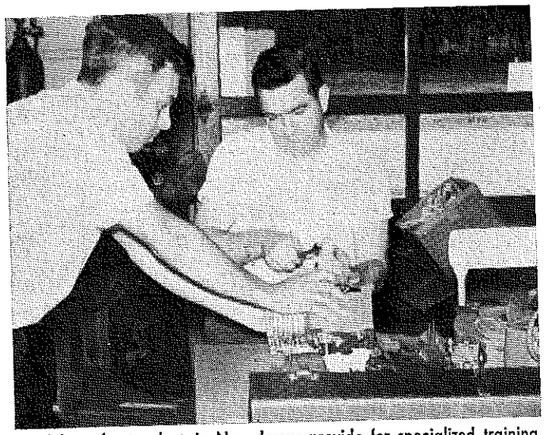
Photo by Annis

Chemical engineering laboratory tour for vocational education teachers provides insights into facilities available at the University of New Hampshire Engineering Experiment Station.

Baby chicks on a ferris wheel, Nebraska State Fair. C. A. Cromer — photo

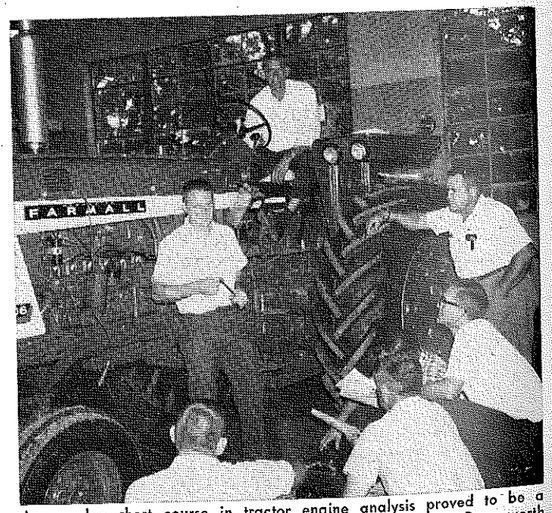


Workshops for teachers in New Jersey provide for specialized training.

Stories in Pictures

GILBERT S. GUILER

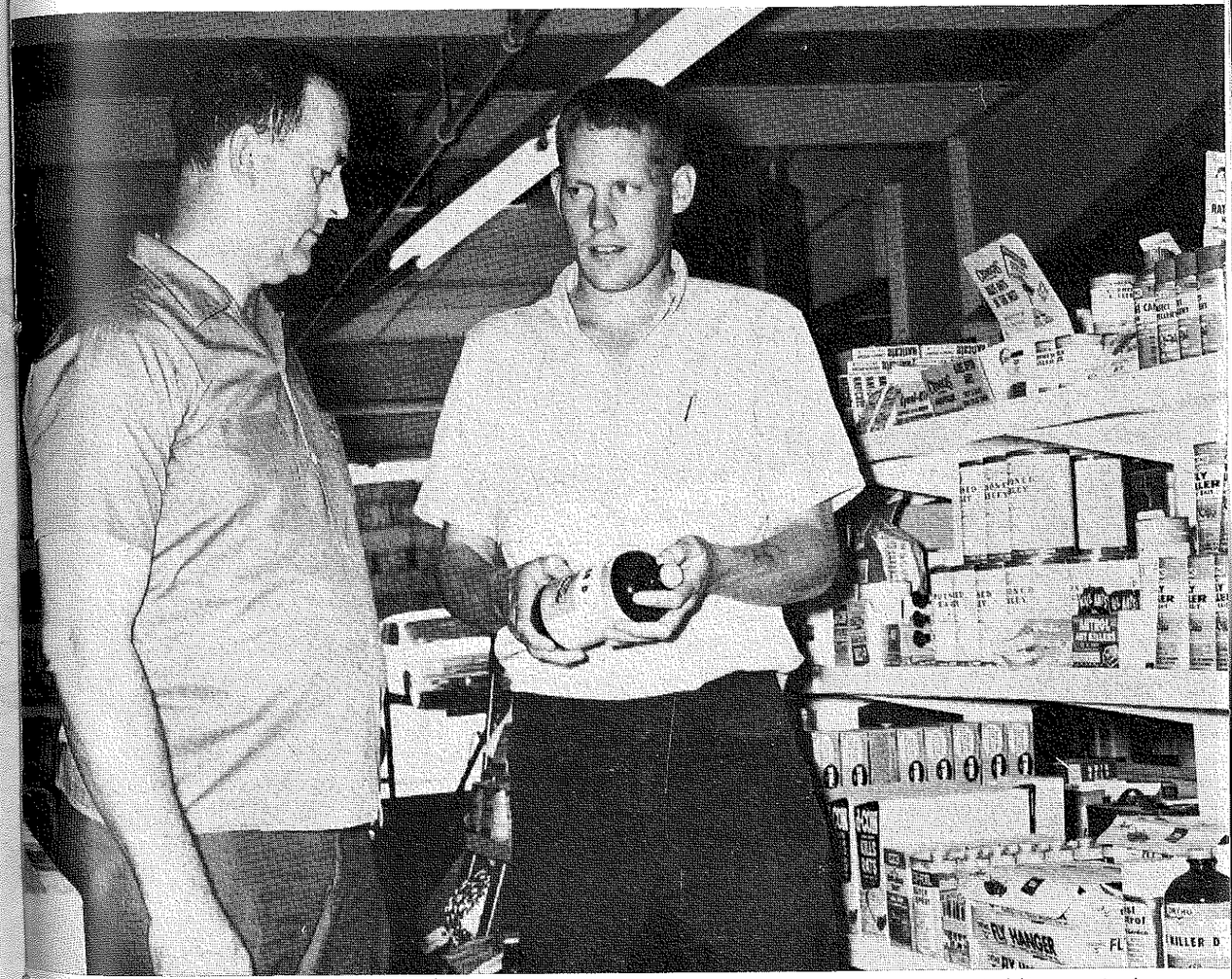
Ohio State University



A one day short course in tractor engine analysis proved to be a worthwhile training program for Illinois teachers. Photo — Bosomworth

Agricultural Education

Volume 40 December, 1967 Number 6



Roy Faught, a student majoring in Agricultural Education at the University of Nevada, is advising a customer as part of his occupational experience program in an agricultural field. Photo by H. Christensen.

Featuring: TEACHER PREPARATION and CERTIFICATION

1917 ..... 50th ANNIVERSARY 1967

1st National Vocational Education Act

THE
AGricultural EDucation
MAGAZINE

Vol. 40 December, 1967 No. 6

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Editorials

TEACHER PREPARATION

"Agricultural Education will disappear from our public schools in 10 years if we cannot produce the teachers needed."

The statement was made by a person who should know what he is talking about. He is a recognized educational leader. His past record in public education would indicate that he is friendly to agricultural education and would like to see the area not only continue but to grow and develop into more effective programs. He is a supporter of innovative programs, and thinks perhaps that this is the only route left to us to build up the supply of teachers needed now and in the years ahead. Such an innovative route would, of course, include several alternatives depending upon the situation in a particular state.

The purpose here is to examine this suggestion with some of the possible alternatives. Articles this month indicate some of these, especially those by Dave McClay, Orville Thompson and Jack Rudd. It may be that we need to develop even more radical departures from the past in preparing teachers for the future. One alternative to be examined carefully is for a specialized teacher with less than a bachelor's degree. It must be readily admitted that such a departure will have some built-in problems, but the need is so great until we must examine every possibility for securing effective teaching in agricultural education. One of the strong points, as mentioned in these columns previously, of the teacher of vocational agriculture through the years has been that he had his degree in Agricultural Education, meaning that he had completed a college program designed to develop competencies needed as a beginning teacher of vocational agriculture. But, let's re-examine this assumption.

Many of the earlier programs in teacher education were based upon job analysis. Here is the job that is expected of the teacher of vocational agriculture. Here are some of the competencies that apparently any teacher needs if he is to do this job. Now, put together the courses and experiences, including student teaching in a typical school, to help the young man develop these competencies. Although this recipe had some built-in disadvantages, such as overlooking the student himself and his problems in developing competencies, it resulted in many extremely effective teachers for the rural and small town high schools over the country 40 years ago. Today we face an entirely different situation. Even if we follow the old job analysis approach, we have difficulty. The job of the teacher of vocational agriculture differs today, even in the one-teacher department. Expectations of the young teacher vary widely from school to school. State direction is generally less, teachers are becoming more local faculty members and less members of a statewide group of ag teachers. Many new programs in agricultural education are developing in the post-secondary institutions, not even in existence a few years ago. So, the job analysis approach becomes less reliable as a basic approach to teacher preparation.

How abut the rapid growth of specialized teaching in a more limited agricultural area? Not only horticulture but ornamental horticulture. Not only forestry but pulp wood production. How do we prepare teachers for these more specialized programs? Here again the job analysis approach leaves much to be desired. Too uncertain and changing too. Here is probably the best place to study the possibility of a teacher with less than a bachelor's degree. In fact, there is some question whether a regular undergraduate specialty will result in a competent teacher in this area of specialization. For example, the Ag Engineering major may still be unprepared for teaching Ag Mechanics.

(Continued on next page)

Cayce Scarborough

Theory and Practice

I want to start this last column just as I did the first one. That is, to express appreciation for the opportunity to express some personal views in this column that might have some influence on our thinking about agricultural education. You have been responsive, and that is very rewarding. Of course you did not always agree, and that is not important. I do believe that it is essential and necessary that we express our best thoughts in these times on the direction that we should go in the various phases of agricultural education. I still contend that I do not know anyone who has a blueprint, not even a road map giving the exact direction that agricultural education should go in the years ahead. However, I believe that we can make some pretty sound predictions, assuming certain "givens".

Once more it is noted that people are having terminology problems. In fact, Mrs. Alice Widener, the columnist and publisher, says that one of the troubles with vocational education is that the people who need it most don't know what we are talking about. She thinks that "Vocational and Technical Education" is just too much. She suggests that we use, *"Pay - Check Education"!*

Neville Hunsicker has been talking with people in the American Association for Laboratory Animal Science about educational programs needed for people who look after these animals. Sounds like a good idea. Some of Skinner's followers need someone to feed their pigeons, chickens, and animals used in their research. Or maybe we need "double P" majors in graduate school — Psychology and Poultry. That's not a joke son!

(Continued on next page)

Theory & Practice

(Continued from page 123)

If the advocates of decentralizing industry as well as people are successful, this will change still further the population base of our rural and small town areas. There will be new problems, of course, but maybe such a movement would decrease the problem that a rural boy faces of staying home and taking his chances on something developing for him, or going to the city hoping that he can qualify for something there.

Oregon Ag Teachers have a very interesting newsletter they call *OLD YELLER*. In the copy that I saw remently the OVATA was cooperating in the Professional Services Day at Oregon State. I wonder how many associations are active in this way?

Better transportation helps the farmer feed more people, but this is what takes a big hunk—about 9 per cent—of the food dollar. USDA tells us that farmers get about a third of the $83 billion spent for food by consumers.

After 79 years as *Printer's Ink*, the magazine's name is changed to *Marketing Communications*. Why? Better describes the current role of the magazine. Maybe that's a pretty good reason for changing some of our terminology.

Harold Clark, Economist, says that engineers who have been out of college 7 or 8 years are complaining that they are already out-of-date, and that colleges should do something about undergraduate training. Well, I don't believe that the undergraduate program for any profession can be guaranteed for life. In this connection, Dr. Clark reported that one University Dean suggested that the PhD should be dated with the expiration 5 years later. Now, he's meddling! No, I believe that to remain professional that we must go to school for the duration. Agree?

Teacher Preparation

(Continued from page 123)

How do we solve all of these difficulties? Not easy. Perhaps these might serve as general guides. We have ample evidence through the years that a person needs subject matter preparation but this is no guarantee of effective teaching in this area. So, teacher education is needed. However, this does not mean that all must acquire a degree in Agricultural Education. (If we are honest, we must admit that neither is *this* an absolute guarantee for effective teaching!) For the degree candidate, let him get two degrees or a double major. This would greatly increase the student's marketability and at the same time give him the depth of study needed in an area of specialization. I believe that we should give attention to special certification through Associate Degree or otherwise, for Assistant Teacher, Ag Ed Technician, or similar title, for some of the specialized teachers. Such a teacher would be placed in a multi-teacher department working with an experienced teacher. If this step is to result in any sizable number of teachers we will need to work with the technical institutes in securing and placing such assistant teachers. Furthermore, we must learn how to get our universities to give degree credit for such work if and when this assistant teacher wishes to go to the university to complete work on his degree. This would seem to be a real possibility for securing what should be highly capable specialized teachers entering the profession by a different route. Problems? Sure, but let's try swapping some of our vacancies and needs for specialized teachers for some of the problems that we *may* have with them.

Cayce Scarborough

Orville Young has retired from Illinois State and lives in Cannelton, Indiana. One of the last studies that he did before retirement indicated that the study of Latin in high school apparently did not contribute to success in college. Orville felt that this was still more evidence that if a boy must choose between taking a foreign language and a vocational course that success in college would not be a sufficient reason for skipping the vocational course for the language.

Do you believe that everything fluctuates in *cycles?* Some do. If you can identify cycles then you have regularity, and then your have predictability. See? If this does not clear up this matter of cycles you may want to write the Foundation for the Study of Cycles, Inc., 124 South Highland Avenue, Pittsburgh, Pennsylvania. But this information will cost you $10. Maybe they know something about financial cycles too!

Have you seen the little booklet *The Six Dynamics of Landing the Job You Want*? This won't cost you as much as *Cycles* but there is a small charge. I can give you one little secret though. Each step has two parts labeled *THINK*! and *ACT*! Maybe if you can do those two little matters well, you can write your own six steps! But since we are in Occupational Education, maybe I better give you that address too. Richard Starr Enterprises, 3600 Wilshire Blvd., Los Angeles, California 90005.

As Bob Warmbrod takes over as Editor next month, I hope that you will give him your support. To an Editor the key to support is *RESPONSE*—in written form that he can use in the magazine. Let's help Bob keep the *AgEd Magazine* a strong force in our profession.

THANKS!

Cayce Scarborough

Another Editorial

CONTINUING EDUCATION

An interesting situation in continuing education for professional leaders in the field of agriculture is developing in many states. One example will illustrate. Agricultural Extension leaders are urging *all* persons in the program at all levels to include further formal education in their future plans. Many state programs build this into their budgets as well as their plans. Here is a quotation from a recent letter sent out from one state Agricultural Extension Office to other states as well as within his own state.

> We prefer *master's* degrees for assistant agents, but hire at the B.S. level if the applicant is qualified for graduate school . . . On hiring, the assistant agent has university academic status and can begin a degree program of his choice on-the-job out in the county, taking one course a quarter on fee waiver. He finishes through our 3-week summer schools (on full pay and fee waiver), and full time residence course work covered in large part on a professional leave accrual policy . . . The current average starting *salary* for an inexperienced assistant agent with a bachelor's degree is around $6,500 yer year, and with a master's around $7,000.

If any state has such a built-in system encouraging further graduate study by teachers of vocational agriculture, I am unaware of it. Of course, the two programs are different and financed differently. However, the fact remains that the leaders in Agricultural Extension see the need for building in further study for all people in the program. Apparently, we do not put near this emphasis upon further education for teachers of vocational agriculture, ag technology, supervisors, specialists, and teacher educators. Why?

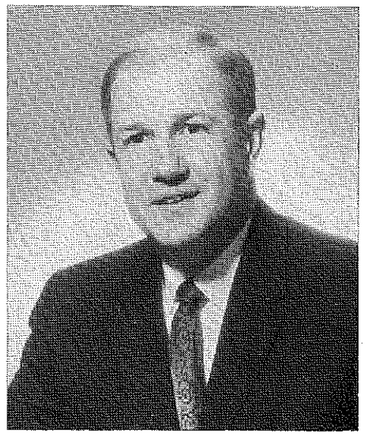
In some ways, the building in of further and continuing education for teachers would be easier than for other groups. That is, through certification. Some states make more effective use of this in influencing teacher education than others. Salary differentials are often used to encourage teachers to make further preparation and keeping up within their fields. More should be done along these lines.

Why don't more teachers and others in agricultural education continue their education beyond that necessary for certification? With all of our research efforts none seem to be able to answer this question. Of course, as indicated earlier, our reward system usually influences our actions. Unfortunately, I think, national and state leaders in Agricultural Education have frequently not given high priority to continuing education. Old Policy Bulletin 1, for example, equates attendance at summer school with time on the beach. Apparently the major purpose of that policy was to keep the teacher in his community; if he went outside of the community it didn't make any difference whether he was in summer school or on the beach. Of course there was good reason for such an idea in the early days. The ag teacher was a new idea, employed during the summer and he needed to prove that he was on the job. O.K., but even a good thing can be overdone. I believe that we have overdone this one. In fact, a young farmer said that he thought that a policy should be set up to *require* an ag teacher to get out and see what was going on outside his own community.

No, I do not believe that everyone in agricultural education needs advanced degrees. I do believe that each of us must continue some formal study as long as we remain in the profession. We cannot supply our need for continuous study through individual reading nor through short workshops, important as both of these may be.

Cayce Scarborough

NEW EDITOR



J. Robert Warmbrod

Meet our new Editor. Bob Warmbrod takes over the duties as Editor with the January, 1968, edition of *Agricultural Education Magazine*.

He is Associate Professor, Agricultural Education, University of Illinois. A native of Tennessee, Bob received his B.S. and M.S. at University of Tennessee and was teacher of vocational agriculture in that state. He did his doctorate at the University of Illinois and remained there on the faculty.

Bob is known as an effective teacher, writer and researcher. He has been a regular contributor to the magazine and active in the profession. For this year, Bob is on leave from the University of Illinois. His address is as follows:

J. Robert Warmbrod
Center for Vocational and Technical Education
Ohio State University
Box 2337
1800 Cannon Drive
Columbus, Ohio 43210.

LETTERS TO THE EDITOR

Dear Sir:

Enclosed please find two responses to your request in the Letters to the Editor section of the September — 1967 issue of Agricultural Education.

Sincerely,
Don Gentry
Assistant Supervisor
Indianapolis, Indiana

Thanks Don, for reading and reacting positively! CCS

Dear Cayce:

Your fine leadership as editor of the *Agricultural Education Magazine* continues to be appreciated and inspiring. The phrases in your September editorial, " . . . to clarify my objectives in teaching . . . and . . . clearly state these objectives in behaviorial terms . . . " are particularly important these days. Clarifying the direction of our teaching is essential for meaningful learning.

Enclosed is an article entitled "A Work Experience Model for Vocational Agriculture." It is Part I of a two-part article. Hopefully, these can be published in your November and December issues. Part II contains data in outline form and I have questions relative to format.

Sincerely your,
David G. Craig
Assistant Professor
Univ. of Tenn.

Dear Mr. Scarborough:

I am submitting the enclosed article to you for possible publication in our Agricultural Education Magazine. I felt there was a need for an article such as this. It seems to me that the concept is educationally sound and looks into the future, besides having the philosophy of change that everyone talks about these days.

Each issue of the magazine is an informative one. I am especially appreciative of your views in the July 1967 editorial on maintaining and strengthening our local programs in vocational agriculture. I, too, feel that programs at the local level have great potential if organized effectively.

Sincerely,
Bruce W. Emanuel
Vo-Ag Instructor
Greenwich, N.Y.

Bruce, hope all enjoyed your article on horses in October. CCS

Dear Cayce:

Do you know where I can get one copy of each of these two issues of *The Agricultural Education Magazine?*

Vol. 30, No. 8, February 1958
Vol. 39, No. 1, July 1966

Sincerely yours,
George W. Wiegers, Jr.
Head of Ag Ed
Univ. of Tenn.

Can some kindhearted reader help George? CCS

114-11 Nimitz Drive
West Lafayette, Indiana

T. L. Faulkner
State Dept. of Education
Montgomery, Alabama

Dear Sir:

My name is Charles Redinger. I am a senior enrolled in the school of Ag Education at Purdue University. The reason for my writing you concerns a matter of an assignment in one of my courses, English 414, Reporting Agriculture.

The assignment is this: I would like to find out from you the history of the *Agricultural Education Magazine.* I need to know such things such as the distribution numbers, the number of staff employees, how articles are selected for the magazine, and who does the selecting. I would like to know the qualifications of the staff members that are necessary to publish such a magazine. I would also like to know the backgrounds of some of the writers that write regularly for the magazine. Any other information concerning the writing, selecting, and publishing of this magazine would be helpful.

If you would help me on this assignment I would be very grateful. I have chosen your magazine because of the connection it will have with my future job. I would appreciate your attention to this request. The assignment is due in two weeks.

I wish to thank you in advance.

Sincerely yours,
Charles E. Redinger

Dear Mr. Redinger:

If you will refer to the inside front cover page of the magazine, you will find a list of the staff members, which includes the managing editors, the special editors, the editors at large, and the editing-managing board. All of these people contribute their time and effort without pay with the exception of the editor and business manager, who receive a very small stipend due to the fact that it is necessary for them to devote considerable time to it.

The editor is responsible for making the final selection of all articles to be included in each issue. It is his responsibility to re-edit and make adjustments as are needed. In other words, he has the final say as to what goes into the magazine and the make-up of it. As to the qualifications of staff members, they are most all, as you can see, either on a state supervisory or teacher training staff and in order to qualify and be appointed to these assignments, they should show some interest and a desire to participate. The editor and business manager are each elected by the editing-managing board to serve a three-year term. On occasions, they have served longer than three years. The special editors are appointed by the editor.

You asked about the background of those who write regularly for the magazine. Most all of those contributing articles are either from the state staff or from vo-ag teachers. Occasionally an outside person will contribute an article on request from the editor. The editor does write an editorial and other items for each issue. Except for the editor, there are no regular writers for the magazine; however, there are some who contribute quite often due to their interest in writing and their abilities, of course, to supply appropriate articles as judged by the editor.

Sincerely yours,

T. L. Faulkner,
Business Mgr.
Ag Ed Magazine

EMERGING PATTERNS FOR PREPARING TEACHERS

David R. McClay
Teacher Education
Pennsylvania State University

David R. McClay

Pre-service teacher education curricula in most states have traditionally spanned four years of college or university course work. In a few states, a teaching license, credential or certificate is earned with a fifth year's work or one year beyond the baccalaureate degree. Most vocational agriculture teachers "majored" as undergraduates in an agricultural education curriculum.

This traditional pattern of preparing agricultural teachers has not been supplying sufficient numbers to meet the needs of most states. Dr. Ralph J. Woodin, Ohio, Chairman of the AVA Professional Personnel Recruitment Committee for Agriculture, found that the nation was short 430 qualified agriculture teachers in 1966.

In addition to the conventional pattern of preparing teachers, to ease the teacher shortage problem in many states, there have emerged in recent years three definite innovative patterns of teacher preparation in agriculture. They are:

1. The pattern in which the baccalaureate candidate "majors" in an agricultural science curriculum and "minors" in agricultural education.
2. The pattern in which the graduate of an agricultural science college curriculum (other than agricultural education), completes the professional education and other courses required for teacher certification as a "special" student or as part of a masters program before starting to teach.
3. The pattern in which the graduate of an agricultural science curriculum (other than agricultural education), who is employed as a teacher in an emergency situation with the understanding that certification for teaching agriculture will be obtained as soon as possible by enrolling in continuing education and summer courses.

Some schools have employed practitioners as teachers—individuals with years of experience in agriculture with no college training. Other schools who were unable to locate qualified teachers employed outstanding high school graduates as teachers for short periods. However, it is believed the three innovative patterns outlined above are being employed to alleviate the teacher shortage more often than other procedures in most states.

Advantages of Each Pattern

Some educators believe that the three innovative patterns noted above have a "lot going for them." The teacher prepared in the manner suggested in Pattern No. 1 has considerable depth of preparation in a specific agricultural field in addition to a license to teach. This type of teacher often has superior subject matter knowledge than one who has divided his undergraduate class work among the areas of soil, plant, and animal science, agricultural business management, and engineering and/or mechanics.

The five-year college teacher preparation programs of several states are in essence described by Pattern No. 2. Teachers with this type of preparation usually are more mature and have had more experience in the world of work than have had most college graduates with B.S. degrees.

Learning by doing as advocated by John Dewey best describes Pattern No. 3 above. With considerable supervisory help during the first few weeks on the job, individuals with college backgrounds and agricultural experience can develop into teachers by teaching. Courses including professional education, required for the teaching credential will be more "real" to the prospective teacher on the job than those who obtain courses in teaching methods prior to their first jobs. The key to preparing successful teachers in Pattern No. 3, however, is providing plenty of experienced help from agricultural supervisors, experienced agriculture teachers, teacher educators, and local school administrators, during the first few weeks of school. If individuals employed in this manner can obtain a methods course in teaching just prior to or accompanying their first semester's employment as teachers, their competence and skill in their new profession will develop more rapidly.

To provide the kinds of teachers needed in increasing numbers—teachers with experience and depth of college preparation in an agricultural field, teacher education departments must relinquish some of their provincialism or holding to the traditional pattern of teacher preparation. It is believed the three innovative patterns suggested will increase the number of agriculture teachers prepared each year in the nation without sacrificing quality.

At the present time teacher shortages are causing some schools to drop their agricultural programs and preventing other schools from starting this important training for youth and adults which their communities need.

Perhaps teacher shortages are a blessing in disguise for teacher education departments. Innovation will not be limited to the patterns described. New procedures will be combined with old methods as the search for more and better teachers continues. Who knows, perhaps the innovation of today for preparing agriculture teachers will become the accepted best way to do the job tomorrow.

TREND IN UNDERGRADUATE PREPARATION OF TEACHERS

O. E. THOMPSON, Professor, and J. A. RUDD, Graduate Student
Teacher Education, University of California, Davis

Undergraduate preparation of teachers of vocational agriculture, while relatively stable during the first half-century of its existence, is undergoing major change. Historically, students who wished to teach "Smith-Hughes agriculture" had to receive their preparation in special programs which were approved and supported financially by the state agencies for vocational education. In order to qualify for federal funds, the programs for undergraduate preparation of these teachers had to meet certain standards approved by the U.S. Office of Education. The policy standards emphasized that the primary purpose of high school vocational agriculture was preparation for farming and, as such, required that the teacher be competent in plant sciences, animal sciences, management, as well as mechanics. In essence, these men were prepared to teach how to farm and to work in a one-man department. There was little change in this preparation until the passage of the Vocational Education Act of 1963, which modified the purpose of vocational agriculture to include preparation for "any occupation involving knowledge and skills in agricultural subjects whether or not such occupations involve work of the farm or of the farm home." While programs in vocational agriculture in a few states had begun reorientation to include preparation for off-farm occupations during the past decade, most states were hesitant to make any modification until the law was changed.

This report is based upon responses from over forty teacher preparation programs in both land grant and non-land grant institutions to questions regarding their programs during the last five years.

Trends in Undergraduate Education

Undergraduate education in colleges of agriculture across the United States is in a period of transition. In most of the institutions surveyed there has been a general reorganization and review of objectives resulting in a realignment of curricula. This is particularly apparent in colleges of agriculture. Four colleges of agriculture have shifted to the "option approach" in which the college offers overall curricula in agricultural science, agricultural business, and agricultural technology. Agricultural education students elect one of these curricula and receive a degree in the one elected with a major in agricultural education. This reorganization into fewer broader departments is accompanied by a consolidation of introductory courses, giving the students more opportunity to specialize in their sophomore, junior, and senior years.

The most dramatic curriculum changes have occurred within agricultural education departments. These changes were precipitated by changes in emphasis in vocational agriculture in the high school, by increases in general education requirements, and by general updating of courses in agriculture. The demand for more specialized instructors influenced twenty-three colleges to reduce the number of required courses in technical agriculture and increase the number of electives to allow students to pursue specific subject matter areas such as ornamental horticulture. Hopefully, this will result in upgraded instruction in vocational agriculture in the high school and junior college, by providing a teacher who can offer in-depth instruction in a subject area—a necessity for the worker in modern agriculture.

With the passage of the Vocational Education Act of 1963, a number of the institutions became more aware of the importance of off-farm occupations, and four colleges added courses specifically designed to acquaint teachers with the vast opportunities in the agri-business industry and to prepare them to disseminate this information to their students. In addition to these courses dealing with off-farm occupations, many colleges have initiated courses in occupational information and vocational guidance. The professional courses for teacher preparation are usually required for licensing and, as such, change little.

The time-honored requirement that a student must have completed the curriculum in agricultural education before teaching vocational agriculture is gradually being replaced. Thirteen colleges hold to the traditional requirement that only agricultural education majors can qualify for teaching vocational agriculture. Conversely, twenty colleges accept students from any major if they have fulfilled the professional education requirements, and four colleges accept double majors. In two colleges, provisional certificates are available to agricultural graduates who agree to complete the professional education requirements. Therefore, undergraduate curricula in many colleges are now sufficiently flexible to permit the preparation of teachers who can direct programs for students interested in occupations in agricultural business and industry, in ornamental horticulture, and in other vocations for which an understanding of agriculture is essential.

Several teacher educators are attempting to recruit people with bachelor's degrees who are working in agricultural business or industry. Eleven educators have been moderately successful in this endeavor by recruiting between two and four prospective teachers each year. A minimum of two semesters of post-graduate study is considered necessary to prepare these men to teach vocational agriculture unless they partially completed the education requirements prior to receiving the bachelor's degree.

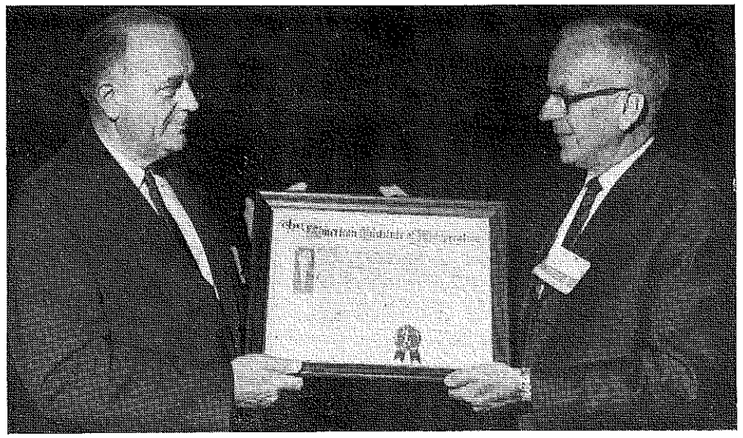
Improvement of Undergraduate Instruction

There is a renewed interest in quality of instruction in most colleges of agriculture. Many colleges had in operation or were involved in planning some program mechanism for the improvement of college teaching. Most of these programs were initiated by the departments of agricultural education. For example, at Pennsylvania State University, the Agricultural Education Department offers a course in college teaching for both inexperienced and experienced staff members, and six other colleges conduct regular seminars for improvement of instruction. Thirteen colleges offer awards for outstanding teaching, and twelve colleges are employing team teaching and educational television techniques.

Unfortunately, it appears that much of the motivation for improvement of instruction comes from students rather than, as it should, from the profession. In twenty-four colleges some form of student evaluation of instruction is practiced. This evaluation manifests itself in several forms, including student seminars, evaluation questionnaires, and publication of guides to courses and instructors.

Implications

Historically, there has been a close relationship between the teacher educators in agriculture and their student teachers. This often started during the freshman year in college and continued throughout their professional lives. This relationship, plus other common interests, has built almost a closed fraternity in agricultural education. Trends in preparation of teachers for vocational agriculture promise to modify — and in many cases, break — the opportunity for the development of this relationship. Consequently, there are members of the profession who view this trend with alarm for the implications will have a significant influence upon "what was" in teacher education in vocational agriculture. For example, changes have brought vocational preparation in specialized areas of one- or two-semester duration, and some even shorter. Courses, such as preparation of animal caretakers, heavy farm equipment operators, veterinary assistants, and park maintenance personnel, have little natural tie-in with the Future Farmers program, previously an integral part of the vocational agriculture program. In addition, the teacher of these courses, in many cases, will not be a product of the traditional preparation program. This raises much concern, and rightfully so. Progress is always fraught with frustration. Educators in agriculture must accept change as inevitable and study how this change can be directed to the continued achievement of the objectives which have made vocational agriculture successful in the past. So far, little evidence is to be found as to how educators in agriculture are facing up to this problem.



The American Institute Of Cooperation salutes public vocational and technical education on the fiftieth anniversary of the signing of the first National Vocational Education Act by President Woodrow Wilson in 1917.

We are grateful for the close relationship that has existed between cooperative leaders and vocational educators.

We recognize and appreciate the valuable instruction you are giving to cooperative employees and to those preparing for careers in agribusiness. The instruction you provide is vital to the welfare of our nation.

We recommend the splendid youth organizations that have been developed as a part of vocational education programs.

We pledge our continued support and cooperation in the years ahead.

Presented at the American Institute of Cooperation Lafayette, Indiana, August 7, 1967

(signed) J. K. Stern
President

Conclusions

In conclusion, then, the trends in undergraduate preparation in agricultural education include:

1. A relaxation of the rigid requirements to qualify teachers for instruction in vocational agriculture.
2. A reorientation of the curriculum from emphasis upon production agriculture to the inclusion of preparation for other occupations in agriculture.
3. Admission into the teaching of vocational agriculture of individuals prepared in majors other than agricultural education.
4. General increase in the general education and science requirements with an accompanying reduction in the agriculture-related courses.
5. A change in the objectives of vocational agriculture, reflected in the preparation of teachers.
6. Improvement of undergraduate teaching in agriculture is now recognized as a significant problem. Steps are being taken to effect changes, and many of these changes are being implemented through agricultural education departments in the colleges.

Truly, then, undergraduate preparation in agricultural education is in evolution, as it should be, since it is involved in the preparation of teachers for the world's most dynamic industry —agriculture.

A WORK EXPERIENCE MODEL

DAVID G. CRAIG, Teacher Education, University of Tennessee

David Craig

PART II*

This is the second of a two-part series of articles describing a study relative to some developmental aspects of work experience in vocational agriculture.** Part I described briefly the background, objectives and procedures of the study. It outlined a proposed work experience model for vocational agriculture consisting of an aim, objectives and guidelines. This article will present the implementing aspects of the model which involves teachers of agriculture and agricultural business employers.

Teachers and employers are two of the most important types of individuals involved in conducting work experience programs. These persons have the significant task of guiding students to apply on the job the knowledge, skill, and attitudes learned in school and required of the occupation. In implementing the work experience model, general and specific responsibilities were identified for teachers and employers. The general responsibilities for teachers included selecting, placing and supervising students. Those for employers included selecting, orienting and supervising students. The specific responsibilities are listed below.

The major area of inquiry relative to implementing the model included identifying the major concerns of teachers and employers when asked to fulfill each specific responsibility. Teachers and employers were also asked to indicate expected responsibilities of each other in conducting work experiences for students.

Teacher and Employer Concerns

A summary of the teacher and employer concerns follows the presentation of each series of general and specific responsibilities.

1. SELECTING STUDENTS (TEACHER)
   a. Explaining the purposes and procedures of work experience to students.
   b. Consulting with parents about work experience.
   c. Obtaining assistance from the high school guidance counselor.
   d. Obtaining assistance from other high school teachers.
   e. Interviewing and preselecting students for participation in work experience.
   f. Assisting the employer to schedule interviews and select students.

   SELECTING STUDENTS (EMPLOYER)
   a. Reviewing school records of the student.
   b. Interviewing several potential student employees.
   c. Making the final selection of a student for employment.

Relative to selecting students, teachers identified 33 concerns. The largest number of the more important concerns occurred in regard to interviewing and selecting students. The smallest number occurred when explaining to students the purposes and procedures of work experience. Employers identified 14 concerns in selecting students. Employers had the greatest concern with reviewing school credentials of students. They were least concerned about making the final selection of a student.

2. PLACING STUDENTS (TEACHERS)
   a. Obtaining assistance from the agricultural advisory board.
   b. Locating and selecting agricultural businesses.
   c. Evaluating the employment conditions.
   d. Evaluating employer supervision.
   e. Evaluating the nature and scope of the job experience.
   f. Assisting the student and employer during placement.

   ORIENTING STUDENTS (EMPLOYERS)
   a. Orienting the student to the business.
   b. Arranging hours for the student to work.
   c. Agreeing on a wage.
   d. Providing for student safety.
   e. Planning the on-the-job work experience.

In regard to placing students, teachers listed 33 items of concern. Teachers identified the largest number of difficulties when faced with the responsibility of locating and selecting businesses which have opportunities for work experience. The fewest concerns were expressed when obtaining assistance from the advisory board. Employers mentioned 21 concerns. The responsibilities of agreeing on a wage and planning the work experience jobs with students were of greatest concern to employers. The smallest number of concerns was identified when providing for student safety.

3. SUPERVISING STUDENTS (TEACHERS)
   a. Observing the student at work.
   b. Determining the supervision or instruction that has been given by the employer.
   c. Discussing problems with the student and employer.
   d. Evaluating student performance.
   e. Maintaining records of student performance.

   SUPERVISING STUDENTS (EMPLOYERS)
   a. Providing initial training on the job.
   b. Following up the initial training.
   c. Providing a range of experiences.
   d. Maintaining records of student performance.
   e. Discussing problems of performance.
   f. Evaluating student performance.

Twenty-three concerns were identified by teachers, in regard to supervising students. Employers mentioned 29 items of concern. Teachers expressed the greatest concern when observing students at work. Of least concern was the responsibility of discussing problems with the student and employer. Employers were most concerned about following up the initial training. The task of evaluating student performance was of least concern.

Teacher and Employer Expectations

A summary of the teacher and employer expected responsibilities of each other follows. (Only those expectations indicated by 50 percent or more of the

(Continued on next page)

*Part I was in November, 1967.

**"*Developmental Aspects of Off-Farm Work Experience in Vocational Agriculture in New York State*," Ed.D. Thesis, Cornell University, 1967. David G. Craig.

A Work Experience Model

(Continued from page 130)

respondents are listed. The items are listed in rank order.)

Expectations of employers by teachers

1. SELECTING STUDENTS
   a. Interviewing several potential student employees.
   b. Making the final selection of a student for employment.
2. ORIENTING STUDENTS
   a. Providing for student safety.
   b. Arranging hours for the student to work.
   c. Planning the on-the-job work experience.
   d. Orienting the student to the business.
   e. Agreeing on a wage.
3. SUPERVISING STUDENTS
   a. Discussing problems of performance.
   b. Evaluating student performance.
   c. Following up the initial training.
   d. Providing a range of experiences.
   e. Providing initial training on the job.
   f. Maintaining records of student performance.

Expectations of teachers by employers

1. SELECTING STUDENTS
   a. Explaining the purposes and procedures of work experience to students.
   b. Interviewing and preselecting students for participation in work experience.
   c. Consulting with parents about work experience.
   d. Obtaining assistance from the high school guidance counselor.
   e. Assisting the employer to schedule interviews and select students.
2. PLACING STUDENTS
   a. Obtaining assistance from the agricultural advisory board.
   b. Locating and selecting agricultural businesses.
   c. Evaluating the employment conditions.
   d. Evaluating employer supervision.
   e. Evaluating the nature and scope of the job experience.
   f. Assisting the student and employer during placement.
3. SUPERVISING STUDENTS
   a. Observing the student at work.
   b. Determining the supervision or instruction that has been given by the employer.
   c. Discussing problems with the student and employer.
   d. Evaluating student performance.
   e. Maintaining records of student performance.

Teachers identified 13 important expectations of employers when conducting work experience for students. Sixteen tasks were expected of teachers by employers. Teachers expected employers to fulfill the most responsibilities when supervising students and the least when selecting students. Employers had the greatest number of expectations for teachers when selecting students. Teachers were expected to fulfill fewer tasks when placing and supervising students.

Conclusions and Implications

A proposed model for work experience in vocational agriculture has been developed (Part I of this article). The model needs to be tested to determine its practicability and applicability to local agricultural occupational experience programs.

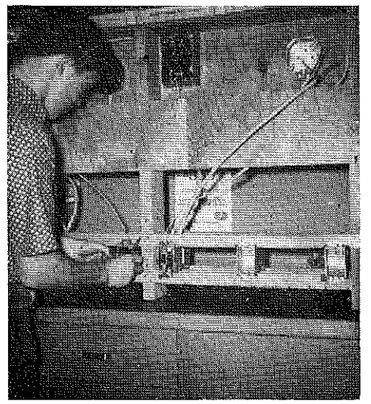
The responsibilities developed of teachers and employers are a tentative list of general and specific tasks for implementing the work experience model. These items are most applicable in vocational agriculture programs and off-farm agricultural businesses in New York BOCES school districts. These responsibilities need to be evaluated in detail before making application elsewhere.

The consensus of opinions of teachers and employers in these districts indicated a large number of important concerns about fulfilling certain responsibilities. The study indicated that teachers have many more concerns than employers. However, teachers have more responsibilities which result in more concerns. There were many important responsibilities that teachers and employers expected of each other as well.

This study needs to be replicated and expanded to include parents, students, principals and others, as well as to other states and vocational services.

LEARNING TO DO BY DOING

DUANE E. WAHLSTROM, Vo Ag Teacher, Odebolt, Iowa



There are various phases of agricultural mechanics that need to be revised and brought up-to-date to meet the needs of the students and community. This is especially true in farm electricity. Is your teaching according to standard wiring codes? Does it involve a practical application of what was taught?

In cooperation with our local IPS office, we are able to obtain a number of wiring boards to give the student a practical application in using electrical wiring principles. Each board is equipped with circuit breakers, outlets, receptacles and pieces of wire. It would be rather difficult to justify the cost of these on a local level considering the length of time that they would be used each year.

The student is expected to wire 2 3-way switches and one light on one side of the service entrance box and an outlet on the other side of the box.

Students can understand more thoroughly exactly what is envolved in wiring a building on a farm. They have the opportunity to understand what is meant by circuit breakers, 3 conductor cable, 2 conductor cable, balanced circuits, polarization, solderless connectors, and other terms associated with wiring and electricity.

We teach learning by doing. This is definitely an area of teaching where we need to have doing before learning takes place.

Married Student Teachers Change The Pattern

HOWARD BRADLEY, Teacher Education, Kansas State University

"Yes, I know that you have a new bride.

"Yes, you mentioned that your wife did not want to be alone at night.

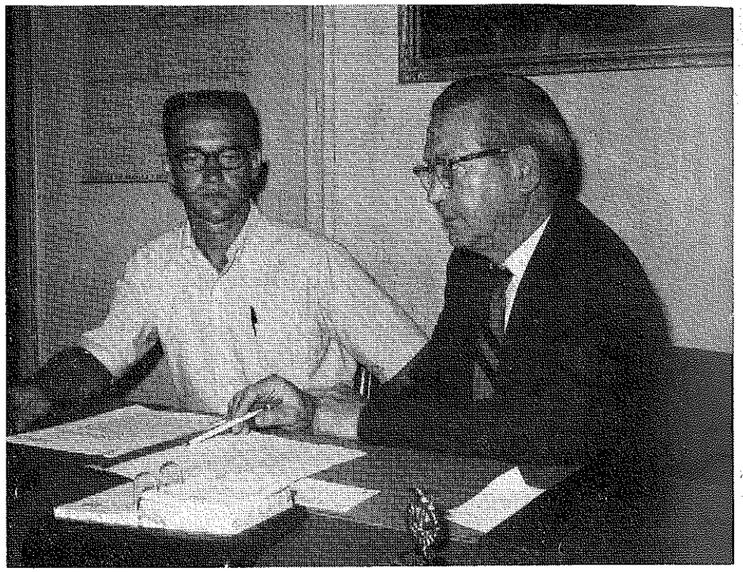
"Yes, you told me that you have only one car and that your wife needed the car to get to her work.

"Yes, you also told me that you two are operating financially on a shoestring.

"No, I don't think that you will be scheduled to do your student teaching at the local high school vocational agriculture department.

"No, you probably will not be scheduled for your student teaching assignment at one of the neighboring high schools within daily commuting distance from the university.

"Yes, I realize that the student teaching period is a long time for you two to be separated from each other except on the weekends at the start of your married life."



Norman Galle, senior married student in the Agricultural Education curriculum, and Prof. Howard R. Bradley make plans for Norman's student teaching. Norman's wife will also be doing student teaching in Music Education, a 1967 dilemma confronting the University supervisor and the married student teacher.

1968 Model Dilemma

Such conversation as this often takes place in the dilemma facing university supervisors of student teaching and the married students as they make plans for that all-important laboratory experience of off campus student teaching. Both the university supervisor and the student teacher are confronted with the problem of arriving at a mutually agreeable solution.

In the past five years the per cent of married majors in the Agricultural Education curriculum at Kansas State University at the time of student teaching has increased from 30.35 per cent in the 1962-63 year to 57.43 per cent in the 1966-67 year. See Table I. This is an increase of 89.22 per cent in five years.

Married Student Teacher Problems

A great deal of research has been carried on about the changing role of vocational agriculture and the inadequate supply of well trained teachers entering the field. It appears that very little study has been directed to the effect of the student's marital status as it is related to the student teaching program. Let us consider some of the effects of marital status that are in operation today and will continue to determine future student teaching programs.

1. The length of time off-campus for student teaching time has been steadily increasing.
2. The distance from the university to qualified vocational agriculture centers has been lengthened.
3. The financial burden placed upon student teachers is rising (often two places of residence).
4. The married student teacher is not only a student but the head of a household.
5. The time, interest, and financial obligations are divided between the student's family and the student teacher center.

Some of the circumstances related to the changing status of our student teachers cannot readily be changed. In reference to item one, the Association for Student Teaching, the TEPS Commission of the NEA and the State Departments of Education Certification requirements have equated increased semester hours of student teaching as being directly proportional to increased quality in teacher preparation.

Item number two regarding distance has been affected by the recent unification program in the Kansas schools. Now nearly completed, unification has decreased the total number of school districts in our state. This reorganization has already taken place in many parts of our nation, therefore there are fewer vocational agriculture departments throughout our nation within commuting distance from universities. Is is evident then that student teachers will be required to do their student teaching at centers farther from the campus than is practical for daily travel to and from the campus as many would desire.

The increase in the cost of living regardless of geographical location is many times overwhelming to "young-married couples" when they discover that "two cannot live as cheap as

(Continued on page 140)

Sensitivity Training—A New Dimension In Leadership Development

CHARLES LAW, Adult Education, N. C. State University

The purpose of sensitivity training is to help people help themselves. Its purposes as (1) the increasing of a persons's sensitivity to and knowledge about personal and interpersonal factors and their influence on thought and action and (2) the assistance given an individual in his efforts to behave more effectively in different and changing interpersonal relationships.[1] The Adult Education Association promotes the following objectives of sensitivity training:

(1) to increase sensitivity to human relations situations,
(2) to increase ability to diagnose human relations situations,
(3 to provide opportunities to practice certain human relations skills,
(4) to provide theoretical and research knowledge as a basis for sensitivity and action skills, and
(5) to relate the learnings of the training to one's home situation.[2]

Relationship of Sensitivity Training to Leadership Development

FIRST, look at how an increase in an individual's sensitivity to human relations situations can help develop leadership. It is evident that leadership must be exerted within a group of human beings. A group of individuals cannot exist unless there are certain patterned relationships which become established between the separate individuals within the group. Thus, in order to be a leader within a certain group, sensitivity is needed to the processes of human relationships or interaction patterns which are occurring within the group. If training can make a person more sensitive to interaction patterns, then it most definitely would contribute to the development of leaders.

Within experience-centered groups undergoing sensitivity training, group members analyze group processes as the group continues. By so doing, they uncover and solve to some extent the problems of leadership, problems of interaction and conflict between members, observe hidden agendas on both individual and group levels, experience difficulties in goal information and clarification, assist in the selection of appropriate procedures, and contribute to decision making. When these experiences are carefully analyzed, they can lead to greater sensitivity for each group member.

SECONDLY, it might be asked how an ability to diagnose human relations situations could contribute to leadership development. It is not enough simply to be more sensitive to human relations. A leader must be able to diagnose what is occurring within the group. It is one thing to feel that something is wrong within a group. It is quite another thing to be able to know exactly what is occurring between which individuals. Sensitivity training offers an opportunity for individuals to attempt to improve their diagnostic skills. An atmosphere of freedom is built within the group which enables a participant to say "I think John resents what Bill just said." He might expound further on why he feels that his diagnosis is correct. Both John and Bill can then either affirm or refute his diagnosis. The important thing here is that the individual participant gets an opportunity to practice, evaluate and improve his social diagnostic abilities. This, then, is a second and most important way whereby sensitivity training can assist in leadership development.

THIRDLY, the provision of opportunities for individuals to practice certain human relations skills can assist in leadership development. The justification of the proposed relationship between this objective of sensitivity training and leadership development rests on the modern leadership theory. This basic belief is that leadership skills can be learned. These skills refer not so much to certain techniques or gimmicks as to basic characteristics of the leaders behavior.

If a leader is to be effective, then he must be able to assess, diagnose and carry out problem-solving in human relations situations. The permissiveness of an unstructured sensitivity training group permits an individual to try certain approaches, evaluate his attempts at leadership, make adjustments in his approach and develop, to the degree possible, an effective approach to these problems. The fact that all of these experimental moves may be made in an atmosphere of sincere helpfulness is a great boost to a potential leader. Even if he does fail on his first attempts, this does not mean that subsequent attempts are forbidden him by the group. On the contrary, further attempts are encouraged and thus the needed skills begin to be developed.

A FOURTH objective of sensitivity training is to provide theoretical and research knowledge as a basis for sensitivity and action skills. The relationship between this objective and leadership development is fairly obvious. Yet, in many so-called leadership development programs, no emphasis whatsoever is given to this objective. The farmer of today would not think of using practices which research has shown to be defective, yet many people who aspire to leadership do so with no concept as to what research has shown to be true regarding the leadership functions. Sensitivity training attempts to overcome this problem and, thus, develop better leaders.

The FIFTH objective of sensitivity training is perhaps the easiest for which a relationship with leadership development can be drawn. This objective is to relate the learnings of the institute to one's home situation. No training is sufficient if it stops short of helping the learner plan how to use the learning back on the job. Sensitivity training does just that. It has a major responsibility for adaptation and application of learning to the job. In most all groups using this sensitivity training approach, appropriate applications are planned.

REFERENCES

[1]Robert Tannenbaum, Irving R. Weschler and Fred Massarik, *Leadership and Organization* (New York: McGraw Hill Book Company, 1961), 28.
[2]Adult Education Association of the U.S.A., *Training In Human Relations* (Chicago, Adult Education Association, 1959), 2-3.

VOCATIONAL EDUCATION — A MISSING ELEMENT IN CURRICULUM DEVELOPMENT

J. D. McComas, Dean, Kansas State University

Professionals in vocational education were encouraged by the anticipated program expansion and development promised through provisions of the Vocational Education Act of 1963. To date such optimism has been well founded as evidenced through new opportunities made possible by the Act. However, the impact of new program development in vocational education has been somewhat dwarfed by the vast amount of monies provided for elementary and secondary education as a result of subsequent legislation. Hopefully, the results of both types of emphases and support will culminate in a better educational opportunity for individuals of varying ages, interests, and potentials. However, a careful study of nationwide curriculum trends implies just reason for concern as to what role vocational education can and will occupy in helping to provide better educational opportunities.

Curriculum Trends Provide Focal Point

Since vocational education is (at least to some of us) a vital dimension of the total curriculum in American systems of public education, it is important to focus on such trends which are significant to total curriculum.

Careful cognizance of overall trends provides ample reason for serious concern among vocational educators. Should the implications evolving from general curriculum trends be ignored, a deleterious impact may be seen by those responsible for administering, supervising and teaching vocational programs.

While there recently has been more favorable acceptance and support for vocational education in some quarters, many national leaders in curriculum theory, planning and development cannot be considered sympathetic toward a complementary role for general and vocational education. Correspondingly, there are those professionals within vocational education who are inclined to minimize the contributions which general education makes to those students preparing for positions which are less than a professional level. An "either or" point of view or philosophy in curriculum planning and development obviously is a serious mistake.

Separate Efforts

Efforts of regional laboratories for elementary and secondary education and regional centers for vocational education reveal somewhat of a mutual disregard for curriculum efforts coming from each. It is unfortunate that there is seemingly little attempt to provide an effective *continuing dialogue and articulation* between the two. To the contrary, both dialogue and articulation are essential to the planning and development of an effective total program in public education.

Influence of Scholars

Curriculum planning and development at the national level during the last decade has shown an increased participation and influence by well known scholars from the respective disciplines. It is fair to say that professors of education and/or vocational education at times during this period have played less than a primary role in influence and development. One of the better known efforts in national curriculum projects is the MIT high school physics program developed by Zacharias and others at an estimated cost of four and one-half million dollars. Professors of mathematics have contributed similarly to the development of modern math programs for the public schools.

The influence of Conant cannot be overlooked in the shaping of curriculum. One of Conant's recommendations was for increased vocational education in areas of high student drop out rates. Resulting inferences which some have made is that programs of vocational education in public schools should be somewhat curtailed to such situational factors. One is hard pressed to identify an influential champion for vocational education during this period.

Vocational Education Absent from Total Curriculum Planning

A further concern develops when even a cursory review is made of general writings and texts authored by prominent curriculum theorists and specialists. The more frequently used and cited texts and sources generally treat vocational education in the total curriculum in one of the following ways; (a) ignore it entirely and focus only on general education requirements; (b) recognize it as being present but only to be tolerated because it cannot be summarily dismissed; and (c) present it as a facet of total curriculum without supporting or rejecting it.

Griswold is cited by Taba as stating:

> *A rejection of technical subjects and of vocational education of any sort as a narrowing influence is the logical consequence of this viewpoint. That type of "education" is considered to be not education, but training. It is an uncalled for encroachment on the essential task of liberal education.*[1]

While Taba does not attempt such an argument against vocational education, she does present a view of general education and infers that vocational education is not an integral part of her theory of curriculum planning and development. A contrasting point of view is presented by Saylor and Alexander who have presented a rather unbiased description of typical curricula for vocational education. However, it may be concluded that they do not support or reject vocational education in planning the total curriculum as is illustrated in the following statement:

> *. . . it should be understood that we are not here considering the justification for or the place of vocational education in the program of common schooling of children and youth, but only the validity of the curriculum organization itself.*[2]

A review of other current writings by most national leaders in curriculum planning and development would reveal points of view on a continuum somewhere between or in agreement with the sources cited.

Implications

It is clear that the lack of support for vocational education from national curriculum leaders will not exclude it from the curriculum of the public schools. However, it is equally lucid that such points of view hamper and limit the progress of vocational programs and create hostility between professionals within each camp. The following suggestions are presented as possible beginnings to alter trends which are in effect:

1. Vocational educators need to recognize the contribution which general curriculum theory, planning and development can make in the development of the vocational dimension of the curriculum.
2. The vocational dimension of the curriculum should stress both theory and practice and recognize the integral role of general education in helping to realize worthwhile goals in vocational education.
3. Vocational educators need to be involved in total curriculum planning and development at local, state and national levels. Professionals in vocational education need to become a part of state and national planning groups (such as ASCD and others) which help to shape trends in total curriculum development.
4. Cooperative planning and development must be realized between regional laboratories for curriculum development in elementary and secondary education and regional centers for vocational education. Occasional joint meetings and the employment of general or vocational education specialists by each is not sufficient.

In summary, local and state vocational education groups, The American Vocational Association, and state and national divisions of vocational education must show an increased interest and support for the planning and development of curriculum projects which reflect both theory and practice, and which reveal a ready worthiness for inclusion within a total program of public education. An increasing number of ways must be sought to participate in and influence national curriculum efforts which encompass total planning.

[1]Hilda Taba, *Curriculum Development: Theory and Practice,* Harcourt and Brace, New York, 1962. p. 20.
[2]J. Galen Saylor and William M. Alexander, *Curriculum Planning for Modern Schools,* Holt, Rinehart, and Winston, New York, 1966, p. 181.

FFA IN TRANSITION

Jack Rudd, Vo Ag Teacher, Ceres, California

Jack Rudd

The rapid advancements in agricultural technology over the last few years have greatly affected all fields of agriculture. Since high school agriculture departments and the Future Farmers of America organizations serve as the initial training ground for future agricultural leaders, changes at the high school level must keep abreast of or precede changes in the agricultural industry.

Recent changes in the agricultural industry have created many agriculturally related jobs for women. Many high school agriculture departments have opened their courses to girls to prepare them for these positions, but only a few have given these girls the opportunity to benefit from an extra-curricular organization. Some states have opened the Future Farmers of America to girls and others, like California, have initiated companion organizations for girls similar to the FFA — usually called the Farmerettes.

In January of this year, (1967), the California State Bureau of Agricultural Education recommended that "girls enrolled in vocational agriculture be allowed to become members of the California Association of the Future Farmers of America not later than the school year 1968-69, and that they be entitled to all rights, privileges and obligations of membership".

The Study

It was felt that before a major effort was made to include girls in the FFA, an understanding of the attitudes of the people directly involved with the Future Farmers of America should be obtained. Therefore, questionnaires were sent to the advisors of FFA Chapters (250) in California. The questionnaire was designed to determine:

1. the present status and future role of girls enrolled in agricultural classes
2. the scope, objectives, activities, and future role of the Farmerettes
3. the present status and future role of girls in the Future Farmers of America in California

The following statements are based on information obtained from the 118 questionnaires that were returned:

a. Fifteen of the instructors reported that none of their classes are open to girls, and twenty-nine instructors restrict girls from their shop classes.
b. There are very few classes in California designed specifically for girls, but those that are consist mainly of horticulture and exploratory agriculture.
c. Twenty percent of the participating schools have agriculturally oriented, female organizations called the Farmerettes. The primary requirement for girls desiring membership in this organization was reported to be enrollment in vocational agriculture.
d. In most cases the agricultural instructor is the advisor of the Farmerettes Chapter.
e. The objectives and activities of the Farmerettes are very similar to those of the FFA. The most important reasons for forming a Farmerettes Chapter were: to provide leadership opportunities for girls, to provide an opportunity for girls to participate in fairs and shows, and to provide a companion organization for the FFA.
f. Almost three-quarters of the instructors in schools with a Farmerettes Chapter reported that the girls would rather be FFA members. Most of these instructors indicated that if girls are allowed membership in the FFA the Farmerettes organizations will disband.
g. On the basis of the total sample, half of the instructors indicated that they were in favor of allowing girls membership in the FFA. The older instructors tended to favor a co-educational FFA program while two-thirds of the instructors between twenty and thirty years of age preferred to maintain the organization for boys only.
h. Three-quarters of the instructors in schools that have a Farmerettes Chapter were in favor of opening the FFA to girls.
i. Seven of the schools reporting allow girls to join their local FFA Chapter and compete in all of its activities at the local level.
j. The most important means by which girls could strengthen the FFA were reported to be improvements in competition, participation, conduct, and scholarship.
k. The most important methods reported by which girls could weaken the FFA were the requirements for more chaperons, the encouragement of undesirable boy-girl relationships, and that female academic superiority might discourage some of the boys from trying.
l. More than half of the instructors reporting indicated that there is no need for women agricultural instructors.
m. Most of the instructors felt that there is no legal basis by which girls can be excluded from the FFA.

These findings indicate that only half of the instructors favor the inclusion of girls in the FFA. However, afterward, the instructors met at their Annual California Agricultural Teachers Association Meeting and voted to recommend that girls be allowed to join the Future Farmers of America.

Conclusion

Girls are becoming an integral part of the vocational agriculture program at the high school level in the United States due to the increasing diversity of the agricultural industry and the expanding number of occupational opportunities for women. These girls desire membership in the Future Farmers of America, and in my opinion this desire will be satisfied in the near future in California.

The inclusion of girls in the FFA will shatter the time honored tradition of the male oriented Future Farmers of America. The transitional period will be a very frustrating one for FFA Advisors especially since the boys are so dramatically opposed to such action. One suggestion of considerable merit has been made to ease the strain and attempt to solve many of the problems posed by a co-educational FFA program is that girls be brought into the FFA as a separate division having its own officers, judging teams, contests, and awards.

At this point, however, our energies should be directed towards the admission of girls into the FFA before court action forces us to admit them. It will be much more pleasant for all concerned if we include girls in the Future Farmers of America because we want to not because we have to.

Electrical Controls In Agricultural Mechanization*

W. Forrest Bear, Ag Engineering, University of Minnesota

Dr. Bear

In service training programs for vocational agriculture instructors on Electrical Controls for Agricultural Mechanization are planned by the Department of Agricultural Engineering and jointly sponsored by the Minnesota Rural Electrification Council.

Investor owned power companies and cooperative power associations are members of the Minnesota Rural Electrification Council. The M.R.E.C. provided funds to develop six electrical controls kits which are used in the in-service training workshops.

Two programs were held to train twelve power use representatives, twelve farm service representatives and twenty-four vocational agriculture instructors.

Topics and Program

Topics studied at the workshops are: electric controls and control circuits, switches and switch control circuits, relay devices, motor control devices and automatic sensing devices. Each topic studied involves a lecture or discussion period followed by laboratory exercises to be completed using electrical control kits. Ideally only two persons are permitted to work together with a kit.

The kit contains the following items: magnetic relay, repeat cycle timer, time switch, thermostat, humidistat, photoelectric control switch, time delay relay, DPST relay, SPDT relay, push button stations, toggle switches, limit switch, 2-way switch, 3-way switches, 4-way switches, snap action switch motor, porcelain socket and light bulb, attachment plugs, circuit testers, screw drivers, hook-up wire, (SRU) fused receptical with a low amerage fusetron and two manuals with overhead projection transparencies. Kit materials are stored and transported in a specially partitioned and padded footlockers. Each kit is identified by the color of the board bases for the component parts. Depending upon local costs for materials and labor the kit cost approaches $200.00 each. After having attended a workshop the teacher, power use or farm representative is eligible to borrow one or more kits of materials for use in his instructional program.

An enrollment fee is charged each program participant which covers the cost of a manual with transparencies and a nominal depreciation on the equipment. The Manual, Suggestions for Teaching Electric and Basic Controls Used in Agricultural Production, has been developed by the Edison Electric Institute, 750 Third Avenue, New York, N.Y. 10017, and can be purchased from the organization.

The organization of this program is such that the original program participants will train future agricultural educators interested in electrical control for agricultural mechanization.

Follow-up

The 48 men trained were the nucleus for staffing eight in-service workshops last summer in the State of Minnesota.

The success of this program will be realized when the educational program reaches the electrical consumer. The consumer may be the day school student, beginning or adult farmer in the Vocational Agriculture instructors classes or many other groups contacted by the power use or farm service representative.

This program has been both effective and rewarding as an educational training device for the Minnesota teachers and the M.R.E.C.

The educational program goals can best be accomplished when all interested agricultural educators combine resources.

Nathan Haw, Northern States Power, Minneapolis, Juel Nelson, Interstate Power, Albert Lea and Lewis Royer Teaching Assistant trace a faulty circuit.

Dennis Finstad, Vo Ag Instructor, Jackson, Minnesota, Lewis Royer, Teaching Assistant, and John Wright, Vo Ag Instructor, Worthington, Minnesota, complete a circuit hook up.

*This article is based on personal experiences during the organization and planning of in-service workshops for Minnesota Vocational Agriculture Instructors

PROGRAM OF WORK — For the Department of the Supervisor?

LARRY LOCKWOOD, Vo Ag Teacher, Grundy Center, Iowa

During our final months of college preservice training all of us were instructed in the proper procedure for making our local department annual program plan. Then we were turned loose on a world full of budget-minded superintendents, preoccupied colleagues and less-than-eager students. This resulted in a confused state leading to a somewhat hastily prepared program plan—and that plan improved very little with age.

The year-to-year improvement of that plan is usually like the new young doctor who was confronted with his first patient—suffering from an angry rash. The doctor was baffled—so he asked the patient—"Have you ever had this before?". "Yes", replied the patient, "several times". "Well", replied the young doctor, "this is an easy diagnosis—you've got it again."

It is my belief no one single factor is as important to an effective vocational agriculture department as a well-organized program plan. It is a plan for your *entire* year's work. The job is too large—and the time consuming jobs too many—not to have your activities well planned ahead. It is easy to spend too much time on some seemingly important task—and then end up with too little—or no time for some much more important activity. We all know that the more we do, the more the possibilities for other activities we find. Without a good plan the year ends, and you feel as if you just have a good start.

Must Be Written—Well!

Written work is usually not our first choice of enjoyable activity—and planning a good department program plan takes several days of written work. A vocational agriculture instructor needs to be seen doing things in the community, not just sitting in his office. And above all, there is no FFA contest connected with having a good program plan to add glory and recognition to it. None of these things furnish much encouragement, but several days spent in your office or classroom, working on organization of your program plan, is time very well spent.

Some secretarial help is very desirable. Have your plan neatly typed on stencils and printed on good quality paper. Give it an attractive cover and a durable binding—maybe "spiral" or "loose leaf" bound instead of stapled. Organize it well. Put in a prominent table of contents. Make it look like something worth while to read. Include with it, perhaps on the cover, some good sound philosophy dealing with the future in agriculture generally and with farming and ranching specifically.

Administrator Is Important

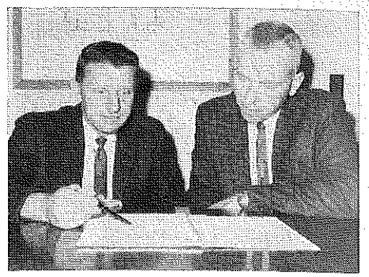
Some administrators lack understanding of the vocational agriculture job. If the superintendent or principal doesn't realize the tremendous job in vocational agriculture to be done, we shouldn't blame him for the additional study hall, or science class or two that he may add to your schedule. No one thing will impress the possibilities in vocational agriculture more effectively upon *your* administrator than a well thought out department program plan. Discuss with your administrator possible vocational agriculture activities, and go over your program plan with him. Have the superintendent give the Board of Education members each a copy of your plan. If possible, ask them to formally approve your plan and to make additional suggestions to you. Then get out and *do what your plan says you are going to do.* The next year your administration will be sold on and proud of *their* vocational agriculture program.

Guidance People Too

Give copies of your plan to your guidance staff. Go over it with them. It is not their fault for counseling a boy out of vocational agriculture if they don't understand what you are trying to do. Cooperation is always a two way street.

Others Too

Your are probably the *only* teacher in the school system that has a yearly program. Be proud of it. You might be surprised how many of your fellow teachers would be interested in seeing



Larry Lockwood, right, Vocational Agriculture Instructor at Grundy Center, Iowa, discusses his annual vocational agriculture department program plan with Superintendent of Schools Dale C. Mulford. Without the understanding and approval of your administration it is very difficult to be allowed either the time or the equipment you need for an effective vocational agriculture program.

it. You might even motivate a few to try it in their own subject matter area. Parents of your high school students will be interested in a copy. Members of your department advisory council are a valuable source of ideas, as well as a group that should definitely be consulted concerning your plan, and given copies of the completed plan.

The Plan

Your program plan needs to include these things:

1. Answers to some commonly misunderstood questions about vocational agriculture. (Use 4 or 5 common local problems or questions.)
2. A O E E (Agricultural Occupations Employment Experience) What does this have to offer in our school?
3. General organization plan of our vocational agriculture department. (A diagram works well to quickly explain this to people not familiar with it. See Plan)
4. Local census date concerning agriculture.
5. Department policies — transportation, farming programs and employment experience, F.F.A., records, etc.
6. Instructor's schedule.
7. Groups to be served by vocational agriculture.
8. General services of the vocational agriculture department.
9. Vocational agriculture facilities.
10. Guidance, counseling, public relations.
11. Summer program in vocational agriculture.
12. Records and reports — (list these—all of them—include weekly lesson plans, etc.)
13. High school class content.
14. Evaluation of the department program plan.

Summary

Now, after you have these things all done, don't relax. You really haven't even started yet. All you've accomplished is to tell people *what* you are going to do. Now you've got to get out and GET THE JOB DONE.

TEACHER CERTIFICATION AND EDUCATION

JAMES ALBRACHT, Teacher Education, Kansas State University

Teacher certification guarantees that the candidate has completed certain standards or requirements, and is endorsed by an institution of higher learning. The standards which have been met were designated by experts in the educational field as being necessary for successful teaching performance. The teacher has demonstrated some proficiency in the art of teaching, has completed certain required courses, and has demonstrated adequate scholastic ability. Teacher certification has long been considered a good predictive means of insuring teacher success. However, since teaching success cannot be guaranteed even though the teacher has met the certification requirements, what then are some of the problems involved in evaluation and measurement?

Evaluation and Measurement

Caldwell[1] makes a clear distinction between measurement and evaluation. This is a helpful distinction for the novice involved in evaluation. Caldwell describes measurement and evaluation as closely related in purpose, but as separate and distinct operations. He further states that measurement of education effectiveness may be undertaken without any attempt at evaluation.

According to Caldwell, measurement implies some standards or criteria for estimating the changes that the educational program has induced, and that it does not necessarily prove that the changes are desirable or serve the purpose for which the program was intended.

According to Dodds[2] there is considerable subjective judgment involved in evaluative rating systems. He feels that this is not necessarily bad because of the intangible factors that make a teacher great, and that each individual faculty member has peculiar educational potentialities. Nevertheless, Dodds contends some sort of appraisal, preferably a thorough one, should be involved in any decision pertaining to the career of faculty members.

Evaluation means value. The judgment therefore depends upon the value; and herein lies the difficulty basic to all evaluation. Values elude objective analysis, they grow out of the cultural environment and are influenced by psychological factors that are imperfectly identified and understood. Caldwell further states that evaluation has meaning only in reference to specific values, standards, or objectives. This does not mean that evaluation serves no general purpose, or has meaning only for the individual evaluation. Values may be widely shared, broadly defined, and their consistency with other values may be established.

Caldwell continues that the first problem in the evaluation of any educational program is to identify the values that are sought through the program. The purpose of measurement and evaluation is to discover the extent which and in what ways the program is effective. Probability, not certainty, is the only feasible objective.

Two Points of Reference

Caldwell designates two points of reference at the outset: a base point which represents the level of performance before the education program begins, and the standard of performance or accomplishment toward which the program is directed. Unless the point is selected before the educational program commences, subsequent attempts to measure progress will have little meaning. Unless a performance standard is established, it will be impossible to determine the extent to which the purposes of the program are being attained.

Unless the objectives can be stated in measurable terms, it will be impossible to discover whether the educational program has achieved its purpose. Caldwell further contends that in many types of programs, and particularly at high administrative levels, it may be difficult to state goals in measurable terms. Part of this difficulty lies in discovering what makes for effective performance.

Caldwell suggests that the educational objectives for typists are easily set, and for administrators, supervisors, and teachers, they are much more difficult, and should be approached on a different basis.

Another difficulty lies in the lack of experienced and tested knowledge about establishing precise and measurable goals for educational programs. The task of job analysis, performance measurement, goal setting, and evaluation of program are interrelated; progress in any one of these benefits from progress in the others. Measurement of educational program effectiveness cannot proceed beyond the ability of responsible officials to state clearly what it expected of the jobs for which the education is offered.

Tool's for Measuring

The proper tools of measurement and their proper application are important. There is much danger in the misuse of valid measurement methods as there is in the unwitting adoption of methods that are inappropriate or misleading. Standardized tests that are valid for measuring growth of knowledge or skill may be unsuitable for measuring the effect of education upon work. It may be useful to know what an individual has learned from the educational experience, but this information does not indicate how much this learning has affected his job performance.

Measuring the results by making "before and after" comparisons is more meaningful than mere statistical tabulation, but it is not without pitfalls of its own. Program results are most easily measured where the type of activity lends itself to "before and after" comparisons, such as testing for an individual skill. If the educational objective is to not only enlarge the ability to perform, but to also improve actual performance, then the comparison would be between the actual performance "before and after" the education.

(Continued on next page)

Teacher Certification and Evaluation

(Continued from page 139)

Comparison of performances of the same individuals or of the same agencies over a period of time is the best method known for ascertaining the results of the program. Comparisons between different educational programs, however, produce less useful information. Comparisons among different programs having similar objectives have value if careful and detailed attention is given to the influences of the variable factors upon the educational program. The greater effect of this type of analysis renders it a less useful method of measurement than the "before and after" comparisons of the same program, individual, or agency.

Getzels[3] expressed the opinion that the evaluator must have criteria before he can measure. He further stated that the creative student might be assessed differently than other students. He suggested that the creative student might be given an essay examination, rather than an objective examination in determining his grade. Creativity is an intangible value that should be preserved as well as evaluated. Reeves[4] feels that diversity and creativity have been most important characteristics of higher education in America, and are probably the most important areas to preserve.

Caldwell states that the most reliable methods of measuring results are those that provide for cross-checking of findings through repeated use. There are two principal methods of cross-checking educational measurements. One is by applying different, but equally rated, measures of accomplishment to the same "yardstick" as to repetitions of the same educational program under closely similar circumstances.

For some types of programs in which individual proficiency is an objective, cumulative personnel records may afford some indication of education effectiveness. This is possible only if these records show the individual's work experience in relation to clearly defined performance standards. However, educational objectives pertain more to the productivity of work units than to individual performances. In these cases it is the performance of the particular unit or operation that needs to be measured and analyzed.

Measuring the impact of the improved organizational performance as a whole has the advantage that it is not necessary to assure the impact of education upon individuals. If a clear correlation is found between the educational program and improved performance, if no other explanation for improvement can be found, and if no adverse side effects are evident, then the educational program is said to have achieved its intended purposes.

Conclusion

The evaluation of the effective performance of teachers is not an easy task, and is beset by subjective considerations. Neither is certification a guarantee of effective teacher performance. However, the standards which must be met by the teacher in order to be certified are the most objective criteria which can be identified at the present time.

[1]Caldwell, Lynton K., *Measuring and Evaluating Personnel Training* Public Personnel Review, Vol. 25, No. 2, April 1964, pp. 97-101.

[2]Dodds, Harold W., *The Academic President—Educator or Caretaker* New York: McGraw-Hill Book Co., 1962.

[3]Getzels, Jacob, and Jackson, *Creativity and Intelligence* New York: Wiley and Sons, 1962.

[4]Reeves, Floyd, *Roles of Consultants in Higher Education* Leadership Training Meeting, North Central Association, Chicago, Illinois, 1959.

Married Student Teachers Change the Pattern

(Continued from page 132)

one." The financial burden of maintaining two living quarters is an obstacle to many young couples.

The need for vital, "top-notch" vocational agricultural programs and for well-prepared, enthusiastic beginning teachers is greater than ever. How, then, can the problems arising from the changing marital status of the Agricultural Education Major and the increasing need for teachers in this field be overcome?

Meeting The Financial Problem

One of the major deterrents—that of finance—can be met by a bold step not being followed in our state. I refer to the financial subsistence for all student teachers doing their student teaching at centers away from the university and college campus and who are not commuting to and from the campus. This idea of a student teaching stipend is one solution. The issuing of student teacher scholarships might be another way to meet this problem of finance that seems to be increasing each year. Students in our teacher preparation institutions have many agriculture areas in which their abilities are desired. Agricultural Education must meet this increasing competition by developing a program that will hold our prospective teachers. If some solution is not brought about, the shortage of vocational agriculture students entering the Agricultural Education curriculum will continue to grow. Let's start pursuing plans to meet this challenge! What do you suggest?

BOOK REVIEWS

RAYMOND CLARK

Michigan State University

Childers, Norman F., MODERN FRUIT SCIENCE, Horticultural Publications, Rutgers — The State University, New Brunswick, New Jersey, 1966. pp. 893, Price $9.00.

Prepared primarily for undergraduate fruit and nut growing courses in colleges, the book is not only complete and technically accurate, but it is also interesting and easy to read. Students of vocational agriculture, short course students, and growers of fruits and nuts who need to master some of the details of the business and who desire to keep abreast with trends and research developments, should find this book of value to them.

Subject material is presented in an attractive manner. Numerous photographs and charts are utilized to keep the attention of the reader. At the end of each chapter is a highly select list of questions dealing with content, and an excellent collateral readings list.

Much detailed information that might be difficult to locate in other books is furnished the reader in the appendix. Included is a listing of world publications carrying pomological information, cost of production data, a list of world experiment stations and universities experimenting with decidious fruits, together with their respective fruit crops and fields of research, and life information.

Numerous professional men reviewed, criticized, and contributed to different portions of the book.

Professor Childers was formerly Assistant Director and Senior Plant Physiologist U.S.D.A. Experiment Station in Puerto Rico. He currently serves as Professor and Research Specialist in Horticulture, Rutgers — The State University of New Jersey, New Brunswick.

—Guy E. Timmons
Michigan State University

Gray, Peter, THE DICTIONARY OF THE BIOLOGICAL SCIENCES, New York, N.Y., 10022: Reinhold Publishing Corporation, 1967, pp. 602, $14.75.

Designed as a modern reference that brings together a comprehensive vocabulary of 40,000 terms including the entire range of the biological sciences. There are many taxa and technical terms that are not important enough to be included in an encyclopedia but which do warrant a brief dictionary definition.

The volume includes the ordinary English words that are used in a different context from that generally understood. Latin words included are those for which there is no exact English equivalent; also, the definitions or, the synomy of nearly all taxa of original rank and above, and the great majority of families. The vernacular names of organisms were guided by the usage in contemporary books native to the countries involved. The descriptive terms are those which are peculiar to biology or have a peculiar meaning in that science. Several thousand common roots from which many biological terms are coined have been included; as well as technical jargon, plurals, and hyphenating or compounding. Finally the author has included "qualifications" due to the fact that many areas of the world use the same vernacular name for two different organisms.

This comprehensive book of English-language reference covers the total curricula of the life sciences. It should be very useful to the biologist, teachers and students on the university or community college level.

Dr. Peter Gray joined the faculty of the University of Pittsburgh in 1939; becoming Head of the Department of Biology in 1947.

—Walter W. McCarley
Michigan State University

Briggs, Fred N. and P. F. Knowles, INTRODUCTION TO PLANT BREEDING, New York, N.Y. 10022: Reinhold Publishing Corp., 1967, pp. 426, $12.50

As the population explosion advances, the world's demand for food and fiber will be unprecedented. Thus, the plant breeder is obligated to meet the challenge to produce the basic food and fiber for an agricultural industry which must be achieved on a continuously diminishing acreage. The authors have devoted thirty chapters to such general areas as history; plant breeding as related to genetic principles; synthetic varieties; and statistical analysis of data. Individual crops are not emphasized, wheat and corn are used as examples. The book utilizes black and white pictures, tables and illustrations of various methods of reproduction in plants.

The authors state that it is assumed the student has received training in botany, genetics, biological sciences and crop production. The book is designed as an introductory course in plant breeding for advanced undergraduate students; also, may be useful in a community college or as a reference for the professional agriculturist.

Dr. Fred Briggs was Chairman of the Agronomy Department and later Dean of Agriculture, University of California. Dr. P. F. Knowles is Professor of Agronomy, University of California.

—Walter W. McCarley
Michigan State University

Ussovsky, B.N. and others (compilers), COMPREHENSIVE RUSSIAN-ENGLISH AGRICULTURAL DICTIONARY, Pergamon Press, New York, 2nd edition revised and enlarged, 1967, pp. 470, Price $25.00

This dictionary is one of the essential tools for scholars and others who seek to help remove the curtains of semi-ignorance about achievements in the broad field of agriculture among the Russian-speaking people. This publication is reported to be the only comprehensive bi-lingual Russian-English agricultural dictionary in existence.

The major compiler, B. N. Ussovsky, is identified as an agronomist and a senior scientific worker.

—O. Donald Meaders
Michigan State University

Providing Instruction For Young Farmers —A Pleasure!

R. B. Carter, Vo Ag Teacher, Appomatox, Virginia

Any instructional program for young farmers should be based on the needs of the particular individuals. Young farmers are primarily interested in those activities and topics which are current problems to them or will be problems in the very near future. Perhaps the main reason that teaching young farmers is a pleasure is that results are seen very quickly and progress may be measured in a very short span of time.

As most agricultural education workers know, young farmers should participate in developing their instructional program. After the problems to be studied have been decided upon, it is the responsibility of the instructor of vocational agriculture to teach the units or lessons.

Teaching Adults

The process of learning is about the same for adults as for high school students. Age and experience make some difference. I believe, however, that the greatest difference in teaching young farmers, as compared with high school students, is largely in the degree of motivation. Young farmers are farming and, in most cases, have the responsibility for making decisions. High school students are more inclined to consider instruction as training for some future event or events which may not involve them. Consequently, young farmers recognize the problems involved to a greater degree and have keener interest in solving them than do high school students. An instructor of vocational agriculture must be capable of presenting the "how" and "why" for the "now". Let's not forget, however, that it is the young farmer that must make the decisions in connection with his farming program. I try to help each of my young farmers define his problem, evaluate the various alternatives, and then let him make the decision since he must bear the consequences of the decision made.

The Classes

Topics for study in our young-farmer classes are chosen by the young farmers. As the teacher, I have the responsibility of selecting the method or methods that are to be used in teaching these topics. I believe the teaching-learning process carried on in a classroom should be very informal. For best results, a unique relationship must exist between the teacher and students. Perhaps it may be best described as one of mutual friendliness and confidence. The young farmer wants the teacher's help. Otherwise, he would not attend the class.

There is a great deal of variation in the kind and nature of the topics we discuss in young-farmer classes at my school. Topics dealt with the past year included:

(1) Problems in connection with the production and marketing of dark-fired tobacco
(2) Using chemicals on the farm
(3) Farm management — an introduction
(4) The economics of using fertilizers
(5) Determining the cost of operating machinery
(6) Determining the cost of using credit
(7) Budgeting crop enterprises
(8) Budgeting livestock enterprises
(9) The farm outlook
(10) Soil and water management problems
(11) Using artificial breeding
(12) Wintering beef cattle

In studying each of these topics the emphasis was on how to cut cost. Since a farmer has little or nothing to do with prices, our farmers are mainly concerned with what they can do to reduce the cost of producing farm products.

The best length of class period may be largely a matter of opinion, but I try to keep it to about 1½ hours. I have learned that young farmers will stay longer for a class than older farmers, but I plan each class session for about 90 minutes. Informal discussions follow each class session, and I usually talk with individuals long after the class ends. These discussions seem to be very profitable to the young farmers, and if a teacher is alert he will learn a great deal about his young farmers during such conversations.

The Methods

I have found the conference to be one of the best methods for teaching young farmers. No two young farmers are exactly alike. Each has had different experiences. As a teacher, I want the individual to arrive at his own decision and the conference method is very useful for this purpose. Lectures have a place, if used for short periods of time. Discussions are good, but difficult to handle or control. Demonstrations are excellent, especially for those units which can be taught in the shop or on a farm. Immediately following a demonstration, it is important to provide for practice by the students of each performance demonstrated. Visual aids add much to a class for young farmers. I have found slides and filmstrips extremely useful. I am particularly fond of the overhead projector. Its adaptation to a wide range of presentations makes it useful in getting and holding the attention of the learners. Motion picture films have a place, but it is very difficult to get one that contains exactly what I want to present. The young farmers enrolled in my class do not want to be entertained during a classroom session. They are quite serious about the meetings they attend, and they are most eager to take advantage of every available opportunity that will enhance their success.

Topics for classroom study should be at least of general interest to most members of the group. I have no two young farmers with exactly the same farming program, but there are areas of common interest or overlapping knowledge. Therefore, a teacher should carefully guide his young farmers when selecting topics to be studied. Problems that pertain only to one individual may best be handled during a visit to the farm of that individual. This is not intended to mean that a topic selected for classroom study must be of the same importance to each member of the class. Sometimes a dairy farmer needs to know the problems of beef cattle farmers. Topics that are seasonal should be studied "in season".

The lesson plan for teaching a young-farmer class should be thoroughly prepared. There is no substitute for good teaching procedures. Young farmers expect to get usable information and the teacher should be prepared to provide it. A teacher might get by teaching high-school students with a poorly prepared lesson plan, but not with young farmers. They are alert and know when the teacher treads in the area of the unknown. If you want to see your young farmers at your next class, you must seek to meet their needs during each instructional period.

The Teacher

I may be prejudiced, but for the best results I think the vocational agriculture teacher should teach most of the classes for young farmers. Resource personnel are fine as consultants, but may do a poor job of teaching young farmers. Often such people are just not familiar with the individual farm situations of the farmers and, through no fault of their own, just don't provide the help the young farmers want and need. If an outside person is used, I strongly advise that the teacher of vocational agriculture explain to him the kinds of information he wants presented to the class and give him as much background as possible on the members of the class. During fifteen years experience, I have not found outside people very useful in teaching young-farmer classes.

I find it advisable to have at least one class or group activity each month for young farmers. A period of concentrated study should be scheduled during the winter months or the "off season" for farm work. We have used a series of classes that tie in such units as "welding" and "farm management". Usually we have a class each week for four to six weeks on one or more special topics.

The Young Farmers

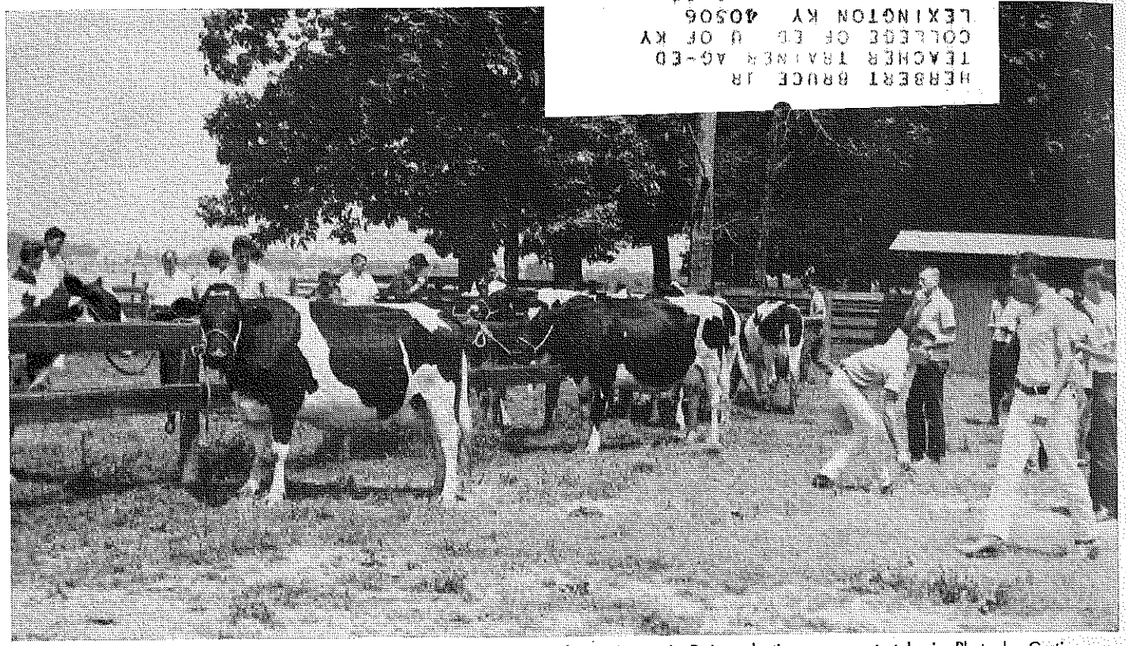
Never underestimate the knowledge and experience of a farmer. A young farmer frequently follows a particular line of thought for a long time before he mentions it to me. Often he has read a great deal more than I have about the problem. Because some young farmers may be quite familiar with a particular problem, it is very desirable to encourage each to participate in class discussions as much as possible. No one in the group may have the answer, but collectively they may. If I learn that a young farmer has worth-while knowledge or experience, I try to arrange for him to share it with the group during a class session. Besides disseminating information, it is a means of increasing the ego of the individual and helps him develop confidence in himself.

The educational attainment of members of a young-farmer class may vary a great deal. In my group, I have an eighth grade dropout and one with a college degree from an agricultural college. This is not an impossible teaching situation, but instead is a good situation since the range of experiences is greater than it otherwise might be. However, this difference in educational attainment must be taken into consideration as I plan each lesson.

Testing

In my opinion, formal tests and examinations have no place in teaching young farmers. However, I have used quizzes both as a motivating device and as a means of putting in an element of friendly competition. This seems to be acceptable with my young farmers. I have used written problems with some degree of success, but the difference in the educational attainment of individual members must be considered. If the problem is difficult, some of the young farmers may not try to solve it. I had such an experience last year while teaching "using credit". Each member of the class was asked to determine the true rate of interest from a given set of facts. Several members of the class found it too difficult even after I had worked and explained several practice problems. However, if we get the individual to understand what should be taken into consideration in solving his problems, we have accomplished something worthwhile. Young farmers need to recognize that when they do not know how to solve a particular problem, they should seek help from a competent person such as the teacher of vocational agriculture.

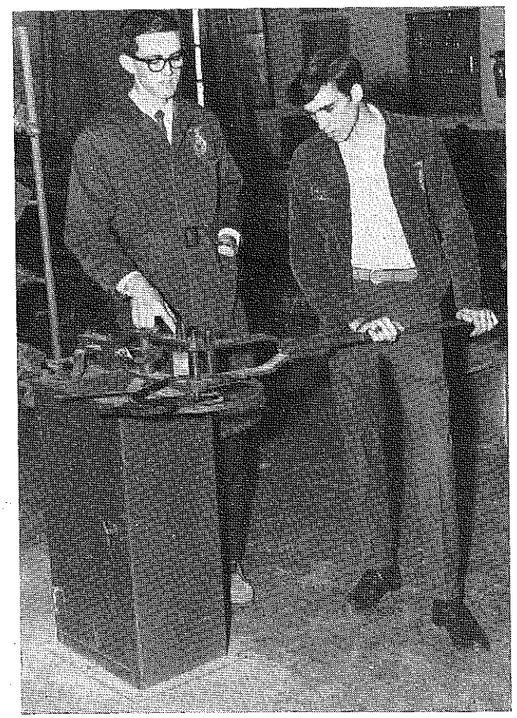
R. B. Carter



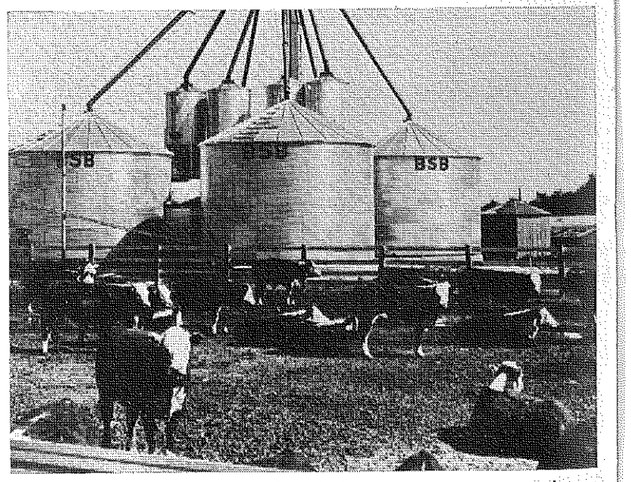
Louisiana vocational agriculture students gain additional occupational experiences in Dairy selection on a contest basis. Photo by Curtis.

Stories in Pictures

GILBERT S. GUILER
Ohio State University



James H. McKee, teacher of vocational agriculture at the Franklin, Tennessee High School gives instructions to Winston Yancy on the use of an iron bender as a part of his occupational experience.



Missouri vocational agriculture students find that greater savings can be accomplished in their occupational experience programs, by using on-the-farm feed mills.