OUTCOMES OF CHANGING SUPERVISED AGRICULTURAL EXPERIENCE PROGRAMS

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Experiential learning has been an integral component of secondary agricultural education since the beginning of the program. The Smith-Hughes Act of 1917 has been cited as landmark legislation which established vocational agriculture programs in public secondary schools in the United States. This legislation contained language which required that students have "directed or supervised practice in agriculture" in which skills learned in the classroom were to be applied in a real life situation. (Phipps, 1980: p. 594)

Even before the Smith-Hughes legislation was enacted, Stimson introduced the "project method" which has been recognized as the predecessor of modem day Supervised Agricultural Experience Programs (SAEP) (Moore, 1985). The concept of supervised experience was noted in the Text of the National Vocational Education Smith-Hughes Act of 1917. The act specified:

> . ...that the controlling purpose of such education...be designated to meet the needs of persons over fourteen years of age who have entered or who are preparing to enter upon the work of the farmer of the farm home...that such schools shall provide fore directed or supervised practice in agriculture, either on a farm provided for by the school or other farm, for at least six months per year. (Phipps, 1980: p. 594)

Although the act suggested the experience be provided on a school farm or other farms, the practice soon developed as a home farm based experience in many states. The concept of supervised farming programs was dominant until the Vocational Education Act of 1963 stated that funds:

> . ..may be used for vocational education in any occupation involving knowledge and skills in agricultural subjects...and such education may be provided without directed or supervised practice on a farm. (Roberts, 196.5: p. 580)

Although change was slow, other types of experience programs began to emerge and emphasis on this phase of the program varied among states. Research has indicated that many secondary agriculture students have not completed experience programs (Iverson & Brown, 1979; Vaughn & Cano, 1982; Berkey & Sutphin, 1985; and Osborne, 1988). Miller (1980) reported student SOE programs were weak but that teachers rated opportunities for SOE to be better in 1977 than in 1972. Although student participation in the experience program varies, Sutphin and Newcomb (1983) reported that 98% of the agricultural educators responding to a national survey agreed that experience programs should be required of all high school agriculture students. This philosophy was based on experience programs which were defined as:

> . ..all the planned practical activities conducted outside of scheduled class time in which the student develops and applies agricultural knowledge and skills. Students in SOE are supervised by teachers, parents, employers, or adults who assist them in achieving their educational objectives. The competencies to be developed should be determined cooperatively by the student, teacher, parents, and employer. (National FFA Foundation, 1982, p. 3)

In order to identify quality indicators of experience programs, it is important to identified associated values and benefits. Phipps and Osborne (1988) described the values and benefits related to the Supervised Agricultural Experience (SAE) phase of secondary agriculture programs. Binkley and Hammonds (1970) also presented a list of benefits associated with experience programs. Common benefits were identified in the areas of persona1 finance, maturation, increased responsibility, development of employment skills, and recognition for achievements.

A Texas study examined the association of selected characteristics of experience programs with net income and reported no significant associations among the variables studied. However, Dillingham (1981) recommended that "criteria should be developed and validated by which supervised project programs can be evaluated to enable vocational agriculture teachers and other vocational personnel to improve supervised project programs" (p. 140).

Studies by Morton (1978), McMillion and Auville (1976), and Case (1983) used numerical approaches to evaluate outcomes of supervised occupational experience programs. Variables were then explored to establish relationships among program activities and outcomes. Data reported by Case and Stewart (1985) indicated that students with both ownership and placement type SAE projects came from schools with stronger programs. Other factors included number of teacher visits and support of parents and others in the community for the SAE program.

Research conducted during the past 15 years at Iowa State University has ascertained the perceptions of the value and operation of the Supervised Occupational Experience (SOE) phase of the program as viewed by parents, employers, students, and teachers. Williams (1980) reported students perceived teachers to provide greater assistance than parents in providing encouragement, keeping records, developing plans, setting goals, and evaluating the supervised occupational experience. Rawls (1981) concluded that "parents who were engaged in agribusiness and non-agricultural occupations are not as effective in assisting...in developing and conducting SOE as parents who were engaged in farming" (p. 40). Davis and Williams (1979) reported on student perceived outcomes of keeping SOE records.

Benefits of SOE as perceived by students were reported by Williams and as perceived by parents were reported by Rawls. Rawls, (1982) found that the benefits perceived by parents clustered into the categories of work attitudes, occupational development, and human relations skills. Williams (1979) reported on a survey of 149 students in Iowa programs in 1977. The five items with highest mean benefit scores included: encouraged keeping records, promoted responsibility, pride in ownership, helped attain FFA degree, and encouraged production of animals and crops. He concluded that: "SOE programs were more beneficial to students in areas related to production...than agribusiness" (p. 39).

Research conducted by Pals and Slocombe (1989) assessed the benefits of experience programs as perceived by students, parents, employers, and agriculture teachers. Students reported greatest benefits in the development of behavioral attitudes, values, and human relations skills. Parents, employers, and agriculture teachers also collectively identified behavioral attitudes, values and human relations skills as important benefits resulting from student participation in experience programs. Only employers perceived the opportunity to earn income while in school as one of the five highest rated benefits.

Instructional materials developed for student use in Missouri identified 14 positive outcomes associated with the SAE program (Admire, 1989). The following characteristics were discussed: gain experience in agriculture, earn money, achieve independence, advance in the FFA, establish a background in agriculture, develop competencies needed for work, develop a record of employment, gain self-confidence, learn to work with others, adequate scope of projects, adequate income, related to needs of student, compliments home situation, and expands each year.

Information collected to assess changes in the types of supervised experience programs as well as associated benefits was judged to be needed by program managers. Such information should be helpful in focusing on changing programs of supervised experience.

The literature suggested that student participation and the types of supervised experience programs have varied from state to state in recent years. The studies of benefits associated with the experience programs often focused on ownership/production activities. Therefore, this study focused on an investigation of the status and desired benefits of current student experience programs in agriculture.

Purpose and Objectives

The purpose of this study was to assess the status and benefits associated with supervised experience programs for secondary agriculture students in Missouri. Specific objectives for the study were:

1. To examine changes in student activities related to supervised experience programs in agriculture.
2. To identify the perceived importance of benefits associated with current supervised experience programs as rated by secondary agriculture teachers.

Procedures

Student data collected for this study were gathered from state reports completed by secondary agriculture teachers following the 1982-83 and 1987-88 school years. These reports were submitted to the Missouri Department of Elementary and Secondary Education (DESE) by July after the close of each school term. The data used were for 11,659 students enrolled in 239 secondary agricultural programs in Missouri during 1982-83 and 10,756 students in 233 programs during 1987-88.

Additional data relative to the perceptions of agriculture teachers regarding the characteristics of successful supervised experience programs were collected from 204 teachers attending inservice workshops conducted in October, 1989. Information collected was incorporated into a summary of what constitutes a successful supervised experience program for secondary students.

The data collection instrument instructed teachers to respond using a scale of 1 = no important to 5 = utmost importance for ten characteristics of supervised experience programs. The characteristics included in the data collection instrument was identified from a review of the literature. Instrument validity was established by a panel consisting of the joint teacher education and supervisory staffs in agricultural education in Missouri.

Data analysis consisted of frequency counts and computing means for student participation in supervised experience programs. Data supplied by teachers regarding the importance of supervised experience program benefits were analyzed by computing means and standard deviations. The relative importance of each characteristic was determined by ranking the item means.

Findings

During the 1987-88 school term, data were available for 10,756 secondary agriculture students enrolled in 233 agriculture programs. Data in Table 1 reveal that placement programs in agribusiness and production were the most frequently reported types of experience programs with an average of approximately 400 hours of experience. More than 6,000 students (56%) participated in experience programs involving placement activities.

Table 1
Changes in Types of Supervised Experience Programs of Students in Missouri

Type of Project	1987-88 (n = 10,756) Bank	No. of students	1982-83 (n = 11,659) Bank	No. of students
Placement - Agribusiness	1	3,080	4	1,418
Placement - Production	2	2,949	3	2,416
Beef	3	2,912	1	4,154
Swine	4	1,483	2	2,472
Custom Work	5	1,079	5	1,128
Ownership - Agribusiness	6	856	9	521
Directed laboratory (unpaid)	7	737	12	411
Horses	8	669	8	612
Soybeans	9	530	7	731
Dairy	10	476	6	797

Note Wheat was ranked tenth in 1982-83.

Beef production and swine production programs were conducted by nearly 4,400 students (41%) and were the third and fourth most popular types of experience programs during the 198788 year, respectively. The average program consisted of 7 head of beef cattle or 50 head of swine.

Other frequently used experience programs during 1987-88 included custom work, ownership in agribusiness, directed laboratory (unpaid), home production, soybean production, and dairy production. Participation in each type of program ranged from 1,079 students completing custom work to 476 students involved in dairy production.

Table 1 also presents data for 11,659 students enrolled in agriculture in 239 schools during 1982-83. During that year approximately 3,800 students (33%) completed placement in production and agribusiness programs which were the third and fourth most popular types of programs, respectively. More than 6,600 students (57%) completed beef production or swine production programs, which were the two most popular types of experience programs.

Most of the experience programs included on the list of the ten most popular programs during the 1987-88 year were also included in the 1982-83 list, although the relative rankings changed. However, wheat production, which was listed as the tenth most popular type of program during the 1982-83 year, dropped to thirteenth during 1987-88 and directed laboratory (unpaid) experience, ranked twelfth in 1982-83, was ranked seventh in 1987-88.

Table 2 reveals summary data for student participation in experience programs. In 1982-83, 82% of the secondary agriculture students completed experience programs compared with 86% in 1987-88. Also, average income per student resulting from participation in supervised experience programs increased from $1,387 in 1982-83 to $1,548 in 1987-88.

Table 2
Selected Outcomes of Student Participation in Supervised Experience Programs in Missouri

Characteristic	1987-88	1982-83
Number of students	10,756	11,659
Percent of agriculture student completing supervised experience programs	86%	82%
Average income per student	$1,548	$1,387
Number of students with ownership programs	4,743	7,740
Number of students with placement programs	3,805	2,491
Number of students with both ownership and placement programs	2,208	1,428

Between 1982-83 and 1987-88, the number of students completing only ownership experience programs decreased from 7,740 (66%) to 4,743 (44%). During that time the number of students participating "only in placement" programs increased from 2,491 (21%) to 3,805 (35%). Also, the number of students participating in both ownership and placement programs increased from 1,428 (12%) in 1982-83 to 2,208 (20%) in 1987-88.

Table 3 presents the means and standard deviations for each of the ten benefits associated with a successful supervised experience program which were rated by Missouri agriculture teachers. Bach of the ten program benefits received an importance mean in excess of the 3.0 (average

Table 3
Benefits of Successful Supervised Experience Programs for Secondary Agriculture Students as Rated by Teachers (n = 204)

Supervised experience program benefit	X	SD
Develops desirable work habits	4.44'	0.56
Increases level of student's responsibility	4.37	0.63
Adapted to needs of the student	4.34	0.62
Maintain complete and accurate records	4.17	0.67
Increases interest in agriculture	3.78	0.75
Includes a variety of experiences	3.77	0.75
Develops competencies in agriculture	3.69	0.73
Adequate profit/earnings	3.48	0.82
Expands in scope each year	3.42	0.76
Leads to an occupational goal	3.32	0.88

Note: Responses were coded: 1 = no importance, 5 = utmost importance

importance) level on the response scale. The characteristics which received the highest importance ratings tended to have lower standard deviations associated with those means. Four items produced importance mean in excess of 4.0 on the 5.0 response scale. Developing desirable work habits, increased level of student responsibility, adapted to the needs of students, and maintains complete and accurate records were the four highest rated characteristics. These items also produced the lowest standard deviations of the ten characteristics rated by the agriculture teachers.

Three experience program benefits produced importance means below 3.5 on the response scale. The three lowest-rated items were: leads to an occupational goal, expands in scope each year, and adequate profit/earnings. These characteristics produced higher standard deviations than the other items included in the instrument.

Discussion

Secondary agriculture teachers in Missouri have contained to emphasize supervised agricultural experience programs as an integral component of the programs with 86% of the students completing programs in 1988. The participation in supervised experience programs increased between the 1982-83 and 1987-88 school years. However, placement programs in agribusiness and production have surpassed ownership programs which had been considered traditional for secondary agriculture students.

In addition, the number of Missouri secondary agriculture students who conducted both ownership and placement experience programs increased by 55% during the five-year period. Even more significant is the fact that this increase occurred during a time when enrollment in secondary agriculture courses decreased.

This increase is likely due to the broadened perception of what constitutes an appropriate experience program. An examination of the characteristics rated highest by teachers relate to work habits, responsibility, and needs of the student as contrasted to the more traditional benefits of scope and income. This would seems to indicate a change in philosophy about the expected outcomes of the SAE program which are consistent with the needs of students.

Historically, younger students were encouraged to develop a small-scale production enterprise. In subsequent years, students were encouraged to expand the scope of the production enterprise and to add other enterprises to develop more comprehensive experience programs. Upperclass students may also have been encouraged to become involved in placement programs.

Many of the students recently enrolled in secondary agriculture programs have limited opportunities to **become** involved in productive enterprises. Therefore, agriculture teachers have used innovative opportunities and strategies to provide students with desired experiences. Some students have been allowed opportunities to use school facilities in conducting experience programs. Greenhouses and school farms frequently provide opportunities for student experience programs which would not be possible in the home environment.

The types of experience programs conducted **by** students will likely continue to change as the student population changes. However, the continued emphasis on enhancing education through student involvement in experience programs should remain a strong and viable component of agricultural education.

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