

NEW DEVELOPMENTS IN AGRICULTURAL EDUCATION

WITH IMPLICATIONS FOR TEACHER EDUCATION

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Introduction

We are rapidly approaching another "golden age" in vocational education in agriculture. The opportunity is ours if we have the ability to capitalize on it. The new legislation permits us to do anything or move in any direction we need to go and should be going. In fact, it is so liberal that it is possible for us to make some serious mistakes in program development. It is up to us now because we have few restrictions to protect us.

Our limitations now are not in legislation. Our limitations will be in the imagination and creativity of teachers, administrators, teacher educators and supervisors to plan and conduct the vocational education programs in agriculture that are needed.

Agriculture is and will remain one of the largest industries. It has been and will remain a primary source of employment. It has demanded and will continue to demand an increasing number of workers who need knowledge and skill in agricultural subjects. It has demanded and will continue to demand workers with more and more technical ability in agriculture. Farmers need more and more technical education in agriculture and the persons who serve farmers, therefore, must obtain more and more technical education in agriculture. The opportunities for workers, in farming and non-farm agriculture jobs, without formal vocational and technical education in agriculture are decreasing rapidly.

What types and kinds of vocational and technical education in agriculture are required to meet the needs of workers in all occupations requiring knowledge and skill in agricultural subjects? We do not know. We should not form quick conclusions. We need much research which will be discussed more later.

Although we do not know all the programs and areas of emphasis we should consider, I will discuss a few that look promising to us, at present, in Illinois.

NEW DIRECTIONS

Terminology. One of the serious problems in agricultural education is that we have developed our own terminology or language so that only the initiated can communicate with us. This may be defensible because it gives us security. It makes us feel superior and it may help us communicate more easily with each other. It is indefensible, however, if we try to use and force this terminology on the public. It results in lack of communication and our need to communicate with the populace has never been greater.

We need to quit using professional terminology with the public and start using words that create the "image" or "picture" want to communicate. For example, we have at the high school level called our courses Vocational Agriculture I, Vocational Agriculture II, Vocational Agriculture III, and Vocational Agriculture IV. What kind of image is created by these course titles? I contend that they create a rather distorted and fuzzy image. They do not communicate.

Let's use our imagination and get some course titles that will communicate, that will create a desirable image, that will capture the imagination and the enthusiasm of the populace, that will "move our product off the shelves." The "Madison Avenue boys" have sold many good and worthwhile products by changing the name of the product so as to capture the attention of the public.

We must put our best efforts on the task of communicating. The new legislation provides the excuse for new terminology that creates a desirable image. We cannot afford to bypass this opportunity.

High School Program. The hypotheses of many in Illinois regarding feasible and desirable developments in high school vocational agriculture programs are as follows:

1. More emphasis will be placed on the "basics" of vocational agriculture in the 9th and 10th grade. The "basics" are those agricultural concepts, understandings, and skills which are fundamental to a large variety of advanced and specialized vocational and technical education in agriculture courses. Courses at the 9th and 10th grades should provide the "basics" in agriculture for pupils who may later, for example, enroll in a nursery or turf management course as well as it provides the "basics" for a pupil who will later enroll in a farm operations course. We will need much research to identify these "basics."
2. The vocational agriculture for farming courses at the 11th and 12th grades will be more specialized. Vocational agricultural courses for farming may and should be oriented to the abilities necessary for successful farm operation. If other specialized courses for non-farm occupations requiring knowledge and skill in agricultural subjects are provided, the enrollees in vocational agriculture for farming will be a more select group; they will be more definitely on their way to establishment in farming.
3. Opportunities will probably be provided, in some schools, for high school pupils to supplement their vocational agriculture courses by enrolling in separate agricultural mechanics courses. This does not mean that agricultural mechanics would be taken out of the regular vocational agriculture courses. The separate agricultural mechanics courses would provide opportunities for pupils to enrich their vocational education in agriculture by enrolling in additional courses in agricultural mechanics. We expect schools in Illinois to offer more courses in agriculture, but reduce the time requirement for each course to 275 minutes per week.
4. Specialized agriculture courses for non-farm occupations requiring knowledge and skills in agricultural subjects will be provided. It is not anticipated that these courses will be designed for a single occupation but for a cluster of occupations. Pupils completing these courses would be semi-skilled and be prepared for employment in the lower level jobs in agriculture oriented businesses. Pupils who had completed the courses would also have been exposed to the "basics" necessary for further education in agriculture at the post-high school level. Three kinds of courses are visualized at present. They are:
 - a) Agriculture Business
 - b) Agriculture Mechanization
 - c) Ornamental Horticulture

Each of these courses might be offered in a one- or two-year sequence.

Post-High School Program. The opportunities for post-high school vocational and technical education in agriculture are almost unlimited. Our studies in Illinois indicate that there are two to three opportunities for jobs in non-farm agricultural occupations for each opportunity to start farming, and in Illinois we still have opportunities in some communities for more farm boys to start farming than we have farm boys who want to be farmers. Our studies do show, however, that the opportunities for jobs in non-farm agricultural occupations for boys and girls with only a high school education is severely limited. Most non-farm agricultural jobs require post-high school education in agriculture, but they do not require a baccalaureate degree. Our studies indicate that three or four post-high school graduates with formal education in agriculture are needed for each person who has a baccalaureate degree in agriculture.

Various curricula in agriculture will need to be offered in post-high school institutions. A few of the curricula that may be visualized at present are as follows:

1. Farming Technology Curriculum. This would be the curriculum for high school vocational agriculture students who want to continue their preparation for farming at the post-high school level. This curriculum should enroll a considerable number of students, if well organized and taught. Most Colleges of Agriculture are giving less and less attention to this group. We should provide good programs to fill the void that is developing.
2. Agriculture Supply Curriculum. Our studies indicate that this curriculum, along with the farming technology curriculum, requires the greatest breadth of education in agriculture. Therefore, these would probably be the two basic curriculums in a post-high school institution.

If enrollment permits, the following options might be offered in the agricultural supply curriculum:

- a) agricultural chemicals
 - b) feeds
 - c) seeds
 - d) petroleum and related supplies
 - e) animals
 - f) agricultural equipment
3. Ornamental Horticulture Curriculum. Ornamental horticulture is one of the fastest growing segments of agriculture. It has employment opportunities for a very wide spectrum of abilities. A post-high school might offer several of the following options in this curriculum:
 - a) Turf management
 - b) Greenhouse management
 - c) Floriculture management
 - d) Nursery technology
 - e) Arboriculture technology
 - f) Landscaping
 4. Agriculture Laboratory Technology
 5. Pest Control Technology. Many people do not consider pest control, broadly defined, as agriculture. What is agriculture? It is biological

science applied for the benefit of man. If agriculture does not provide pest control technologists, who will provide vocational education in this area? Probably no one will do it.

6. Agricultural Recreation and Conservation Curriculum. With increasing population, the number of both private and public job opportunities in this area will increase.
7. Poultry Technology Curriculum. This is a highly important curriculum in areas of concentrated poultry production.
8. Dairy Technology Curriculum. This is also a highly important curriculum in concentrated dairy areas.
9. Animal Health Curriculum. This is a rapidly growing area of employment, especially in metropolitan areas, due to the increasing pet population. It utilizes the luxury dollar and provides lucrative business opportunities.
10. Soil Technology Curriculum.
11. Agriculture Service Curriculum. This curriculum would prepare workers in the agricultural insurance, adjusting, inspecting, and credit fields. Research studies have not probed extensively into the possibilities in this field. Opinions are still divided as to whether persons with baccalaureate degrees are needed for most of the jobs in these areas.
12. Agriculture Equipment Technology Curriculum. Some believe this may be one of the more important programs at the post-high school level. Some of the options in this curriculum might be:
 - a) Farm structures
 - b) Farm machinery and equipment
 - c) Agricultural power
13. Food Processing Technology
14. Agricultural Inspection and Quality Control Technology

Adult Agricultural Education. One of the probable developments resulting from the Vocational Education Act of 1963 is more emphasis on courses for rural young people preparing for non-farm occupations requiring knowledge and skill in agriculture. This is a group of rural young people we have tried to force into our regular young farmer courses and they just did not belong.

We will have a more mixed enrollment in agriculture courses for adults; both farmers and persons engaged in non-farm agricultural occupations will be enrolled. Since the Vocational Education Act of 1963 stresses post-high school and adult education, more emphasis will probably be placed on all types of adult courses in agriculture. We should be preparing to teach specialized courses for employees of non-farm agriculture businesses. And we may have additional financial assistance in the conduct of our better adult farmer education programs, such as the farm business management program.

Special Education in Agriculture. We must prepare to provide special education courses in agriculture for handicapped persons who cannot profit from the regular courses in vocational agriculture. These special education in agriculture courses may be of great value to vocational agriculture. They will help us practice more homogeneous grouping in vocational agriculture. These courses will keep vocational agriculture in the larger, more metropolitan schools. They may have great psychological value because they will permit the capturing of the imagination of the parents, teachers and school administrators regarding the value of agriculture as a vehicle for teaching those things which our society considers of extreme value.

I was recently in a metropolitan high school where the number of students in vocational agriculture for farming has been declining rapidly due to the elimination of farm land. After the passage of the Vocational Education Act of 1963 the school initiated plans to expand their agriculture department and add additional staff. The reason is that they have become aware of the possibilities of agricultural education in their special education program.

Practical Arts Agriculture. As population increases and becomes more concentrated, the opportunities for practical arts agriculture increases. Some of the largest enrollments in agriculture may soon be in suburban agriculture or suburban living courses. Very worthwhile and appealing courses in suburban agriculture may be developed for both high school pupils and adults.

Miscellaneous Developments. Some of the miscellaneous developments anticipated are:

1. Increased use of team teaching involving teachers from all or several vocational fields. Some schools may offer an occupations course designed to acquaint pupils with occupations in agriculture, business, home economics, trades, industry, and so forth. The vocational agriculture teacher should have a part in these courses.
2. Cooperative programs in agriculture. Agriculture may use cooperative programs as a means of providing supervised agriculture experiences.
3. Prevocational agriculture courses. Courses that are prevocational will probably receive increased attention at the junior high school level.
4. More girls and women will be enrolled in vocational agriculture courses. The Agricultural Education Branch, Washington, D. C., reported the percentage of girls enrolled in vocational agriculture until 1937. The percentage was three. The percentage of women in adult courses in agriculture was seven. Perhaps we should again keep record of the number of girls and women enrolled in agriculture. They belong in vocational agriculture if they can obtain gainful employment in occupations requiring knowledge and skill in agriculture, and we know that they can.

PROBLEMS

New developments always bring many problems. One of the most immediate problems anticipated is the resistance by present staff members in agricultural education. We all dislike change. We are afraid of the unknown. We fear that the new will depreciate our existing vocational agriculture for farming programs. We will

have to help teachers and others develop a feeling of security. This may be partially done by involvement in planning new programs.

Another problem anticipated is that teachers, teacher educators and supervisors will forget those facets of our program that have made it great. They will forget:

1. the importance of learning by doing.
2. to make their instruction student-centered and not subject-centered.
3. that much of effective teaching is problem solving and not information giving.

IMPLICATIONS FOR TEACHER EDUCATION

The apparent implication is the need for more research to provide the information needed to plan the new developments on the horizon. Teacher educators will need more financial and moral support for research from their State Boards of Vocational Education. State Boards of Vocational Education will need to provide funds for pilot programs to try out procedures that are not now permitted in their state plans.

In the area of preparing teachers of vocational agriculture, more attention will need to be given to providing prospective teachers in other vocational areas. New programs will result in team teaching by vocational teachers. All vocational teachers must learn to respect the contributions of teachers in vocational areas other than their own. They must learn to work with vocational teachers in other areas in preparing persons for gainful employment.

Attention in teacher education in agriculture will need to be given to providing agriculture teachers with the abilities they need in special education, distributive education, diversified occupation education, and business education. This may be done by revising our teacher education curriculum to include courses in these areas or by incorporating this content into our agricultural education courses, or both.

We require teachers of agriculture to have farm experience. Should we require teachers of courses for non-farm agriculture occupations to have experience in agricultural businesses?

If courses in vocational agriculture are to become more specialized and if we are to provide agricultural technology curriculums at the 13th and 14th grade level, shouldn't some teachers of agriculture be allowed and encouraged to specialize in a technical agriculture area? Does this mean several teacher education curriculums in agriculture? At the University of Illinois we believe we can provide opportunities for specialization without multiplying teacher education curriculums in agriculture.