

## SOE Programs In Illinois—Teacher Philosophies and Program Characteristics

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Accepted for Publication February 1988

Many professionals in agricultural education believe that the purposes of vocational agriculture in the secondary schools cannot be accomplished without supervised occupational experience (SOE) programs. At the same time, there is a growing concern that SOE programs are declining in quality and quantity. Lee (1982) described his fear that SOE programs, as a cornerstone in vocational agriculture, are "slipping away." Several recent studies have supported this concern. In New York, over one-half of the vocational agriculture students in each grade level did not have SOE programs (Berkey & Sutphin, 1985). In the same study, 50% of the teachers reported a high or medium need of additional competence in directing SOE programs. "The evidence continues to accumulate which reveals that many programs are not fully utilizing SOEP and many students are not becoming involved" (Miller, 1984, p. 3).

Teachers play a critical role in the success or failure of students' SOE programs. Length of contract, number of supervisory visits, and teacher attitudes toward the SOE concept have been found to have a positive influence on the quality and scope of SOE programs (Arrington & McCracken, 1983; Case & Stewart, 1984; Reneau & Roider, 1986).

Continuing changes in student backgrounds and interests, high school course patterns and curricula, and the agricultural teacher corps in Illinois have caused agricultural educators to lose track of the health and status of SOE programs in Illinois. Accurate, up-to-date data describing the trends in SOE programs in Illinois were needed to address the concerns of declining SOE program quality and student participation.

### Purposes and Objectives

The purposes of this study were to describe the current status of SOE programs in Illinois and to examine teacher attitudes and philosophies toward supervised occupational experience. The following research questions provided focus for the study:

1. What were the attitudes and philosophies of Illinois vocational agriculture teachers regarding supervised occupational experience programs?
2. What was the nature of SOE programs conducted by Illinois vocational agriculture students?
3. What was the relationship between teacher attitudes toward SOE and selected demographic characteristics of teachers?
4. What differences in SOE philosophy existed when teachers were grouped according to selected demographic characteristics?

### Methodology

The research design implemented in the study was classified as descriptive correlational. The target population included all full-time

Illinois agricultural production teachers in 1986-87 ( $N = 320$ ). The LOTUS 1-2-3 spreadsheet program was used to select a simple random sample of 100 teachers, or 31% of the population. The sample size was determined by using a formula suggested by Elliott (1980). Using a response scale range of four, an accuracy level of 10% (acceptable difference between the population mean and sample mean), and a confidence level of 95%, the needed sample size was calculated to be 100. Data were collected by use of a mailed questionnaire. Field testing and pilot testing resulted in several modifications in the survey instrument. A group of five graduate students and faculty provided feedback on the organization and clarity of the instrument. A panel of experts in agricultural education judged the instrument to have content validity. Ten purposefully selected agricultural teachers provided pilot test data. A Cronbach's alpha reliability of  $r = .89$  was calculated for the 27-item teacher philosophy scale contained in the final instrument.

After three follow-up mailings, a response rate of 79% had been attained. However, two of the returned questionnaires were incomplete, resulting in a 77% usable return. All returns received one week or later after the first follow-up mailing were classified as late respondents. Research has shown that late respondents are similar to nonrespondents, and a comparison of early and late respondents can be performed to allow generalization of the findings to the target population (Miller & Smith, 1983). The 57 early respondents were compared with the 20 late respondents on the primary dependent variable, teacher philosophy of SOE programs. The  $t$ -test indicated no significant difference between the two groups. Thus, the results of the study were generalized to the target population under study.

#### Analysis of Data

Descriptive statistics were used to summarize and analyze the data. Possible relationships between variables were examined using Pearson and point biserial correlation coefficients. Group means were compared using  $t$ -tests and one-way ANOVA, as appropriate. The Scheffe procedure was used to identify significantly different group means as a follow-up to the ANOVA procedure. All hypotheses were tested at the .05 level.

#### Results

##### Teacher Characteristics

Agricultural production teachers in Illinois were located in relatively small schools; one-half of the teachers were in schools of 240 students or less. On the average, teachers reported that 44% of their students lived in a city or town, 23% lived in a rural area but not on a farm, and 33% lived on a farm.

Nearly all of the teachers had taken agriculture in high school, and 71.1% had completed four years. A large majority (84.4%) of the teachers participated in SOE as a high school student. Nearly all of the teachers' SOE programs completed as high school students were limited to livestock and crop production.

The average number of years of teaching experience was 11.7 years. Only 13% had completed an undergraduate or graduate course on SOE programs. Of the 31.2% of the teachers who prepared an annual summary of SOE programs, 75% shared a copy with school administrators. However, only 23.4% of all teachers shared a copy of an annual SOE summary with their school administrators. The percentage of teachers with each contract length was as follows: 9-month--26.3%, 10-month--31.5%, 11-month--35.4%, and 12-month--6.8%.

## Nature of SOE Programs

Nearly 40% of the agricultural production teachers in Illinois did not require students to complete SOE programs. For those teachers who did require SOE programs, 36.8% required ownership or placement projects, and 47% required improvement practices or supplementary skills. On the average, 42% of the teachers reported having no minimum standards or scope guidelines for the major types of SOE programs. Sixteen percent of the teachers reported teaching nonvocational agriculture courses, and nearly all of these teachers did not require SOE programs for students in these courses. A slight majority (51.3%) of the teachers counted SOE programs as a portion of the students' grade in vocational agriculture. Most of these teachers allotted 10% of the grade for SOE programs. The average percentage of students conducting SOE programs is shown in Table 1.

Table 1

### Percent of Students Having SOE Programs by Grade Level

Grade	Percent
9	84.4
10	79.8
11	76.5
12	71.5
Overall	78.1

Although only 33% of the students lived on a farm, nearly 60% of the students conducted SOE programs involving livestock or crop production (see Table 2).

Table 2

### Percent of Students Conducting Various Types of SOE Programs

SOE Type	Percent of Students
Away from school	
Production enterprises	59.3
Business ownership	5.9
Farm placement	8.3
Ag business placement	11.5
School-based	11.5

Lack of student motivation was most often cited by teachers as the major problem encountered when helping students plan and conduct SOE programs. Other problems included limited student opportunities, lack of teacher time, poor student record keeping practices, inadequate financial resources and facilities, and low parent interest.

Teacher Philosophies

Teachers responded to a set of 27 Likert-type items (1 = strongly disagree, 5 = strongly agree) that sought to describe their philosophies toward SOE programs. Mean responses ranged from 2.07 to 4.47 (see Table 3). The overall mean score for the teacher philosophy scale was 3.79 (SD = .465). Teachers were found to be very supportive of the SOE concept and indicated that SOE is a valuable component of vocational agriculture today. Teachers also found their work with SOE programs to be very rewarding ( $\bar{X}$  = 4.33). They enjoyed conducting on-site visits ( $\bar{X}$  = 4.31) and felt that SOE programs should primarily seek to provide first-hand occupational experience in agriculture ( $\bar{X}$  = 4.33). As a group, teachers also felt that on-site supervisory visits are essential and that students should receive extra credit for conducting SOE programs.

Table 3

Means and Standard Deviations for Items on the Teacher SOE Philosophy Scale

	$\bar{X}$	<u>SD</u>
1. SOE is a valuable component of vocational agriculture programs today.	4.47	.754
2. All students with SOE programs should be required to keep records on their program.	4.42	.714
3. I find my work with students' SOE programs to be very rewarding.	4.33	.616
4. The most important aspect of the SOE program is that it provides firsthand occupational experience in some area of agriculture	4.33	.595
5. I enjoy conducting on-site SOE supervisory visits.	4.31	.674
6. I am philosophically very supportive of the SOE concept in vocational agriculture.	4.30	.844
7. The SOE concept is still workable in today's vocational agriculture programs.	4.25	.948
8. I strongly promote SOE programs in my vocational agriculture classes.	4.20	.932
9. It is necessary for the teacher to conduct on-site SOE supervisory visits.	4.14	.838

(table continues)

	X	<u>SD</u>
10. I am very confident in my ability to help students plan and carry out worthwhile SOE programs.	4.05	.872
11. Extra credit toward graduation should be provided for students completing SOE programs.	4.05	.944
12. Worthwhile SOE programs can be completed on school-owned or managed property.	4.00	.743
13. Good SOE programs can be conducted by most, if not all, students enrolled in vocational agriculture courses.	3.99	1.045
14. Every SOE program should include improvement projects and supplementary skills.	3.90	.940
15. SOE programs should require student activity or involvement for most of the year.	3.88	.888
16. I often use real problems encountered by students in their SOE programs as topics for classroom instruction.	3.83	.750
17. My students understand the link between classroom and laboratory instruction and SOE programs.	3.79	.732
18. All <u>vocational</u> agriculture students should be required to conduct a SOE program.	3.74	1.332
19. Teachers should establish minimum standards for the scope of individual SOE programs.	3.73	.912
20. I feel I am well organized with respect to SOE teaching and supervisory activities.	3.52	.940
21. Overall, the quality of my students' SOE programs is very good.	3.47	1.059
22. Every SOE program should include ownership or placement projects.	3.40	1.042
23. Helping every student plan and conduct a SOE program is very difficult.	3.31	1.195
24. All SOE programs should be planned with a potential for profit.	3.23	1.111
25. My knowledge base in SOE program design and implementation is adequate.	2.91	1.028
26. I have little difficulty motivating my students to conduct SOE programs.	2.74	.134
27. Schools provide adequate facilities and resources for students to complete SOE programs.	2.07	.879

Note. 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree.

Teachers reported considerable difficulty in motivating students to participate in SOE programs. School facilities and resources for conducting SOE programs were viewed as inadequate. Teachers also felt that their SOE knowledge base needed improvement. Finally, teachers agreed that worthwhile SOE programs can be completed on school-owned or managed property ( $\bar{X} = 4.00$ ).

As the percent of students living in town increased, teachers' SOE philosophy scores tended to decrease (see Table 4). On the other hand, as the percent of students living on a farm increased, teachers' SOE philosophy scores also tended to increase. All other relationships were found to be negligible.

Table 4

Pearson Correlation of Teacher SOE Philosophy With Selected Demographic Variables

Variable	<u>r</u>
Number of ag students	-.08
Number of FFA members	.13
Percent of students from town or city	-.26*
Percent of students from rural areas but not a farm	.05
Percent of students from farms	.24*
Years of high school ag completed	.10
Years of teaching experience	.06
FFA membership in high school	.09
Undergraduate hours completed on SOE	-.12
Graduate hours completed on SOE	-.09

\* $p < .05$ .

A number of t-tests were computed to analyze differences in means when teachers were grouped by selected demographic variables. However, no significant differences in SOE philosophy mean scores were found when data were grouped according to undergraduate major, completion of graduate courses on SOE programs, SOE workshop participation, and types of courses taught.

Finally, one-way analysis of variance was performed to examine the differences in teacher SOE philosophy mean scores when grouped according to length of the teaching contract (see Tables 5 and 6). Results of the analysis of variance indicated a significant difference between the mean scores in two or more groups. The Scheffe post-hoc analysis revealed that teachers with 12-month contracts had significantly higher mean SOE philosophy scores than teachers with 9-month contracts.

Conclusions and Recommendations

A large majority of Illinois agricultural production teachers have limited formal training in providing SOE programs. In general, teachers tended to report a need to strengthen their SOE knowledge base. Teachers are facing problems with low student motivation, lack of student

resources, and lack of teacher time to provide high quality SOE programs. Teacher education programs should provide preservice and inservice experiences for students that are aimed at building an SOE knowledge base and solving problems associated with SOE programs.

Table 5

Means and Standard Deviations of Teacher SOE Philosophy Score by Contract Length

Contract	n	Philosophy Score	
		<u>X</u>	<u>SD</u>
9 months	20	3.60	.413
10 months	24	3.77	.350
11 months	27	3.89	.524
12 months	5	4.27	.297

Table 6

Analysis of Variance of Mean Teacher SOE Philosophy Score by Contract Length

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Between groups	3	2.200	.733	3.90*
Within groups	72	13.550	.188	
Total	75	15.750		

\*p<.05.

Illinois agricultural production teachers are very supportive of the SOE concept and believe that most students can conduct worthwhile SOE programs. Nevertheless, a large number (40%) of Illinois teachers do not require SOE programs, and those who do are uncertain of appropriate standards or scope guidelines. Inservice activities should build upon the teachers' belief in SOE programs while offering solutions to major problems in implementing the SOE concept.

Most Illinois high school agricultural students have SOE programs, but the percentage of students with SOE programs steadily declines, from 84% to 71%, as students move from their freshman to their senior year. Teachers should be encouraged to expand the students' involvement in SOE programs as the students extend their study in agriculture.

A large majority of Illinois teachers were FFA members in high school and completed a SOE program. However, nearly all of their personal experiences were limited to livestock and field crop production.

In addition, most of their students have livestock and crop production enterprises for their SOE programs. A limited number of students' SOE programs involve business ownership, placement, or school-based experiences. Teacher educators and state supervisors need to work with local teachers and administrators to identify strategies for providing expanded SOE opportunities for students.

A small percentage of teachers prepare an annual summary of SOE programs and share a copy with their school administrators. A concise, meaningful SOE summary report form should be developed by state leaders and given to teachers for their use. The informational and public relations benefits of such a report should be clearly cited.

The following areas of further study are also recommended. Factors that decrease student participation in SOE programs as students advance to the upper grades need to be identified and examined. Redesigned models of the SOE concept need to be developed and tested in an effort to resolve problems associated with student motivation, student resources, and teacher time. Appropriate standards or SOE scope guidelines need to be established through pilot projects. The feasibility and effectiveness of a variety of school-based SOE experiences need to be carefully examined using a number of pilot agricultural programs.

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