than most. The standards of management and efficiency, of self-discipline, responsibility and probity, of the correct use of government time and property will not only be observed by the students. They will also be learned and probably be learned more effectively than the scientific name for knot-grass and they will be accepted as the norms of their future working lives. The author wishes to stress that there is no direct reference in this note to any one country, system of education or institution. It is based on observations made over the years in a number of countries.

BOOK REVIEW

FUNDAMENTALS OF BIOMETRY, by Balaam. New York: John Wiley & Sons, 1972, First Edition. 259 pages. Cost $12.95.

This is a comprehensive book of twelve chapters covering basic concepts of biometry as well as more in-depth study for individuals who will need ability to apply statistical method to the analysis and interpretation of biological variation. The author states in his preface that the contents have been written primarily for college undergraduate students in the biological and agricultural sciences. He explains that this book had its origin in course notes he developed for undergraduate and graduate students at the University of Sydney, which he modified in the light of his experience over a number of years and also successfully used at Cornell University in the introductory sections of a graduate course. Exercises placed throughout and at the end of the chapters give a good review of the text material and the opportunity to practice biometrical techniques. Answers to the exercises appear at the end of the book, as well as four statistical tables which serve as a useful reference of information to solve various problems in the text. Although it is stated by the author that no knowledge of calculus is required for the understanding of his text, it would be recommended that students using it have a good background with as much previous mathematical training as possible.

The author has developed in this book a fundamental course in biometry which should be useful as a basic text or reference to students above the secondary school level in the biological and agricultural sciences.

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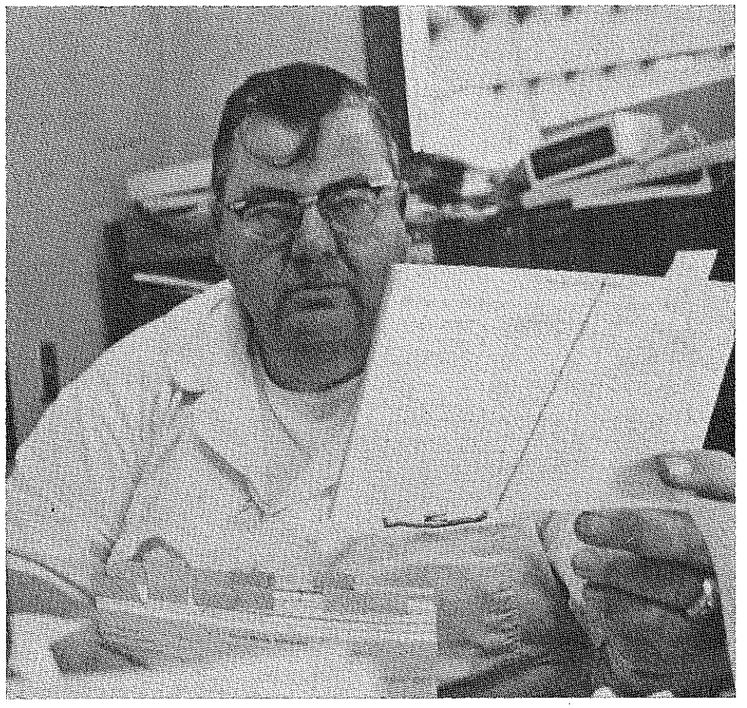
MARV EVERS' STUDENT FOLLOW-UP SYSTEM

Alex Crewdson
Program Specialist
Olympia, Washington

When Dayton high school senior, Becky Hatfield, graduates this June her name will go into Marv Evers' card file. Unexciting? Perhaps, but not to Becky and her fellow graduates of the vocational agriculture department. The card file is the method ag-teacher Evers uses to keep track of all his former students. Now, at age 50, Evers will keep in touch with Becky, as he puts it, "for as long as I'm able." So far, he has been able for 27 years.

Known more commonly as a "student follow-up system," the Evers' file was established in 1947 when he first started teaching at Dayton. Pull any card of any year and you'll probably find recent notations about what the person is currently doing, employment, maybe the size of the farm, size of a herd, and chances are good that it will even list the names of children. The cards reveal in detail the sum of Evers' entire career. Former students have become college professors, a forcign service officer, a leading trial attorney; many are state and federal agriculture officials all over the U.S., others are in business, a few are foremen of operations as large as 50,000 acres, and several are themselves vo-ag teachers. But most are farmers. "That's what this is all about," huffs Evers with deliberate emphasis. His dedication to production agriculture, symbolized by Dayton itself, has contributed to keeping many of his former students right at home as farmers. Although Evers uses the system to record information, he has what appears to nearly total recall on all his former students who now number almost 500. He can easily rattle off name after name accompanied by the most detailed information.

Evers even has another list of students, one he inherited from his predecessor, who were in Dayton agriculture classes way back to 1924. He followed up on them and can now tell where most are today. "It's really not so hard in a small town." Several of his present students are grandchildren of persons on the earlier list. "Third generation," brags Marv.



Vo-ag teacher Marv Evers keeps track of his former students from when he began teaching in 1947 with the "Evers File." Using cards, he notes current information about employment, location and family. His complete system includes listings of students back to 1924.

Evers' follow-up system is by no means unique. According to Art Nelson, State Director of Vocational Agriculture and Renewable Natural Resources Education, all vo-ag teachers are required to keep track for a minimum of ten years and "many," he says, "do so much longer." Nelson, who works for the State Council for Occupational Education, the State's administrating agency for all vocational education, says the system is based upon a detailed form to be kept by the teachers on each student who completes a vocational agriculture program. The results of the required annual reports are compiled by the State Council staff and used for evaluation and planning purposes.

Nelson is visibly proud of statistics which come in from a total of 171 agriculture departments in Washington's high schools, vocational technical institutes, and community colleges, an increase of five departments in just the past year. The ten-year follow-up system was started by former vo-ag director Bert Brown in 1960 and has followed each student since, a total of 11,289.

(Continued on page 184)

(Evers Story from page 184)

Of that number, teachers have lost track of only about 7% over the ten-year period. Figures show 3,106 are engaged in farm or farm-related occupations and 984 are pursuing advanced training in agriculture. Another 4,292 are employed or in advanced training in non-agriculture careers. Military service, those unaccounted for, and deceased persons number 2,702. Only 205, just 2.5% of the 11,289, are unemployed.

Nelson insists the number of students who eventually follow an agricultural career, nearly half, is substantial. "Most of that total," he points out, "are just high school grads, a group which tends to change direction often." He describes the agriculture program as placing heavy emphasis on the formation of good work habits and attitude, "traits valuable," he says, "in any career."

The figures, released by the State Council, appear to put to rest the notion that jobs in agriculture are diminishing. "On-farm jobs are fewer now," concedes Nelson, "because of greater mechanization and the corporate farm, but the agriculturally related jobs of processing, farm services, distribution, marketing, ornamental horticulture, environmental technician, recreation and forestry are increasing rapidly." The entire agriculture industry, claims Nelson, is Washington's largest — employing over 300,000 people.

A typical father, Evers credits family pride, however, to his daughter Mary Sue, Washington's first female state FFA officer. She was also first runner-up last year for the Washington Star Farmer award which goes to the State's top FFA member of a total 6,000 plus membership. Who won? Gordon Lenhard, a male from Deer Park.

The students' success in competition at Dayton appears closely related to Evers' teaching style. Jerry Snyder, WSU agricultural education major who did his student teaching with Evers last fall, called it a "forest of theoretical knowledge balanced with practical experience." Snyder, who said Evers' reputation makes Dayton a top choice among student teachers, called him "up-to-date, very current."

Student Dan MaGill, 17 and former Dayton FFA chapter president, credits Evers for his growing confidence. "He lets me show my ability. It proves I can really do it." Linda Thompson, 16, a five-time first place winner in swine competition, says "he'll come out to help me with my animals any time I need him." Adds eleventh grader Laurie Oliver, who raises prize-winning sheep, "He tells us the truth about our work."

Although a big man, he keeps pace with his students. He begins his day early, often helping a student on a project at home well before school opens. Not long ago, a state vocational supervisor wanted to see Evers on business. Marv agreed to meet him, of course, but to the official's surprise, it had to be at 6:00 a.m.

Class work is usually scheduled in the morning by grade levels. Students, including girls, work in the shop on technical skills — welding, mechanics, machine repair in the afternoon. Evers must also watch over about 80 supervised farm projects which he does evenings and weekends.

Home visits are necessary under vo-ag's "triangle of learning" philosophy — the student, the teacher, and parent — and his students participate in what seems like an endless list of fairs.

"Dinner is whenever Marv comes home," moans wife Norma, who sometimes finds herself out on a dark night caring for Mary Sue's hogs while she is attending a state FFA meeting. "It's all in the family."

Since Dayton high is heavily committed to vocational agriculture, students are permitted to enroll in the ninth grade, allowing them four years in the program. Of the total school enrollment of about 300, Evers will likely carry about 50 to 55, mostly boys but with an increasing female enrollment. He graduates about 12 to 15 seniors annually, sometimes 20.

Evers' students are quite aware of his reputation among the local farmers. "They're in and out of here all the time," notes one. "They need advice." Former student Lester Eaton, 39, is one who comes around often. Eaton was in Evers' first class and he credits him with his success as a farmer. "I saw the light in that class," he recalls. Eaton now owns a 1300 acre wheat farm with over $80,000 in machinery alone and says he "started out with only the skills Marv gave me." He says Evers is "still teaching us old farmers," describing him as "important as our combines or tractor. He's one of the tools of the trade."

For several years Eaton has been "strip farming," a soil conservation method that Evers has been promoting

Evers (right) persuaded former student Lester Eaton to use 'strip farming' techniques to raise wheat.

among area farmers for 20 years. Wheat around Dayton is grown on the rolling Palouse hills creating potential erosion problems. "The technique traps water and keeps it from running downhill," explains Eaton. "I decided to try it when Marv gathered some water out of one of my streams in a jar and showed me how much soil I was losing."

American Farmer Degree winner George Barton, class of '62, stopped in seeking advice about starting swine production. "He's been there," says Barton, "and he's either seen or helped design every set-up in Columbia County. He knows all about it." Wally Robins, manager of the Columbia County Farm Bureau, agrees. "I call him the 'pig-man'," chuckles Robins who gives Evers full credit for the quality and quantity of hog production in the county. "This has always been wheat," he said, "but Marv showed us long ago how we could produce hogs and make money. Production has been increasing ever since." Evers is also recognized nationally for his ability in livestock, served last summer as swine judge at the Southern California Livestock Exposition, world's second largest.

Retired Dayton high principal, Bruce Keith, said he moved his family from Idaho just so his son John could be in Marv's class. John became a vo-ag teacher himself and is now vocational education director for a three-district cooperative program centered in Raymond, and is also president of the Washington Vocational Association. Dayton school superintendent Vic Anderson, a veteran of 31 years in education labels Marv as "excellent — essential to this community."

(Continued on next page)

BRIGHT FUTURE FOR VO-AG

by
Rich Hansen
CIBA-GEIGY Corp.

Because of the unique needs that it fills, the vocational agriculture program appears to have a long and healthy future.

That's the opinion of Grover C. Miehe, Monticello, Iowa, vo-ag instructor, and winner of the 1973 CIBA-GEIGY Agricultural Recognition Award, presented by the National Vocational Agricultural Teachers' Association.

"More and more people are coming to realize that education should be something a student can actually use after graduation," Miehe says. "In this regard, the vo-ag and FFA programs offer some things students just can't obtain in any other course of study."

"Leadership development is one good example. Most students become enthused by the opportunities for leadership and recognition available in FFA."

"And no other program provides the opportunity to earn and learn at the same time. Naturally, you don't want to over-emphasize money, but some emphasis is required. In a town like Monticello, the opportunities to enter production agriculture are somewhat limited, but about 80 percent of the job opportunities are agricultural."

"There are some other less tangible but perhaps even more important benefits available from the vo-ag and FFA programs," Miehe adds. "Our minister recently mentioned that out of all the departments in the school, the vo-ag department was the only one that really emphasized family living."

A predicted record enrollment for Iowa's 1973-74 vo-ag program is one reason Miehe sees a strong future ahead. "Contrary to some beliefs, there has been a continuous increase in enrollment in all vocational courses for some time and there are no indications that it's slacking off," he notes.

In keeping with this trend, Miehe says, "Iowa State University has broadened its agricultural education program to allow for more specialization. This is aimed at preparing future ag teachers to work in departments that contain more than one instructor."

The NVATA/CIBA-GEIGY Recognition Award for contributions to agriculture was the latest in a long series of tributes paid to Miehe over the course of his 28-year teaching career. In 1971, he received the Harry Schroder Award from the Iowa Vocational Agricultural Teachers' Association, designating him the state's outstanding vo-ag teacher.

Grover Miehe

Grover C. Miehe, Monticello, Iowa is the 1973 winner of the CIBA-GEIGY Agricultural Recognition Award.

Seven students accomplish something for themselves, whether it's recognition for an outstanding project or just settling into the community and rearing a good family is what means the most.

Recognition from one's peers indicates a job well done and the satisfaction that goes with it. Miehe says he's found plenty of satisfaction in teaching. "Seeing students accomplish something for themselves, whether it's recognition for an outstanding project or just settling in the community and rearing a good family, is what means the most," he says. ◆◆◆

(Evers Story concluded)

Evers, embarrassed by compliments, is clearly a man dedicated to his students. "Look at this one," pulling out a card and overflowing with pride. "Sherman Maynard. He's a foreman for an operation that farms 50,000 acres of wheat and runs 30,000 head of cattle. He was a good boy. And here's another from the same class, Dick Hinchliff. He's a design engineer for the Merritt Construction Company. I just heard from him the other day — he's setting up a new plant in Houston right now."

Marv Evers — considered to be everything from "stubborn" to the "King of Livestock". Student Dan MaGill really says it best: "All I do here is learn." ◆◆◆

BOOK REVIEW

SEED TO CIVILIZATION — THE STORY OF MAN'S FOOD By Charles B. Heiser, Jr. Indiana University. W. H. Freeman and Company. 1973, 243 pages plus 83 illustrations. Clothbound $7.50, Paperbound $3.50

This book fills in many current voids in a popular form and successfully places plants in their proper perspective relative to man and his struggle for survival. Too often affluent man takes his food for granted, and this book assists in gaining more complete understandings of the origins, adaptations, and culture of the basic plant groups: grasses, legumes, starchy staples, the coconut, and others. In addition, there are chapters concerning the origin of agriculture, meat animals, and the underlying structure of many of our current food problems.

The author is highly qualified to write in this vein. He is professor of Botany at Indiana University where he has taught for more than 25 years. In 1972 he received the Certificate of Merit of the Botanical Society of America. He is the author of "Nightshades, The Paradoxical Plants." (W. H. Freeman & Co. 1969)

The brief nature of the varied content makes the book highly entertaining, enlightening, and perceptive in its approach to the theme. The informal style will find wide acceptance among a wide range of readers who desire a non-technical coverage of a story of our food from past eras. Directed primarily to an undergraduate audience, it will make a valuable addition to public libraries, as well as secondary school libraries. The lay reader who desires a deeper understanding of our food and where it comes from will enjoy reading and re-reading certain parts of the book.

William W. (Bill) Stewart
Muscatine Community College
Muscatine, Iowa

Accountability Through Planning

James R. Galloway, Cordinator and
Kenneth Knell, Regional Director
Program Approval and Evaluation Unit
Illinois Division of Vocational-Technical Education

Each of us makes plans for a variety of activities, some of a personal nature while others are job related. Usually these plans are implemented to one extent or another. If you are employed by a profit-making enterprise, your plans and activities will be thoroughly scrutinized and held to a prescribed level of accountability. THIS IS RARELY THE CASE IN THE EDUCATIONAL ENTERPRISE.

General educational programs, as they are so often referred to, are rarely held up to a test of success by measurement of the success of their product—the student. If the product is found faulty, it must be the individual, certainly not the system. In the words of the system's product—"that's a cop-out." Although this situation is somewhat true in vocational education, the luxury of non-accountability has generally been tempered by Federal legislation. Since the passage of the Smith-Hughes Act of 1917, vocational education programs have felt the responsibility of accounting for Federal and State reimbursement. Subsequent Federal Acts, such as the Elementary-Secondary Education Act, and later the Vocational Education Act of 1963 and the 1968 Amendments demanded increased accountability of programs as well as for dollars spent.

Because of rapid progress in the American social system, all forms of education are being held increasingly accountable. In addition, we've all been made extremely aware of the tightening of the educational budget, failure of bond issues and the taxpayers' disenchantment with education in general. It is becoming evident that to obtain direly needed resources to improve or expand our programs to meet the needs of today's youth and adults, education must become more accountable. This can be achieved, in part, through systematic planning.

This new type of planning must take into account the many complexities of the community and the student. It must be sensitive to such things as improving communications, meeting *specific* needs, devising methods to measure the results of programs and alternative methods for accomplishment. In other words, planning must be flexible and an integral part of accountability.

Typically, educators have done most of their planning in a very informal and unstructured manner. This is not to criticize, but rather to point out that this is the manner in which we have been trained and been allowed to function. With the advent of the age of accountability in education, institutions that prepare educators are quickly improving this aspect of the potential teacher's competence.

This causes hope for the future, but what about now? It seems reasonable that a well organized and structured plan for all aspects of our responsibilities as educators would add greatly to our overall creditability as well as accountability.

One Alternative Plan-Only One!

Probably the stumbling block in structuring a system of planning is "where do I start and end?" State departments of education face this dilemma, the same as you do as a local educator. To overcome the stumbling block, the Illinois State Division of Vocational and Technical Education has called upon local teachers and administrators, university personnel, and business and industrial representatives to guide them in the development of a system of planning and evaluation. This system, known as the Three Phase System for the Evaluation of Occupational Education, is concerned with a district's total occupational program and evolves with the local district's plan.

Phase I of the system is the development of a plan which is a profile of their total occupational education program by the local district personnel. The plan is descriptive of eight components that make up the essentials of any program. These eight components are: **administrative organization; personnel; students** to be served; **programs;** school and community **resources** to be used; the **guidance services** to be rendered; the **program's objectives;** and the method of **evaluating** the program.

Phase II is a review of the local plan by the regional staff of the Division. An approval status, as well as review comments, are made on each plan and returned to the district.

Phase III of the system is an on-site visitation conducted by a group of peer professionals **excluding** members of the state staff. The visitation team concerns itself with projecting a profile of the district's program in written form using the eight components contained in the local plan as base information and criteria.

This system has provided the local district personnel a vehicle for effective planning. Many teachers throughout the State have used the local plan format for individual program planning to better justify and communicate their programs of instruction.

The plan is briefly illustrated in this article as one format that could be used for systematic planning. This plan has successfully been adapted to an individual course and/or program as well as for a total occupational education program. Over the past three years, the Division of Vocational and Technical Education has sponsored 197 evaluations which have proven that accountability can be achieved through formalized planning. ◆◆◆

CAN WE CHANGE ENVIRONMENTAL ATTITUDES?

William Hamilton
Teacher Education
Purdue University

Wayne E. Asche
Teacher Education
Kent State University

The importance of environmental education has been revealed to us by the reasons given by community planners, businessmen, politicians, sociologists, ecologists, biologists, agriculturists, and other decision makers for why so little is being done.

Everyone in agricultural education deserves praise for their direct influence on people with daily contact with the basic natural resources within man's immediate environment. Yet, it is imperative to preservation and improvement of the environment that the teachers, wherever they teach, accept responsibility to build favorable student attitudes and behavior toward the environment.

Examination of perceptions regarding the environment are started during the high school years but are still open to attitude formulation and change due to educational experience. Education has long been one of the most important means by which we institutionalize our beliefs and transmit them to succeeding generations. Agricultural Educators have had a unique influence in this important area.

Should the agricultural teacher and student have an awareness and understanding of his community and its associated environmental problems? While environmental problems are legitimate concerns of community government officials and other citizens, the responsibility for their solution rests, to a large extent, with agricultural teachers.

One of the essential steps in the process of maintaining or improving man's environment is measuring people's attitude toward the environment. Environmental education in public school education will be influenced by evaluation of its effectiveness in creating desirable attitudes toward the environment or changing undesirable attitudes presently held. To do this evaluative task, an instrument to measure attitudinal changes was developed by means of a research project.

The objectives of the research project were as follows:

Objectives of the Study

1. To develop an environmental attitude scale.
2. To determine internal consistency of the scale by use of the Kuder-Richardson formula, test-retest, and split halves methods.
3. To answer the following questions: Will the attitude scale show a significant change in attitude following an intensive unit when comparing: a) Vocational and non-vocational students, b) Vocational experimental and control groups, c) Non-vocational experimental and control groups, or d) Vocational and non-vocational control groups?

The test instrument referred to as "A Scale for Measuring Attitudes Toward Environmental Education" was developed with the use of item statements based on the following environmental concepts:

1. Natural resources are interdependent and the use or misuse of one will affect others.
2. In any environment, one component such as: space, water, air, or food, may become a limiting factor.
3. Most resources are vulnerable to depletion in quantity, quality or both.
4. The interaction of environmental and biological factors determines the size and range of species and population.
5. Natural resources, water and minerals in particular, are unequally distributed with respect to land areas and political boundaries.
6. The renewable resource base can be extended by reproduction, growth and management.
7. Natural resources affect and are affected by the material welfare of a culture and directly or indirectly by philosophy, religion, government and the arts.
8. The natural environment is irreplaceable.

The test items referred to one or more of the environmental concepts listed. The greatest emphasis was placed upon concept number seven because of its value in expressing various facets of environmental behavior. Sample items from the instrument appear here. Responses were provided for a check-mark as Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree.

—People are personally responsible for our present state of pollution.
—We should use pesticides to ensure crop production, even though animal safety may be limited.
—Man's beliefs and values have been a basic cause of our present environmental problems.
—I feel that I can affect many decisions regarding ecology that are made in my community.
—Pollution and population should be considered part of the same basic ecological problem.
—Ecological problems are due to unaware, unconcerned and uncommitted people.
—The ecological crisis in our major cities is beyond help.
—Ecology should be established as a part of the high school curriculum.

The environment attitude scale was administered to a population of eighteen secondary classes with 306 students randomly assigned to experimental and control treatments. Each

(Concluded on next page)

(Hamilton—from page 187)

experimental group was taught the same introductory unit in environmental education for a period of seven days. Teachers cooperating in the study were given an in-service workshop prior to the experimental study.

The data were analyzed from a pretest-posttest control group design by item analysis, analysis of frequency distributions on students responding to each test item according to key-weight answer positions, and one-way analysis of variance.

The item analysis was by the "variable list" method of the statistical package for the social sciences (SPSS). The item analysis resulted in 20 test items significant at the .05 level of probability.

The analysis of variance (ANOVAR) was used to compare each of the previously listed groups with the results presented in Table 1.

Table 1. Summary of Significant F-Ratios

Comparison	Comparison made by	P	F-Ratio	Significant or Not Significant
Vocational Experimental and Control	Between	.0044	8.627	S
	Within	.1730	1.854	NS
Non-Vocational Experimental and Control	Between	.0042	8.535	S
	Within	.9702	.001	NS
Vocational and Non-Vocational Experimental	Between	.6750	0.982	NS
	Within	.6518	.211	NS
Vocational and Non-Vocational Control	Between	.7117	0.139	NS
	Within	.0205	5.431	S

The environmental attitude scale was tested to determine its degree of consistency and stability. The internal consistency of the scale was determined by employing the Kuder-Richardson formula and a reliability estimate of .97 was obtained, with the test-retest method the reliability was .66, and using the split-halves correlation the coefficient was .67.

Based on the results of this study the following conclusions seem warranted:

1. There were no significant differences in the way the vocational experimental group responded to environmental concepts compared to the vocational control group. However, there was an effect in the positive direction for the experimental group.
2. There was a non-significant amount of interaction within the vocational experimental group and the vocational control group.
3. There were no significant differences in the way the non-vocational, experimental group responded to environmental concepts compared to the non-vocational control groups. But, there was an effect in the positive direction for the experimental group.
4. There were no significant differences in the way vocational and non-vocational experimental groups responded to environmental concepts.
5. There were no significant differences in the way vocational and non-vocational control groups responded to environmental concepts.
6. An introductory unit in environmental education can effect attitude changes.
7. The environmental attitude scale showed a high degree of internal consistency based on the Kuder-Richardson technique.
8. The test-retest stability coefficients and the split-halves coefficient of internal consistency were moderately high.
9. Twenty items of environmental attitude scale were suitable for experimental use in measuring the environmental attitudes of secondary school students.
10. Further trials are needed in order to accept or reject other items of the environmental attitude scale.
11. Additional items should be synthesized and tested with a similar population group in order to improve the ability of the environmental scale to measure environment attitudes.

Recommendations

The following specific recommendations are made concerning the research and its results:

1. The positive effect found in this experiment indicates the need for a longer experimental trial.
2. Studies similar to this one should be conducted using an instrument which measures other aspects of student attitudes.
3. More items on environmental concepts should be synthesized and tested with people in secondary schools.
4. The Environmental Attitude Scale could be used with secondary schools for curriculum development purpose such as aiding in determining student attitude toward environmental concepts.
5. The Environmental Attitude Scale should be used with large numbers of secondary students to develop norms and validity.
6. The Environmental Attitude Scale could be used with the recognition of its trial nature until validation and experience can prove its guidance value.
7. Factor analysis could be applied in order to determine whether the same underlying structure of attitudes appears at the different age levels, in the different discipline classes, and with different treatment variables.
8. There should be a longer period of time between the pre-test and the post-test.

Implications

The completion of this study presents a number of implications which should have meaning for those responsible for the education of individuals in our society today and in the future.

The results of this study lead to the following implications.

1. The study suggests the use of the scale in the secondary school for curriculum adjustment to include environmental education without regard to discipline.

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How We Staffed Our Program

Leonard H. Timmerman
Director—Industrial and Technical Division
Lake Area Vo-Tech School
Watertown, South Dakota

L. H. Timmerman

Formal education but lacking experience versus practical experience with little or no formal education — we can start with either one.

"Formal education but lacking in experience versus practical experience with little or no formal education."

A number of men have applied for the position of Agribusiness instructor on a post-high level. Through interviews and reviewing of credentials, the selection is now down to two. Which man would you hire?

Before this decision can be made a number of factors, considerations and questions should have been reviewed and discussed before this position was ever made available:

1. Is this a new program, and will this person be the head or lead instructor?
2. Will the person you hire be expected to develop and write curriculum?
3. How much do you expect the instructor to know about the program in relation to the practical as well as the academic?
4. Will the instructor have assistance in curriculum development from other sources, or is he "it"?
5. Will other instructors be hired at a later date to assist with the program?

In the spring of 1970, we here at the Lake Area Vocational Technical School felt we needed a program for both men and women relating to agriculture. Many of our young people were leaving the agricultural industry with no real place to go. Our State University offered excellent programs in agriculture, but we, also, discovered a large number of our young people did not wish to attend the four-year academically related institutions. With this fact in mind, we went out of our state to visit schools with two-year agribusiness programs.

A brochure on agribusiness was developed in April of 1970, made up of ideas we felt would be attractive to South Dakota rural youth. We went as far as to distribute the brochures at the spring Vocational Agriculture Meeting held at the State Capitol and presented a copy to the Governor. Approval of the program was given by E. B. Oleson, State Director of Vocational Technical Education, at that time. We still did not have an instructor, nor a written program.

With only an idea, we set out to hire a man who would be qualified to develop our dream program. We definitely were in need of an instructor, because we were already accepting applications for the fall class enrollment of 1970.

Our man had to meet the following qualifications as a department chairman:

1. We wanted a man with a B.S. or M.S. degree in Agriculture Education.
2. We wanted a man with successful teaching experience in secondary agriculture.
3. We wanted a man with successful practical experience in the business field of agriculture.
4. We wanted a man in his early thirties who could relate to young rural men and women.
5. We wanted a man who would write our curriculum, both the academic and practical units, and who could teach and supervise what he had written.

We found our man, M.S. degree in Vocational Agriculture, seven years of successful teaching experience in secondary vocational education, over two years experience in private industry and with an overwhelming amount of energy and willingness to develop a program in agribusiness. One month before classes began we hired our man, developed our program, and began our first class of 18 students the first week in September.

Our additional instructors have been men selected with backgrounds that we have felt would strengthen our program in given areas. One man hired did not accomplish what was expected of him and had to be replaced. Another man was fresh out of college with a background in agriculture and was the top of his graduating class. This man was hired with the objective of a possible department chairman if ever it became necessary. Another was hired with two years of college agriculture, four years of military service, a two year graduate of our first year class plus two years of practical experience in the agribusiness field.

Since our program began, our first instructor has become the State Director of Vocational Agriculture Education for the State of South Dakota. Our young man, fresh out of college one year ago, is now our department chairman. His lack of practical experience in the field has been supplemented by the last man we hired who does have the practical experience in agribusiness. Our two present instructors have forty-two young men in classes for six hours each day. One man has an excellent background in formal education and curriculum development. The other has an excellent background in public relations with practical experience. These two men, both with different educational backgrounds, but both with the same interest, have continued to improve and develop our course into what is today, one of the finest agribusiness programs in the Upper Midwest.

Our instructors were hired and selected to develop and to teach the program they had developed. We found many applicants could have taught our classes out of a textbook, or by using curriculum developed by someone else, but where vocational-technical differs

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IN-SERVICE EDUCATION FOR POST-HIGH INSTRUCTORS

Gerald J. Huntwork
Assistant Superintendent
School of Technical Agriculture
University of Nebraska
Curtis, Nebraska

G. J. Huntwork

Vocational-technical education is fortunate in being able to capitalize on the experience of industry by hiring instructors directly from the type of business for which students are being trained. At this time no teacher training program exists in Nebraska which can prepare an individual with the skills and experience gained in industry. However, these persons must be instructed in educational philosophy, teaching methods and evaluation procedures.

The University of Nebraska School of Technical Agriculture, Curtis, Nebraska, with the cooperation, guidance and assistance of the University of Nebraska, College of Agriculture, Agricultural Education Department, Lincoln, Nebraska, has developed a partial solution to the problem of training prospective teachers and offering professional education for teachers who are presently teaching in post-high school agricultural institutions.

The educational background of the staff at the University of Nebraska School of Technical Agriculture varies. Of the twenty-two full-time teaching staff members, two instructors have D.V.M. degrees, three instructors have Masters degrees, nine instructors have Bachelors degrees and eight are non-degreed teachers, most of whom have junior college or vocational technical certificates. Only nine instructors had any teacher preparation courses before joining our staff. None were trained to teach on a post-high school vocational-technical level, all nine were prepared for elementary or secondary teaching.

All staff members are on a twelve month contract with four weeks vacation (seven weeks if the staff member attends school) during the last week in June and the first three weeks in July. Therefore, attempts to send members to any college for methods courses and/or courses for professional improvement were next to impossible. Most colleges and universities offer the summer school program during our staff vacation, but, their courses are geared to the post-baccalaureate program. Attempts were made to set up off-campus or field courses with the University of Nebraska Agricultural Education Department. These were not satisfactory because of the distance from the Lincoln campus (240 miles).

The staff has a two-fold purpose in seeking professional improvement. Each staff member has a sincere desire to become a better teacher and it is anticipated that in the near future the Nebraska State Department of Education will require at least fifteen college hours of teacher education before a vocational-technical instructor can be employed. In working out a block of courses for our staff, we and the Agricultural Education Department of the University of Nebraska worked closely with the Nebraska State Department of Vocational Education to insure that all courses offered were acceptable.

All courses offered are designed and constructed by the University of Nebraska, Agricultural Education Department. Most of the actual teaching is handled by qualified personnel at the University of Nebraska School of Technical Agriculture. These persons hold instructorships in Agricultural Education as well as their regular position at the School of Technical Agriculture. Persons from the Agricultural Education Department supervise all activities and are called upon throughout each course to assist in areas where problems may exist.

One advantage in offering these courses on the Curtis campus is that learning takes place under realistic conditions. Also, the courses can be tailored to fit the educational background of those who are enrolled.

Staff members who have taken the courses feel that they have gained more than if they had left the campus. The immediate application of all methods and techniques learned is the real key.

Among the courses, the ones that have been offered are:

Developing Instructional Programs of Post-High School Agricultural Education
Understanding the post-high school student, methods and teaching approaches, writing behavioral objectives and evaluating instruction.

Apprentice Teaching
Classroom supervision which includes daily planning, counseling students and advising youth activities associated with agricultural education.

Improvement of Instructional Programs for Post-High School Agricultural Education
Designing new instructional programs, expanding the impact of student behavioral objectives, and evaluating the total instructional program.

(Continued on next page)

Coordination in Occupational Education Programs
Analysis of the foundation and scope of current and projected vocational, cooperative educational programs and general educational work experience. Emphasized coordination techniques, selection and placement, instructional procedures, youth leadership activities, organization, administration and evaluation of cooperative occupational education.

A minimum of formal classroom instruction is offered. The courses are presented, as much as possible, on an individual basis utilizing programmed type material whenever practical. This has proven to fit in ideally with each instructor's individual workload. Instructors are encouraged to work at their own pace; however, it is suggested that course work be completed on a semester basis.

The main reason for individualized instruction is that each instructor faces a different set of problems when dealing with his or her own area. The philosophy is to assist each staff member by developing a program which fits into his schedule. Each new staff member must either complete the block of instruction or have had similar education hours at an approved educational institution.

Development of these courses has taken approximately three years. This does not mean, however, that they are to remain unchanged. A perpetual evaluation is maintained to make sure the staff receives the latest innovations on the educational scene. ◆◆◆

(Huntwork—from previous page)

(Hamilton—from page 187)

2. Teachers might develop a scale to assess the reactions of students in their respective programs of instruction.
3. Attitude change in the positive direction was noted in secondary school class; therefore, offering specialty programs could strengthen desirable attitudes toward environmental behaviors.
4. Program directors could use the scale results for innovating other environmental programs in the school and community.
5. That appropriate scales are able to supply helpful information for present and future guidance of the development of the secondary curriculum.
6. Other studies should be initiated to develop norms for other school levels.
7. The scale included items essential to measure knowledge toward environmental concepts.
8. Environmental education can make changes in the attitudes of students toward environmental issues. ◆◆◆

(Timmerman—from page 189)

from higher education is in the need for practical experience. Our department chairman was felt to need the combination of both the practical and the academic. After this person was hired, the decision was then made as to whether the practical or academic was the more important factor. We had found that trying for both in the same man was next to impossible, and we could not compete with industries salaries for these people. The outcome of all our discussions brought out the fact that we needed the academic or formally trained person who was familiar with curriculum even though he was deficient in practical experience. We, also, needed the practical experience of another person who could be added to the staff. By putting together this combination, we had our instructors for both the first and second year programs. We soon realized that we could teach the practically experienced man how to teach, and we can, also, teach the formally trained educated man, who lacks experience, the practical aspects of field experience. ◆◆◆

(Martens—from page 180)

main small enough for easy communications, yet the membership should be large enough to accommodate representation from major agricultural and educational interests. For example, the composition of the board might include representation from the Ministries of Agriculture, Education, and Labor; agricultural business, the faculty of agriculture and other similar groups or institutions.

The school should organize its teaching staff into departments, thus allowing for the specialization necessary for effective training. The exact names of departments would be influenced by a number of conditions in any given country. Some examples of departments might include plant science, animal science, agricultural economics and farm management; agricultural engineering, agricultural business administration, agricultural services, agricultural education, and so on.

The technical agriculture schools, like other educational institutions of this level, should receive their major financial support from government. Supplementary support could come from the agricultural business world in the form of grants-in-aid or in the supply of modern equipment that is necessary to train technical personnel. If the school could charge a tuition fee, it would not only help in eliminating disinterested students but it would also help to defray operational cost.

The school needs a farm equipped with machines, livestock and buildings on which agricultural research and training is carried on. This, of course, implies other personnel like a farm manager and field workers.

Farms for educational purposes are not always profitable ventures, but if a profit can be shown then provision should be made so that it can be put back into school and farm improvement instead of being lost to the state treasury.

The kinds of facilities needed for teaching and training semi-professional personnel would include classrooms, laboratories, shops and other agribusiness installations. The curriculum and methods of teaching should be carefully planned so as to fully utilize classrooms, equipment and particularly laboratory and library facilities. ◆◆◆

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Stories in Pictures

by Richard Douglass

ADULT FARM MANAGEMENT — Luther Lalum, VP Pacific Region NVATA, goes over record books of Mr. and Mrs. Frank Gamma. Lalum, Vo-Ag Instructor at Flathead High School, has conducted a computerized farm management and records class of adult farmers for ten years. Looking on is American Farmer Doug Gamma, son of the Frank Gamma's (Photo from Max Amberson, Department of Agricultural Education, Montana State University)

Each vocational agriculture instructor should be planning hands-on experience for students on a daily basis. Ron Schroll is a First Year Teacher at North Bend, Nebraska. Mr. Schroll first demonstrates and then conducts various hands-on experiences for students. Our profession needs the enthusiasm and fresh ideas from new teachers. If you have a First Year Teacher as a neighbor — how about paying him a visit? (Photo by Richard Douglass)

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Agricultural Education

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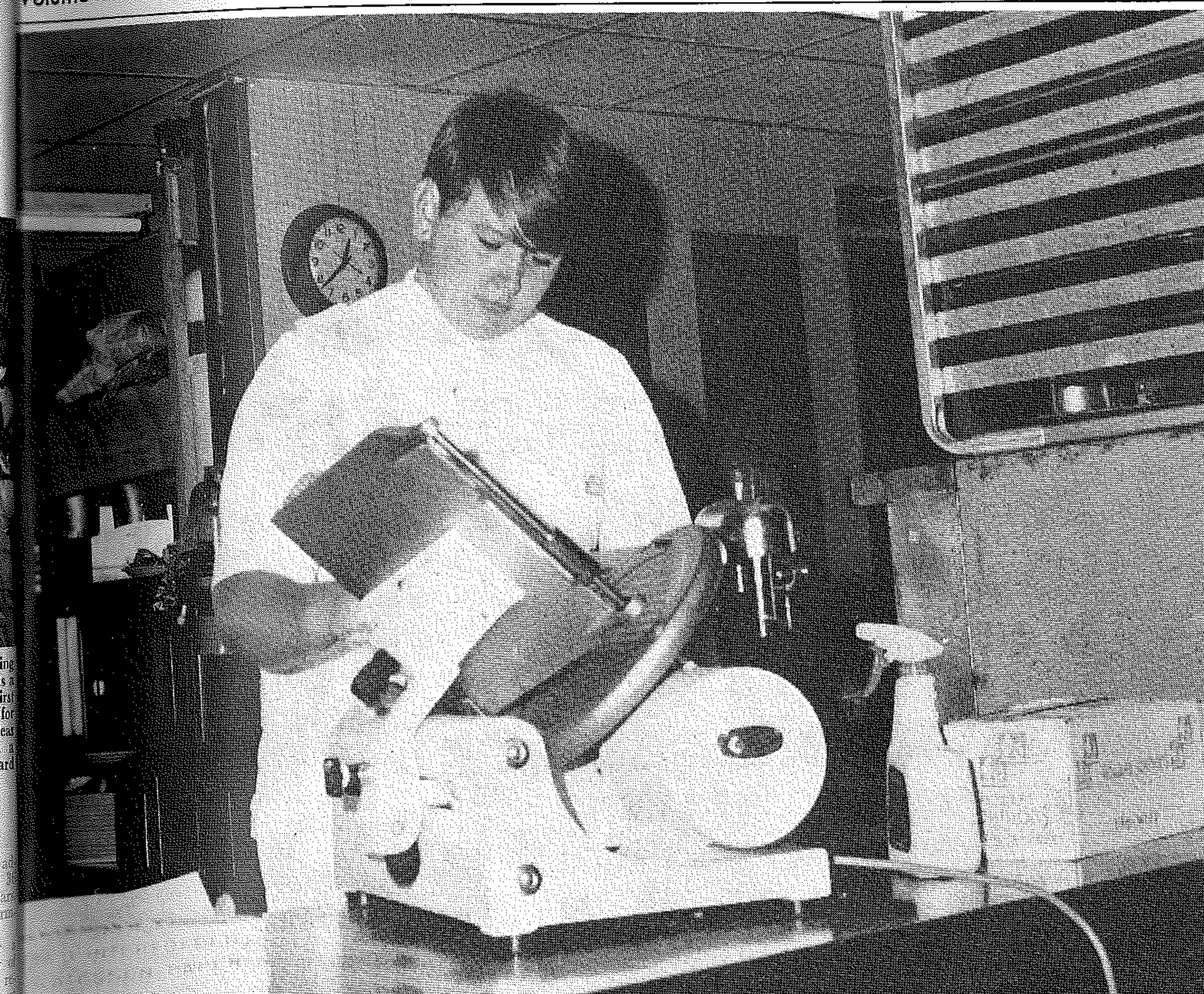

Theme—LOOKING AHEAD