Stories in Pictures
by Richard Douglas

SUPERVISED EXPERIENCE REQUIRED ON-FARM INSTRUCTION. Ord, Nebraska instructor, Jack Morton and student teacher, Randy Kraxner and Steve Scheun (back, left side, right) are checking out the wiring for a new air conditioner. (Photo by Richard Douglas)

A TIP TO MAKE LIFE MORE ENJOYABLE. Several Nebraska instructors have custom-built their own farms, but they all agree that doing so can be quite costly. A tip to save money is to remember to pay your taxes on time! (Photo by Richard Douglas)

INSTRUCTORS ALSO LEARN BY DOING. South Dakota State University student member, Gary McVey, provides a look at hands-on in-service practice in the ag mechanics area. (Photo supplied by Gary McVey)

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

Two Indiana Vet-Ag teachers check signals for the week's work on Sunday morning. Mr. Phillip Schmidt of North Posey High School and his student apprentice, Harvey Ricker, start their students to learn about the summer program. Dr. W. H. Hamilton, Purdue University, visits each of their departments three times during the ten weeks. (Photo from Bill Hamilton)
From Your Editor...

IS MORE RECRUITMENT THE ANSWER?

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 WWII veterans entered the job market. The Agricultural Education Division of the AVA appointed the Professional Personnel Recruitment Committee. That committee was responsible for the conventions for recruitment in state associations of agriculture teachers, the "teacher of agriculture certificates," bulletin board posters, recruitment brochures, a cover letter to National FFA Conventions and the annual "Wooden 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 teachers, staffs of teachers of agriculture and student organizations such as Alpha Tau Alpha, Collegiate FFA, and Agricultural Education Clubs. After doing all that could be expected in recruitment, there is still a shortage.

This point of the editorial was illustrated at a meeting centering on recruitment, by a teacher of agriculture when he remarked to those near him, "If they'd get the [agriculture] teacher's head down to fifteen thousand, 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 new seems to be under way in states 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)
From the Editor...

has been set in Ohio. Hopefully, a teacher hired in agriculture will become as knowledgeable 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 more intensive career exploration experience in the profession of agriculture teaching. What they have observed, both good and bad, will be an bases for the decision whether to select this profession.

Are more teachers needed? No, it is only part of the answer. Making the job of teaching agriculture more attractive will both attract more young men 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 student supervisors cannot touch it. The second suggestion is to encourage multiple teacher departments and a specialization in teaching responsibilities. Third, encourage full-time adult students who are planning to become "sheds" to complete four years of teaching.

Fourth, teacher educators should be more realistic and totally responsible for a teacher in the one-year 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.

Guest Editorial...

The demand for teachers is a result of the need for agricultural education and is a result of the increased awareness of the importance of agriculture education.

The program of the National Agricultural Education Association has expanded rapidly. The need for teachers 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 recreation occupations
5. Agricultural mechanics occupations
6. Ornamental horticulture occupations
7. Animal science occupations
8. Agronomics

Many local education agencies will need one or more teachers in each of these occupational areas in agriculture. Some local education agencies in 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 agricultura 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 agriculture and cultural education. Staff is needed, and will be needed in increasing numbers, to provide career awareness programs in agriculture. The kindergarten through the sixth grade levels. At this level, kindergartners and elementary teachers will have primary responsibility for career awareness programs in agriculture. But that 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. These specialized competencies needed 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 - April

May - Summer Accountability

June - Administration and Supervision

Local to National

July - Program Planning and Evaluation

August - Teacher Education

September - School Organization and Management

October - Instructional Technology

November - Improving the Profession - The Job and the Teacher

December - Better Teaching and Learning

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What Qualities Do We Need in a Non-Degree Teacher?

D. L. Kinchley
Teacher Educator
University of Idaho

Perhaps we should take a good look at our colleagues in Trade and Industrial Education and see what qualities many non-degree teachers to conduct high school programs in secondary and adult classes. The primary concern of the trade and industrial people is qualified teacher's experience. The trade teacher can relate his own experience in the trade to his students. This is a real plus in the classroom, as the students can see the teacher is a professional in his own field.

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 trade teacher relates to his students in the same way he related to his fellow workers in industry. In order to increase his popularity with the students, so to speak, he may try to be "one of the boys," or relates experiences that have no place in the classroom, and generally giving the impression to students that he has little use for the rules and regulations of the school system. Students may look on a teacher with a raised eyebrow over impropriety immediately after he had given a demonstration on how to cut properly. The learning process can be very frustrating unless the instructor has the patience and understanding to offer guidance, and the patience to see that the student was not cut by the∖...
CERTIFICATION — A New Way at Kent State

Wayne E. Aiche
Kent State University
Kent, Ohio

The birth of a new inservice educational program in Ohio places emphasis upon demonstration programs. It is directed away from mere accumulation of learnable data degrees in the traditional degree curriculum. The teacher is held accountable for attaining a given level of competency in performing the essential task 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 and implementing programs in the school of teacher professional education with special emphasis upon the desired accomplishments and the 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. Agricultural Education Service along with the Ohio State Board of Education has appointed the Ohio Agricultural Education Service for the preparation of agriculture teachers with seven years of approved teaching experience and a high school diploma.

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

The comprehensive inservice 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 eight hours of credit, a four-year provisional vocational certificate in agriculture is earned 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 months of professional agriculture education credit.

5. Teacher-administrative relationships might be improved for all teachers.
6. Classrooms, laboratory, and office cleaning, and organization are completed.

Three implications were based upon the study questionnaire response.

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 under-supply of qualified teachers in the primary instructional areas of agriculture.

A staff member who had teaching experience as a farm teacher and who knows what a farm mechanic can be a decided asset in the preparation of inservice training service of vocational agriculture instructors.

The individual, to be of maximum value, must be carefully selected for his knowledge, his skills, his knowledge, and ability to work with people. A natural or inherent ability to teach would be a bonus if included in this person's talents.

The writer of this article has worked with a group of these qualities, Mr. Ralph McGraw, since August 1, 1960. Mr. McGraw was employed by the University of Idaho Agricultural Envisioning Department with the title of Assistant in Instruction and Shop Mechanic. His duties have included assignments in both teaching and research. As the portion of his title relating to teaching, Assistant in Instruction, supplies his duties have been to assist with the instruction, but not to be the 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 Education Department or 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, a practical knowledge of shop work and shop economy for automobile farm service as a welder and at the time he was employed at the Agricultural Engineering Department he was working for a farm tractor and implement dealer. Mr. McGraw's duties were varied and included shop and field adjustment of farm machinery, small and multi-cylinder engine tune-up and overhaul, rebuilding or alteration of used equipment, and working with the fabricating of equipment such as machine tables and building blades. While working for this firm, he also taught Lincoln area 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 course team taught by Mr. McGraw and the writer, the writer has taken the lead in determining and teaching objectives, developing course outlines, making course assignments, assembling instructional materials, ordering supplies, tools and equipment, dealing with student problems relating to classroom conduct and paperwork, and providing leadership for student. 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 film relating to a subject such as small engine repair were prepared and conducted by both Mr. McGraw and the writer. Mr. McGraw supplied information from the expertise he has gained in his many years of shop experience, where unit on small engine repair was incorporated into the course work and service training program, west of the demonstrative involving skills and procedures used in the disassembly, measurement and reassembly of engine parts. Mr. McGraw's duties were varied and included shop and field adjustment of farm machinery, small and multi-cylinder engine tune-up and overhaul, rebuilding or alteration of used equipment, and working with the fabricating of equipment such as machine tables and building blades. While working for this firm, he also taught Lincoln area welding schools for area farmers and worked with local high school vocational agriculture students on problems they encountered with machinery and engine repair.

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Robert C. Hayes
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 degree personnel.

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

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

A staff member who had teaching experience as a farm teacher and who knows what a farm mechanic can be a decided asset in the preparation of inservice training service of vocational agriculture instructors.

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Guest Editorial Continued...

With regard to a program of occupational experience for each student as yet another component of the local agricultural education program, it appears that some students and teachers have tried to disregard the meaningfulness and essentiality of this component to the development of teaching materials for preparation for the many agricultural occupations. Staff guidance and placement in agricultural occupations will have a profound impact on student success.

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. To the community college and technical institute 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 various areas in agriculture and many teachers who are specialized in one or more subdivisions of these major cluster areas will be needed.

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

In addition, the staff in the agricultural education agencies will perform many specialized tasks and will need 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 awareness programs in agriculture

(Continued on next page)

6. Consultants and supervisors of career exploration programs in agriculture
7. Curriculum development specialists for career exploration in agriculture
8. Special teachers in career preparation programs at the secondary level in each of the occupational cluster areas in agriculture
9. Special teachers at the secondary level for many of the subdivisions of the major occupational cluster areas in agriculture
10. Administrators and supervisors at the secondary level for many of the subdivisions of the major occupational cluster areas in agriculture
11. Curriculum development specialists for career preparation 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 occupation
19. Administrators and supervisors for young and older adult education programs in agriculture
20. Teacher educators in agriculture employed by local education agencies and by universities for upgrading programs for teacher educators in agriculture

L. H. Newcomb

Ohio State University
An Experience Program
For Foreign Students

Glen M. McCarley*
Former Agriculture Teacher
Crothersville, Indiana

Recently, the Crothersville, Indi-ana, agricultural students and com-munity members decid-e to take four (4) of their best students to present a program and exhibit the produce from the agricultural programs and experience. The students were chosen based on their performance and achievements in agriculture, and they were to represent the rural community and agriculture to an international audience.

The program included demonstrations of various agricultural activities, such as crop cultivation, animal husbandry, and sustainable farming practices. The students had the opportunity to showcase their skills and knowledge, providing insights into the rich agricultural heritage of the Crothersville community.

The students were accompanied by instructors and observed by experts from different countries. The visitors were impressed by the students' dedication and enthusiasm. The interactions with the students helped foster a deeper understanding of agricultural practices and the importance of sustainable farming.

The visit also included a tour of the local agricultural facilities and educational programs. The students had the chance to observe modern agricultural techniques and discuss their experiences with academic and industry experts.

The experience was not only educational but also culturally enriching. The students were able to learn about different agricultural practices and appreciate the diversity in farming methods. They also gained a better understanding of the global challenges and opportunities in agriculture.

The Crothersville experience program was a success, providing valuable exposure and networking opportunities for the students. The program aimed to inspire the next generation of agricultural leaders and promote international cooperation in the field of agriculture.

(continued from page 75)

In the writer's opinion, there are cer-tain points that will help make the em-ployment of a person with a journeyman's background more valuable to the profession. The writer suggests that professional staff must realize that this person has contributed to the personal satisfaction and benefit of the agricultural community and make use of his talents. The writer states that this person will not have a degree, but he was gaining knowledge and skills for which he is being employed, while professional staff members are being paid a degree.

Even though he is a non-degree teacher, he must be accepted as an equal and important staff member by the profession. The writer highlights the importance of valuing the contributions of such individuals and ensuring they are fully integrated into the educational programs.

The writer mentions the benefits of working with Mr. McCarley and how the students are benefiting from his knowledge and talents. Students and vocational agriculture instructors are shown that he is making a difference in the lives of the students. The writer acknowledges the impact Mr. McCarley has on the educational programs and the students' valuable contributions towards their preparation to be teachers by the advice they seek on educational problems.

Mr. McCarley has opportunities to visit local departmental offices, especially when farm management, marketing, and conservation problems arise. He often accompanies the students on such trips and helps them understand the practical aspects of agricultural management.

The writer concludes by emphasizing the importance of valuing the contributions of non-degree teachers and ensuring they are fully integrated into the educational programs. The writer encourages others to recognize the value of such individuals and commend them for their valuable contributions.
The World's Technical Agriculture Schools

The Technical Agriculture School, wherever it is found in the world, is a specialized 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 agricultural 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 agriculturists and the other is concerned with training and employment costs. Generally speaking, techni-
cians can be trained at lower cost and employed at lower wages than university graduates.

Regardless of these, schools like those provide training for agriculture, the largest and most important segment of a developing country's economy; and a school's training program should provide some element of wide variety in farm courses and personal 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, agronomy and agricultural development;

b) Provide in-service training on a regular and systematic basis to the personnel in the District Agriculture Institutes and for agricultural and rural development, as needed;

c) Undertake applied research programs related to agriculture and agricultural development;

d) Prepare agriculture teachers and determine teaching aids 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 agricul
tural educational delivery system.

Agricultural schools in many world regions abound with fascinating new technolo
gies 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 oppor
tunities is wide. It ranges from private enterprise of farm ownership through the field of atomic science. Advancements in technology have created the need for highly competent technicians in many agricultural industries. Many pro
prietor consider agriculture to be the easily the enterprise of farming, but it is only one of the many phases of agriculture.

The business of agriculture is 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 hori
torical role of bores 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 de
dpending 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 training centers for the main part, but this should not be held to a rigidly that other good staff from business and industry could not be employed in spe
cial training situations. The emphasis at this level should be upon perfor
nance 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 pro
grams; 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

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MIDDLE LEVEL AGRICULTURAL TRAINING IN DEVELOPING COUNTRIES

The projects of post-secondary vocational education in the agricultural sector in developing countries. In agricul
ture, they are the Extension Agents and Field Managers and do much of the work (in Small Com
munities) and Research Departments. The quality of their training is of great significance and the author be
lieves that the first essentials are to be very clear about the objectives and to make people aware of their existent
situations. In such countries relatively very few high-level scientists, theoreticians or highly-specialized peo
ple are needed and in many areas cur
rent training programs are producing such people in antithesis to the problem. The really pressing requirement is for many thousands of highly-motivated people with the attributes listed below.

- A working knowledge of the sci
ces basic to farming.
- Broad education in the agriculture of their country, based on the above and incorporating the latest research findings and recommen
dations.
- A basically practical orientation to their work that is in close relation to the income and learning by doing.
- Proficiency in many of the tech
niques required in their work and the ability to transfer them to their careers.
- The ability to bring together the different strands of knowledge in a real farm situation and to apply intelli
gently and practically their knowledge and skills.
- Enthusiasm and real interest in farming as a career.
- Maturity and, but to be highly motivated and skilled in the skills of helping other and less fortunate people if they are to use effectively their knowledge and skills.

It is impossible to accept as an ob
jective that each employer's specialized requirements will be exactly met in a two-year course for nearly all people (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, ac
count must be taken of many problems, some of which are found frequently in developing countries. Many students are from within the community and even 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 task of memorizing things 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 back
grounds or attitudes may be theoretical in outlook or have limited interest, and often they have not been taught how to teach, particularly technical subjects. Curriculums are not always corre
cely related or weighted in relation to the work the students will do. School farming activities are often far too ex
tensive and it is difficult to teach ade
cquate skills 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. Follow
ing initial selection, annual care, interest in farming, and character: a progression as follows would be ideal.

A practical introductory course lasting three months.

(Concluded on next page)

Alan Kinghorne, B.Sc., D.T.A., Bedfor
 Devon, England

- Two years of planned and super
vised work in agriculture.
- A two-year course of formal in
troduction designed to neat the ob
jectives set out earlier.

Students will need more spe
cialized instruction for their chosen careers. These could follow a short, in
tensive course, rarely exceeding three months, in such subjects as soil con
servation, surveying or machinery.

At a base 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. No list of subjects 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 of, or for regular exchanges between field and training institution the training is much more likely to be practically oriented and related to real needs.

Courses must be related to the work the students will do, must be based on "learning by doing" and teach the stu
dents to think and apply their knowl
edge. Agricul curriculum must be regularly re
viewed and emphasis be given to training
in problem-solving under field conditions. And in order that the curricula, particularly the practical skills and techniques that may be properly covered, staff should be trained in both general education methods and the new techniques of technical education.

Examinations which only the rememberer and reproducer 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 first and second year edge 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 entering formal instruction. Introductory courses can be brief, 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 farm and livestock units are much too big. A disproportionate amount of staff time may be spent on them and if the farm and livestock units are overcrowded, the educational value of routine can never be exhausted. The purpose of practical work is primarily to teach practical skills. It is also essential that the students see a full farming season on the school farm, often they are absent because the long vacation coincides with sowing, growing or harvesting. This makes it desirable to train the students in the practical work immediately after completing their basic education it is required that they write a major in sociology, individual and group psychology, learning theory and advanced techniques of extension work after a period, perhaps three years, in the field.

The last topic, the atmosphere and traditions of the teaching institutions, is introduced with some apprehension, but it is necessary to remove any responsibility which devalues the administrators of vocational education. The atmosphere and traditions of the institutions of schools will have a great effect upon the attitudes and motivations of the students in their subsequent careers. In its every aspect a school educates, and the educational staff will carry 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 circumstances in which most of them will work. Schools have wide, non-curricular responsibilities but, as the risk of round-trip transportation increases, these of students as being discussed are reduced to almost nothing. The standards of resources, sound and efficiency, of self-discipline and responsibility are, of the correct use of government time and property, not only are not observed by all the students. They will also be learned and probably be learned more effectively in the scientific sense of the term, and they will be accepted as the norms of their future working lives. The author wishes to stress that there is no direct influence in this note in any one country, system of education or institution based on observation made over the years in a number of countries.

**BOOK REVIEW**


This is a comprehensive book of choice chapters covering basic concepts of biometry. It is written in a clear and concise manner and is full of practical examples. The author, J. A. Neyman, professor of statistics at the University of California, Berkeley, has done an excellent job of explaining the principles of biometry. The book is well-organized and the problems at the end of each chapter are designed to reinforce the concepts presented. The book is highly recommended for students and researchers in the field of biometry.

**When Dayton high school senior, Becky Halley, granted this June her Mary Evers' card file. Upcoming? Perhaps, but not to Becky and her fellow graduates of the class of 1974, who are already planning to keep track of all his former students. Now, at age 50, Evers will keep in touch with Becky, as he puts it, "as long as I'm able."

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 lists for most of his former students. He's compiled a list of the names of children. The school record is detailed in the days of Evers' name change. Former students have become college professors, a foreign service officer, a leading trial attorney; many are state and federal agriculture officials all over the world. Others are in business, some are foremost of operations and production and some are just average citizens who are themselves vo-ag teachers. But most are farmers. 'That's what this is all about,' he said as he handed over the files. He dedicates his life to production agriculture, symbolized by Dayton itself, which contributed to keeping many of his former students right at home as farmers. Although Evers uses the systems to record information, he has that appears to nearly total recall on all his former students who now number over 2000.

Evers' systems are now the most complete and comprehensive of any. The systems have been kept in order since the time students leave because some system has been figured out by the students themselves.

Vogt teacher Mary Evers keeps track of his former students from when he began teaching in 1953 with the "Evers File." Using cards, he notes current information about each student, location and family. His complete system includes listings of students back to 1924.

**MARRY EVERS STUDENT FOLLOW-UP SYSTEM**

Alex Creadock
Program Specialist
Olympia, Washington

When Dayton high school senior, Becky Halley, granted this June her Mary Evers' card file. Upcoming? Perhaps, but not to Becky and her fellow graduates of the class of 1974, who are already planning to keep track of all his former students. Now, at age 50, Evers will keep in touch with Becky, as he puts it, "as long as I'm able."

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Vogt teacher Mary Evers keeps track of his former students from when he began teaching in 1953 with the "Evers File." Using cards, he notes current information about each student, location and family. His complete system includes listings of students back to 1924.
Of that number, teachers have lost track of about 75% of last year's 700 boys. Figures show 3,106 are engaged in farm or farm-related occupations and 504 are pursuing professional training in agriculture. Another 4,292 are employed or in advanced training in non-agriculture careers, the report notes. The total of 8,192 is 1,056 fewer than the 9,248 engaged last year and 1,672 fewer than the 9,868 who began the year period, figures show. Although the number is smaller, teachers note a higher percentage of them are college-trained or in full-time agricultural employment.

"Eaton says that the number of students completing the 12th grade and a two-year course in vocational agriculture is about 500, and that of those completing the four-year course, 150 are now doing full-time farming," he says. "A large number of them are completing the four-year course." Eaton adds that the number of students completing the four-year course has increased steadily in recent years. "We are now at about 250 students per year," he says. "The number is increasing each year, and we expect to continue this trend." Eaton notes that the number of students completing the four-year course in agriculture is now about 50%, compared to 30% in 1955. He attributes this increase to the increased emphasis on agriculture in the schools and the availability of more agricultural education programs.

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Accountability Through Planning

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 some 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 not the case in the educational enterprise.

James R. Galloway, Coordinator and Kenneth Knoll, Regional Director Program Assessment and Evaluation Unit Illinois Division of Vocational-Technical Education

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 accomplishing results. 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 effective, but rather to point out that this is the manner in which we have been trained and have been allowed to function. With the advent of the age of accountability in education, institutions that prepare educators are quickly imbuing this aspect of the potential teacher’s competence.

This causes hope for the future, but also 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 credibility 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?” States that have well organized and structured plans for all aspects of our responsibilities as educators would add greatly to our overall credibility as well as accountability.

Phase I of the system is the development of a plan which is a profile of the 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; program; 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 professional evaluators to examine each district’s program concerning itself with projecting a profile of the district’s program in writing. The visitation on-site visitation process is a tool which we institutionalize our beliefs and transmit them to succeeding generations. Administrative Edu- cators find a unique importance in this important area.

Should the educational teacher and student evaluate the planning and teaching of his community and its associated environmental problems? What environmental problems have implications for the concerns of community government officials and other citizens? The planning process should extend to a large extent, with agricultural teachers.

One of the essential steps in the process of maintaining or improving total environment is measuring people’s attitude toward the environment. Environmental education in public school education will be influenced by evaluations of its effectiveness in creating desirable attitudes toward the environment and changing undesirable attitudes presently held. To do this clustered audit, this 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 and non-vocational experimental and control groups; c) Non-vocational experimental and control groups; and 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 substances, and in particular, are unequally distributed with respect to land areas and political boundaries.

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 concept statements. 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.

- Are people personally responsible for our present state of pollution?
- Should we 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 crisis. Do you agree?
- 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 problem?
- Ecological problems are due to unawareness, unconcerned and uncontrolled?...
- The ecological crisis in our major cities is beyond help.
- The scale developed was established as a part of the high school curriculum.

The attitude scale was administered to a population of eight secondary classes with 306 students randomly assigned to experimental and control treatments. (Concluded on next page)
experiment group was taught the same introductory unit in environmental education for a period of seven weeks. Teachers cooperating in the study were given an in-service workshop prior to the experimental study.

The data were analyzed from a pre-test/post-test control group design by item analysis, analysis of frequency distributions counts per student group, and a test item according to key-weighted answer position, and one-way analysis of variance.

The item analysis was by the "variable list" method of the statistical software for the social sciences (SPSS). The item results analyzed in 20 test items significant at the 0.05 level of probability. The analysis of variance (ANOVA) was used to compare each of the previously listed groups with the results presented in Table 1.

Table 1. Summary of Significant F-Ratios

<table>
<thead>
<tr>
<th>Comparison</th>
<th>F-Ratio</th>
<th>Significant or Not Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocational</td>
<td>8.627</td>
<td>S</td>
</tr>
<tr>
<td>Experimental and Control</td>
<td>1.554</td>
<td>NS</td>
</tr>
<tr>
<td>Non-Vocational</td>
<td>8.559</td>
<td>S</td>
</tr>
<tr>
<td>Vocational</td>
<td>2.001</td>
<td>NS</td>
</tr>
<tr>
<td>Experimental and Control</td>
<td>2.000</td>
<td>NS</td>
</tr>
<tr>
<td>Non-Vocational</td>
<td>5.850</td>
<td>S</td>
</tr>
<tr>
<td>Vocational</td>
<td>3.211</td>
<td>NS</td>
</tr>
<tr>
<td>Experimental and Control</td>
<td>3.211</td>
<td>NS</td>
</tr>
<tr>
<td>Non-Vocational</td>
<td>3.252</td>
<td>S</td>
</tr>
<tr>
<td>Vocational</td>
<td>3.431</td>
<td>S</td>
</tr>
<tr>
<td>Experimental and Control</td>
<td>3.431</td>
<td>S</td>
</tr>
</tbody>
</table>

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 v was obtained, with the test-retest method of the reliability was .66, and using the split-half correlation the coefficient was 67.

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

I. There were no significant differences in the environmental 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.

II. There was no significant amount of interaction within the vocational experimental group and the vocational control group.

III. There were no significant differences in the way the vocational, experimental group responded to environmental concepts compared to the non-vocational control group. But, there was an effect in the positive direction for the experimental group.

IV. There were no significant differences in the way vocational and non-vocational experimental groups responded to environmental concepts.

V. There were no significant differences in the way vocational and non-vocational control groups responded to environmental concepts.

VI. The Environmental Attitude Scale could be used with secondary school for curricular development purposes such as aiding in determining student attitude toward environmental concepts.

VII. The Environmental Attitude Scale should be used with large numbers of secondary students to develop norms and validity.

VIII. The Environmental Attitude Scale could be used with the recognition of its trial nature until validation and experience can prove its worth.

IX. The analysis could be used 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.

X. There should be a longer period of time between the pre-test and the post-test.

The completion of this study presents a number of implications which should have meaning for those responsible for curriculum development, particularly in the rural agricultural community. This is the attitude scale for youth in our society today and in the future.

The results of this study lead to the following implications:

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

(Concluded on page 218)

The Agricultural Education Magazine
IN-SERVICE EDUCATION FOR POST-HIGH INSTRUCTORS

Gerald J. Hartwork
Assistant Superintendent
School of Technical Agriculture
University of Nebraska
Ogallala, Nebraska

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 it is training its personnel. At this time no teacher training programs exist in Nebraska which can prepare an individual with the skills and experience gained in industry. However, these programs must be instructed in educational philosophy, teaching methods, and evaluation procedures.

The University of Nebraska School of Technical Agriculture, Curtis, Nebr., in cooperation with 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 instruction.

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 instruction courses have D.V.M. degrees, three instructors have beachelors and others 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 high school vocational-technical level. All were prepared for elementary or secondary teaching.

All staff members are on a twelve month contract with a four week vacation (even 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 extension 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 Extension Service, but these were not satisfactory because of the distance from the Lincoln campus (210 miles).

The staff has a two-fold purpose in seeking professional improvement. Each staff member has a 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 they had if they had used 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)
ADULT FARM MANAGEMENT — Luther Lahum, VP Pacific Region NVATA, goes over record books of Mr. and Mrs. Frank Gumina, Luther, Vo-Ag Instructor at O'Harrold High School, has conducted a computerized farm management and records class for adult farmers for six years. Looking on is American Farmer Doug Gumina, son of the Frank Gemma's. (Photo from Max Anderson, Department of Agricultural Education, Montana State University)

Each vocational agriculture instructor should be placing hands-on experience for students on a daily basis. Ron Schmitt is First Year Teacher at North Bend, Nebraska. Mr. Schmitt demonstrates and conducts hands-on experiences for students. Mr. Schmitt needs the enthusiasm of young people from new teachers. If you have a First Year Teacher in your neighborhood — how about paying him a visit? (Photo by Richard Douglas)

Theme — LOOKING AHEAD