

. . . Collaboration with others in vocational education may hold the greatest promise for teacher education in agriculture.

Smith and Gassie

. . . tomorrow's leaders will be better able to address . . . problems through an integrated program of agricultural and extension education.

Shinn and Cheek

AGRICULTURAL TEACHER EDUCATION FUNCTIONS CAN
BE DELIVERED MORE EFFECTIVELY THROUGH A DEPARTMENT
OF AGRICULTURAL AND EXTENSION EDUCATION

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The purpose of this article is to advocate the position that agricultural teacher education functions can be delivered more effectively through a department of agricultural and extension education than a department of vocational education. Both authors are faculty members in such departments and this article is based upon our professional experiences both in and out of such departments. Our purpose is to present a rationale for departments of agricultural and extension education, discuss relevant issues, and stimulate reflective thinking. However, before we examine the relationship of a delivery system to the effectiveness of teacher education, we should re-examine the mission of teacher education in agriculture since organizational structure promulgates a climate which affects the execution of missions.

Mission of Agricultural Education

With roots in the Morrill Act of 1862, Congress initiated legislation in 1917 to "provide for the promotion of vocational education; (and) to provide for cooperation with the states in the promotion of such education in agriculture . . ." (Public Law No. 347, 64th Congress). This legislative mandate has served as a directive for vocational education in agriculture for more than half a century, although the specifics and regulations have been modified by additional legislation.

The primary goals and objectives for programs in vocational agriculture remain essentially the same and focus on development of employment competencies, career placement and advancement, and development of leadership skills (USOE Bulletin 4, 1966). The program is targeted for adults and school-age youth who are employed or seeking employment in the agricultural industry. Because the discipline base of the program is agriculture, two-thirds of the teacher education departments have been established within colleges of agriculture (Binkley, 1977).

Mission of Cooperative Extension

Informal learning activities had their beginning early in American history. The American Philosophical Society, founded by Benjamin Franklin, is credited as one of the first organizations to disseminate agricultural information (Vines and Anderson, 1976). The Smith-Lever Act established the Cooperative Extension Service to ". . . aid in diffusing among the people of the United States useful and practical information on subjects relating to agriculture and home economics, and to encourage the application of the same . . ." (Public Law No. 95, 63rd Congress). As with vocational agriculture, legislation and regulations have modified the CES, but the primary objectives and procedures remain intact. Instruction is still provided through field demonstrations, publications, and other means. The activities are planned and delivered cooperatively with participation from local, state, and federal levels of government. The basic intent of congress was similar for both vocational agriculture and cooperative extension--to disseminate technical information in agriculture, to improve the agricultural industry, and to assist with solutions of social problems in the agricultural communities of rural America.

Since the mission of both cooperative extension and agricultural education have many similarities and agriculture is a principle concern of both disciplines, it is logical that these two preparation functions could effectively be joined. While linkages must exist between agricultural education, other vocational education disciplines, and the college of education, the principle area of service for agricultural education should relate to the mission of colleges of agriculture and programs within these colleges. Colleges of agriculture are dedicated to the improvement of agriculture and the educational growth of incumbent and future professional agriculturalists; colleges of education are not. Historically, federal legislative acts mandated agricultural education and extension education to develop similar, yet distinct, educational programs to improve agriculture. To most effectively execute the mission of these two programs, they should be joined and aligned into a department of agricultural and extension education. The arguments for this position are strong and compelling, centering around the vocational interests of students, characteristics of the discipline, a comparison of the job functions, and a comparison of the inservice activities which support program development.

Choosing a vocation is one of the most important events in the life of a person. This choice should be made using information which describes the characteristics of both the individual and the vocational area. Although not irrevokable, the career choice should maximize the productivity and success of the individual. A vocation should be selected using information about the interests, aptitudes, experiences, and aspirations of the individual. The career opportunities should also be analyzed. Persons who have skills and abilities in agriculture are more likely to investigate a career in agricultural or extension education if the department is a visible part of the agricultural community. For example, Montgomery (1980) found that programs administered by colleges of agriculture tend to have more majors. The vocational interests of current and potential agricultural educators are more similar to students in colleges of agriculture than in departments of vocational education.

Grimes (1966) conducted a study at Texas A & M University and found that agricultural education majors exhibited patterns of occupational interests very similar to those of majors in other agricultural fields. Likewise, the educational needs and interests as well as career aspirations and opportunities are similar.

Later Grimes (1975) compared the occupational interests of undergraduates and indicated that statistically significant difference existed between interests of students in the college of agriculture and the college of education on six of ten inventory scales. It is of particular interest that both college of agriculture students and agricultural education majors indicated that their highest area of interest was in activities of an outdoor nature while college of education majors ranked lower on this scale than any of the other college groups compared.

During the developmental stages, students are more interested in the technical content of agriculture than the social science of education. Also, the experience and background of current students in agricultural and extension education are more similar to those students in colleges of agriculture.

Characteristics of Careers

As we examine the follow-up data of former students, we find that careers are branching. In today's mobile society, professionals change jobs at alarming rates. However, this job change is usually within an occupational domain. Follow-up studies of agricultural education graduates support this position. Bryant (1980) found that of the graduates who left teaching, more than twice the number entered agricultural-related occupations as those who entered educational-related occupations. Beeman and Becker (1981) found that at the end of five years, more than half of the agricultural education graduates who were not teaching were employed in agricultural occupations. A similar study conducted by

Tenney and Schempp (1980) at Cornell University found that at the end of five years, 51 percent of the graduates were teaching vocational agriculture, 32 percent were working in agricultural occupations, seven percent were in graduate school, and 12 percent were employed in "other" occupations.

We can see from these studies that graduates are more likely to change to jobs which are within agricultural industry than to jobs within the educational arena. As our work place becomes more technical, this trend will continue. Graduates of agricultural and extension education are not only competitive as vocational agriculture teachers and extension agents, but in jobs with agribusinesses and with governmental agencies such as FmHA, ASCS, SCS, and others. Agricultural sales and service businesses have been and will continue to be employers of agricultural education graduates.

A Comparison of Teaching Competencies

The successful teacher must be competent in agriculture subject matter areas as well as learning theory, psychology, and management. Likewise, the successful extension agent needs competence in these areas. Faculty members of the Department of Agricultural Education at the University of Arizona have conducted research to determine the professional competencies needed by vocational agriculture teachers (1978) and beginning extension agents (1979). Ninety-two professional education competencies were identified as essential for beginning agricultural educators to possess. Fifty-six professional competencies were identified as essential for beginning extension agents. Although not in parallel form, these lists identify many competencies which are common for both groups. As an example, both the agricultural educator and the extension agent are expected "to determine when and how to use various methods of teaching (informational, operational, problem solving)" as well as "to apply basic principles of learning to teaching agriculture."

Research conducted at the University of Florida by Cheek, Beeman, and McGhee (1977) and Beeman, Cheek, McGhee, and Grygotis (1979) sought to identify the professional competencies needed by vocational agriculture teachers and county extension agents. In each study the professional competencies were divided into eleven competency categories. The studies documented similarities between the competencies required in both roles. For example, seven of the broad competency categories were similar in title, and the individual competency statements exhibited a high degree of congruence.

A Comparison of the Program Planning Process

The success of the professional is directly related to sound planning. Considerable effort should be made to equip the undergraduate student with those high priority competencies in program planning, management, and evaluation. This cluster of competencies was identified for both the vocational agriculture teacher

and the extension agent in separate studies conducted at the University of Arizona. A comparison of the vocational agriculture program and the extension program reveals a similar planning process. Both programs build on the basic principles identified by Tyler (1949). These programs are based on identifiable community needs. They operate with similar philosophies which determine the educational parameters. They develop annual and long-range program strategies. Both outline an action plan for implementation and delivery. And both the teacher and the agent involve the client (youth or adult), the industry (production or agribusiness), and the community (school or county). Moreover, both extension and vocational agriculture place considerable importance on the proper use of advisory committees.

There are distinct advantages with an agricultural and extension education department which develops the professional program planning competencies and fosters a positive working relationship between the vocational agriculture program and the Cooperative Extension Service since both areas are part of the agricultural family.

A Comparison of Inservice Activities

Technical agriculture is the central focus of programs in vocational agriculture and the extension service. The half-life of agricultural technology mandates a continuous inservice education program for both the teacher and the agent. A department of agricultural and extension education is in an excellent position to orchestrate the agricultural resources necessary to deliver technical agriculture throughout the state. These activities may be on a county, district, area, or state-wide basis. Also the agricultural experiment stations associated with land-grant universities provide excellent technical up-dating for both teachers and agents.

Teachers and agents benefit from inservice activities which improve pedagogical skills. Changes in methods and media have direct application. Both teachers and agents work with volunteers either as adult 4-H leaders or as FFA alumni members. Both work directly with youth and with adults. Inservice activities can be designed to improve both professional groups in program management. Additionally, the department can fulfill the role of a pedagogical leader within the college. Consequently, a department of agricultural and extension education can serve the needs more effectively than can a department of vocational education.

Summary

The authors have advocated a department of agricultural and extension education, charged with the responsibility of preparing teachers of vocational agriculture. The primary reason for this organizational pattern is to assure a critical mass of both faculty and resources which are recognized as agricultural and which are designated and allowed to improve the efficiency of the training of

both teachers and extension agents. When combining training missions, we should be sure that there is a common core of preparation. An examination of the competencies needed by beginning teachers and extension agents reveals a common core. Further, there are similarities in the vocational interests of students and the characteristics of the occupations. Leaders in agricultural education must be able to synthesize technical agricultural information and plan programs to help solve the problems associated with energy, productivity, and world trade in the agricultural industry. We believe tomorrow's leaders will be better able to address these problems through an integrated program of agricultural and extension education.

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