

The Visitor

Devoted to the Interests of Agricultural Education in Minnesota Schools

Vol. LVI

July, 1969

No. 3

TRENDS IN AGRICULTURE EDUCATION

by

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Editor's Note: This article was prepared by Mr. Roesler when he was an undergraduate student in the Department of Agricultural Education. The Visitor is pleased to present it as an example of one of the more perceptive papers prepared by the undergraduates in his class.

The trends in vocational and agricultural education encompass a very broad area. Realizing that covering this area in its entirety would be practically impossible, I am going to deal mainly with one related area in agriculture education.

Agriculture and agriculture related training has existed, in a sense, since the recording of time. All known phases of productive agriculture have been included in both early and recent instruction. Thus the majority of the changes that have taken place in the teaching of agriculture have been related to extending an increasingly larger body of knowledge to the student of agriculture.

The metamorphosis of agriculture from its historical infantile image as an art (at which time it circumscribed little more than the husbandry of plants and animals) to that of an agri-business complex which encompasses technology, pure and applied science, and the arts, has produced a rather challenging situation for agriculture educators.

As I have suggested, that challenge stems from the expanded scope and the increased depth of the present-day activities of production agriculture.

A rather logical solution to the problem of meeting the complex needs of today's agrarians has been the development of specialized educational sources and facilities. The involvement of the Federal Government has done much to establish institutions for training agriculture specialists and providing for pure research. Furthermore, the Federal Government has established vocational agriculture education for high school students and adults.

This degree of specialization is not sufficient, however, to accomplish the task before us. Currently we are finding it more and more difficult to provide specific training for those who are engaged in production agriculture.

Ours is an age of specialization. Farmers, as businessmen, have involved themselves in specialized businesses. As consumers of education, they and their sons now have a great need for

"specialized instruction" — instruction which meets their needs at a level suited for maximum comprehension and application.

Present trends appear to be meeting these needs, but only where these trends have led to the establishment of multiple-teacher facilities. It is a well-recognized fact that high school students, beginning farmers, adult farmers, and those who need training for agriculture related careers, all require vocational training. This degree of specialization in "people served" by vocational agriculture education has been established for some time. However, the specialization of "subject matter", or educational content, and the specialization of instructor responsibility must still take place!

One instructor cannot meet the needs of a community. Neither can he teach the many subjects or "problem areas" which the specialized consumer of vocational agriculture education must understand to clarify further. The problem of meeting these needs, one must point out, is the fact that large numbers of people have still not been reached at all! While it is recognized that other educational agencies (such as the extension service) are reaching many people, the basic problem of reaching the student-in-depth with a systematic type of instruction has not been solved.

Thus we are faced with the interrelated problems of providing "hard" useful knowledge to large numbers of people of varying ages and needs who are all engaged, or are about to engage, in an increasingly complex agri-business industry.

All trends or advancement generally come in response to problems or situations. I have just pointed out the situation as I see it and now I will attempt to focus, by means of illustration, on the observable responses to these problems and situations. These responses to changing situations and historical problems all contribute to a changing philosophy of vocational agriculture education. They are not causes of this change, but rather symptoms. As symptoms, they do not affect the philosophy, but rather, I believe, this philosophy is causing these symptoms.

First of all, if we were to be observant of these changes, I think we might detect a trend towards the teaching of "hard" knowledge. "Hard" knowledge might be defined as being that which lends itself to immediate applica-

Vol. LVI THE VISITOR No. 3

Published quarterly during the calendar year in January, April, July and October by the Department of Agricultural Education, University of Minnesota, St. Paul, Minn. 55101. Second class postage paid at St. Paul, Minn.

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tion, not because it is something "worthwhile", but because it is something that *must* be utilized. Agriculture is more demanding upon its production people now as compared to years past.

Formerly, much of what was taught consisted of approved practices. They were accepted as infallible and "good to use" despite the manner of application. Teachers made students aware of them, showed them how to adopt and use them, and then hoped that their seeds of instruction fell on fertile ground.

At present, we are still concerned about approved practices; however, farmers want to know how these fit into the total production process. "Will these things pay off, and can I depend on their infallibility next year?" For example, it was not long ago when farmers took for granted that raising their crops on a rotational basis was a good practice. Today, however, we might confront a farmer who would seriously question whether or not it would pay him to do so. The "hard" knowledge he seeks are the principles which will allow him to decide at a specific point in time whether or not he should apply this practice. Possibly this hard knowledge is, collectively, all of those things which currently have direct implications for the dollars and cents of the farming business. Principles possibly are the largest single category of knowledge which would fall into this rather loosely defined collective category.

Related to this trend, but distinct from it in one respect, is the concern about the order of presentation of knowledge. This currently stems from what I would tend to call "the utility of application." In other words, in meeting student needs, teachers of agriculture are interested in establishing priorities based on utility. Much of this is derived from the shortage of time to teach everything which demands attention. It should also be mentioned that that which has utility has changed too. Formerly, knowledge was sought out only as it pertained to a simple phase or enterprise of the farm busi-

ness. Now we find that even some rather small factors of production have more relevance (or utility) to a problem because they also affect the entire business. This concern for presenting important things first and selecting what is important on the basis of a changing definition of utility, has contributed much to the quality of agriculture education.

Thus, on the one hand, production agriculture has demanded hard, workable knowledge; and on the other hand, teachers of agriculture have had to become more concerned about presenting knowledge systematically in order to ultimately solve interrelated problems, of which some must take priority over others. These two related trends which are contributing to a changing vocational agriculture philosophy have already resulted in many changes in teaching methods and vocational agriculture education organization.

To provide evidence that changes in this philosophy are taking place, I would be quick to point out the recent growth of farm management instruction at the high school level and at the beginning and adult farmer levels of instruction. This growth has resulted from a number of factors, but basically it can be traced back to the utility concept and the need for systematic presentation of material. It is the response to the need for a conceptual framework for solving the problems of the farm business. Farm management instruction then provides a basis for the addition of technical knowledge and "approved practices". It serves to answer *why*, which then provides stimulus for asking *how*, in regard to all other learning as it pertains to the farm business.

Thus we see parts comprising the whole. Parts (or bits of information) now have more relevance to the learner; this interest in farm management now allows students to "see the forest" in spite of the trees!

To summarize, then, the philosophy of vocational agriculture education is changing in response to a variety of trends and developments in production agriculture. The most obvious changes have been the demands for utility in knowledge and the need for educators to establish priorities among learning activities. These changes have led to the establishment of the philosophy that educational content must be geared for problem solution and that problems must be solved systematically, or in order of importance. This philosophy, if perpetuated, should eventually accomplish the purpose of creating an awareness of the need for solving problems which relate directly to the total farm business. This, I believe, is important, because the farm business is the center of all rural agriculture activity. As a unit, it will continue to affect agriculture education philosophy, teaching methods, and course content!

REFLECTIONS AND PROJECTIONS

by
Philip R. Teske
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PART II

WHERE ARE WE GOING — THE EMERGING PATTERN

Agriculture is characterized by change. The nature of jobs in the agricultural occupations change. Programs of vocational agriculture must change to meet changing needs. The Vocational Education Act of 1963 stressed the need to provide programs of vocational education, including agriculture, to persons of all ages in all communities; and the need to make the training suitable to the needs, interests and abilities of students and realistic in terms of present and anticipated employment opportunities. The 1963 Act focused on providing quality vocational education for (1) persons attending high school (2) persons who have completed or left high school and who are available for full-time study in preparation for entering the labor market (3) persons who have already entered the labor market and who need training or retraining to achieve stability or advancement in employment, and (4) persons who have academic, socio-economic or other handicaps that prevent them from succeeding in the regular vocational education programs. Part IV, Section 10 (b) of the Act specifies "Amounts allotted for agricultural education may be used for vocational education in any occupation involving knowledge and skills in agricultural subjects, whether or not such occupation involves the work of the farm or of the farm home, and such education may be provided without directed or supervised practice on a farm."

Section 8 (1) defined vocational education as "vocational or technical training or retraining which is given in schools or classes (including field or laboratory work incidental thereto)... conducted as part of a program designed to fit individuals for gainful employment as semi-skilled or skilled workers or technicians in recognized occupations..."

The Advisory Council on Vocational Education, appointed under provisions of Section 12, has noted (OE-80053, 1968) "Career consciousness must be integrated throughout the schools in order to enlarge the number of options and alternatives for individual pupils... the study of the world of work is a valid part of education for all children—it documents for youth the necessity of education both academic and vocational..."

The Vocational Education Amendments of 1968 reemphasized the need to provide all persons with ready access to vocational training or retraining which is of high quality, which is realistic in the light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interests and ability to benefit from such training. The 1968 Act stresses the need for quality programs of vocational education for (1) high school

students including such programs which are designed to prepare them for advanced or highly skilled post secondary vocational and technical education; (2) persons who have completed or left high school and who are available for study in preparation for entering the labor market; (3) persons who have already entered the labor market and who need training or retraining to achieve stability or advancement in employment; (4) persons who have academic, socio-economic, or other handicaps that prevent them from succeeding in the regular vocational education program; and (5) handicapped persons who because of their handicapped condition cannot succeed in the regular vocational education program without special educational assistance or who require a modified vocational education program.

HOW DO WE GET THERE?

A sound philosophical base and rationale are essential to the planning, organizing, directing, coordinating and evaluating of quality programs of education. As in the past, future quality programs of vocational education in agriculture must be based on philosophical concepts and rationale such as the following:

1. Society should try to achieve the full self-development—physically, mentally and morally of every individual.
2. Schools should contribute to the realization of an abundant life for each generation. Thus, the school should exist to serve all the people in the community and not only the privileged few who are regularly enrolled as full-time students.
3. The program of the school should utilize the total human, economic and physical resources of the community for the betterment of all the people of the community.
4. The total program of the school must be broad and comprehensive so as to give each individual the chance to work at his own level and to progress as far and as fast as his ability to learn will permit.
5. The vocational agriculture program must continue to be a part of the total program of education of the community school.
6. The vocational agriculture program must continue to contribute to the accomplishment of the objectives of vocational education and to the objectives of general education.
7. The vocational agriculture teacher as a part of the public school system of the community, State and Nation, is and must continue to be the logical person to conduct organized, systematic and comprehensive programs of agricultural education for all the people of the com-

munity school service area.

8. Vocational agriculture must provide continuous opportunities for instruction in agriculture from the "cradle to the grave" for all who can benefit from the instruction. The adult's need and right to study is as great or greater than his need and right to hold the same job until he is 65.
9. Vocational agriculture must be designed to fit the individual for useful employment; therefore, it must provide the individual with appropriate learning experiences in the exploration, selection, preparation, establishment, and adjustment within his selected agricultural occupation and job.
10. Since agricultural occupations are year-round activities, the vocational agriculture program must be conducted on a continuous year-round basis. The program must provide for the gradual induction of persons, and escalate in scope and intensity.
11. The vocational agriculture program must be based on recognized principles of learning which maximize the effectiveness and efficiency of the teaching-learning process.
12. Instructional activities must be appropriate to the interest, needs, and abilities of the individual student. The learning activities must be within the scope of the abilities of the student. Emphasis must be put on the needs of the student rather than on subject matter or job-centered. The personal development of the students must be placed above the acquisition of facts or the skillful performance of manipulative activities; thus, the course of study must incorporate all kinds of learning experiences—things known, things felt, and things done!
13. Supervised work experience must continue to be an essential and integral part of the program of vocational agriculture. The supervised work experience must be of reasonable size, appropriate to future employment opportunities for the student, and continue from one year to the next, expanding as it develops.
14. The use of problem-solving procedures must continue to be the basic method of instruction in vocational agriculture, irrespective of whether the teaching-learning situation consists of (a) classroom instruction dealing with problems common to all or most of the students in the class, (b) small group instruction dealing with problems common to a few students in the class, or (c) individual instruction concerning problems of the individual student; and
15. Appropriate means and methods be used to measure the effectiveness of the program and instruction in terms of desired change in behavior of the student as specified in student performance objectives. These objectives must be worthwhile, specific, attainable and realistically based on the particular student's needs.

Programs of vocational education in agriculture are intended to fit the individual for useful employment in an agricultural occupation, including knowledges and skills in successful performance of specific jobs and tasks, and the knowledge and training which contribute to a satisfying useful life of work and good citizenship. The planning, organizing, conducting and evaluating of such programs depends to a major degree on the philosophy and concepts possessed by the program director—the local vocational agriculture instructor.