

Planning and Supervision Strategies for SOE Programs in Agriculture

Edward W. Osborne, Assistant Professor
Agricultural Education
University of Illinois

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Supervised occupational experience (SOE) programs are an integral component of secondary agricultural programs and provide essential support to the vocational nature of instruction (Binkley & Byers, 1984; Newcomb, McCracken, & Warmbrod, 1986; Phipps, 1980). Since 1908, when Rufus Stimson first introduced the project method, which gradually evolved into the present day SOE concept, SOE programs have provided practical occupational experiences for students studying agriculture (Moore, 1985). "The acceptance of the supervised occupational experience program as a basis for a highly functional instructional program has been a chief contributor to the success of vocational agriculture" (Dickerson, 1984, p. 4).

Despite the recognized importance of SOE programs by agricultural educators, participation in SOE programs by high school students has been declining in recent years (Moore, 1979). Osborne (1987) reported that only 40% of Illinois vocational agriculture teachers required their students to conduct SOE programs. In a New York study, Berkey and Sutphin (1985) found that a majority of students in each grade level did not conduct SOE programs. Furthermore, one-fourth of the agricultural teachers in New York reported that they made no SOE supervisory visits. Other studies have reported higher levels of SOE participation, but some have also found relatively high levels of student dissatisfaction with their SOE programs (Zurbrick, 1984). The quality and scope of SOE programs have been found to be significantly related to the number of supervisory visits made by teachers, travel funds available, teacher assistance with fairs, length of teacher contract, and type of SOE program conducted by students (Arrington & McCracken, 1983; Case & Stewart, 1984). Research reported by Arrington and Price (1983), Berkey and Sutphin (1985), Iverson (1980) and Osborne (1987) indicated that teachers are supportive of the SOE concept, yet have great difficulty in implementing this concept with many students. These findings suggest that SOE planning and supervision strategies may be among the factors that form the connective link between positive teacher philosophies and high quality SOE programs.

The trend of declining SOE participation and the findings in recent research studies that noted the importance of teacher supervision of SOE programs suggested a need for further investigation of the SOE planning and supervision strategies followed by teachers. No data were available which described these strategies in detail, particularly for teachers in Illinois.

Purpose and Objectives

The purpose of this study was to describe the SOE planning and supervision strategies reported by Illinois vocational agriculture teachers. The following research questions provided focus for the study:

1. What strategies were used by teachers in Illinois for planning and supervising SOE programs?

2. What was the relationship between planning and supervision strategies and selected demographic characteristics, such as percentage of students with SOE programs, SOE program standards, and types of SOE programs conducted by students.

3. What differences in SOE planning and supervising strategies existed when teachers were grouped according to selected demographic characteristics, such as SOE course and workshop participation, SOE requirement, and contract length.

Procedures

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 confidence level of 95%, the needed sample size was calculated to be 100.

Data were collected by use of a mailed questionnaire containing four parts. Part I contained a 22-item Likert-type scale pertaining to SOE planning and supervision strategies. Parts II and IV gathered descriptive data about the nature of SOE programs and school and teacher characteristics. Part III of the questionnaire examined teacher philosophies of the SOE concept using a 27-item Likert-type scale. Results from Part III are not contained in this manuscript, due to space limitations.

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 coefficient of $r = .91$ was calculated for the 22-item scale describing SOE planning and supervision strategies.

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, SOE planning and supervision strategies. 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

The number of students enrolled in vocational agriculture courses ranged from 15 to 230 ($\bar{X} = 48.04$, $SD = 32.30$, $Md = 41.25$). 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. Eighty-four percent of the teachers had conducted SOE programs as a high school student. The average number of years of agricultural teaching experience was found to be 11.66 years ($SD = 8.44$). While 80% of the teachers had earned a bachelor's degree in agricultural education, only 13% had completed undergraduate courses dealing strictly with SOE programs. Only 50% of the teachers had completed undergraduate courses that contained substantial discussion on SOE programs. While nearly 50% of the teachers had earned advanced degrees, only 13% had completed graduate courses dealing strictly with SOE programs. However, 60% of the teachers had participated in workshops that focused on SOE programs. Only 12% of the teachers had at least one period per day allotted for SOE supervision, and two-thirds reported having unlimited travel funds for SOE supervision and other official travel expenses. One-fourth of the teachers had a school vehicle that they could conveniently use for conducting SOE supervisory visits. Eighty-three percent of the teachers participated in fairs and shows to assist with their students' exhibits. 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

Sixty percent of the teachers required their students to conduct some type of SOE program, and about half (51.3%) considered the SOE program as a portion of the student's grade in vocational agriculture. The percent of students having SOE programs ranged from 72% to 84%, depending upon the grade level. Nearly 60% of the students' SOE programs involved livestock and/or crop production enterprises. Other types of SOE programs conducted by students included agricultural business ownership (5.9%), farm placement (8.3%), agricultural business placement (11.5%), and school-based SOE programs of any type (11.5%).

Planning and Supervision Strategies

Teachers responded to a set of 22 Likert-type items (1 = never, 5 = always) that sought to determine the extent to which they used specific SOE planning and supervision strategies. Mean responses ranged from 1.48 to 4.30 (see Table 1), while a relatively large variance occurred in the teacher self-ratings for most of the items on the scale. The overall mean score for the SOE planning and supervision strategies scale was 3.25 ($SD = .736$). Teachers reported that they strongly encouraged students to expand their SOE programs each year ($\bar{X} = 4.30$) and that they regularly evaluated student's SOE programs ($\bar{X} = 4.01$). In addition, teachers reported that they usually made SOE visits during the summer and visited each student at least once during the school year. Providing written recommendations for improvement and conducting visits in response to students' problems with their SOE programs were also strategies usually followed by teachers. Developing long range plans, conducting at least two SOE supervisory visits per student per year, and discussing SOE problems in class were strategies that teachers reported they often used to help their students conduct SOE programs. Finally, teachers reported that students sometimes prepared written short-term goals for their SOE program. Developing a monthly schedule of visits and presenting SOE orientation programs were strategies seldom used by

teachers. Conducting SOE supervisory visits during a planning or supervision period was rarely reported as a strategy used by teachers to plan and supervise students' SOE programs.

Table 1

Means and Standard Deviations for SOE Planning and Supervision Strategies

	\bar{X}	<u>SD</u>
1. I encourage students to expand their SOE program each year in terms of scope and experiences.	4.30	.938
2. I evaluate each student's SOE program on a regular basis.	4.01	1.101
3. I make SOE visits during the summer.	3.99	1.400
4. I visit each one of my vocational agriculture students at least one time during the school year.	3.90	1.342
5. I conduct a supervisory visit when students encounter problems in their SOE programs.	3.88	1.143
6. I encourage students to conduct SOE programs that go beyond their current activities in agriculture.	3.84	1.046
7. I show students examples of high quality SOE programs conducted by former students.	3.83	1.311
8. I encourage students to plan their SOE programs to match their career interests in agriculture.	3.81	1.055
9. I provide students with written recommendations for improvement in their SOE programs.	3.72	1.341
10. I follow a systematic procedure for helping students plan SOE programs.	3.51	1.194
11. I visit parents and try to involve them in the SOE planning process.	3.46	1.238
12. Class time is used on a regular basis to update SOE records.	3.30	1.357
13. Class time is used for individual student SOE planning.	3.20	1.211
14. I give students a written set of standards, guidelines, or policies for SOE programs.	3.00	1.657
15. Every student with an SOE program develops a 2-4 year long-range SOE plan.	2.97	1.166
16. I visited each of my vocational agriculture students at least once each semester or two times per school year.	2.97	1.336
17. Problems encountered in SOE programs are brought before the class for discussion.	2.74	1.124
18. I visit new students at least once before the school year begins or during the first semester.	2.71	1.353
19. I present an SOE orientation program to parents and students.	2.45	1.482
20. Each student with an SOE program submits a written short-term plan.	2.21	1.266
21. I develop a monthly schedule of SOE supervisory visits.	2.15	1.151
22. I use my planning or supervision period to make SOE visits.	1.48	.818

Note. Scale: 1=never, 2=sometimes, 3=often, 4=usually, 5=always.

As the percentage of students with SOE programs in each grade level increased, the SOE planning and supervision scores of teachers tended to increase (see Table 2). Teachers with higher planning and supervision scores tended to require more improvement projects, supplementary skills, and ownership projects. A positive relationship was found between SOE planning and supervision scores and the percentage of students from a farm, the percentage of students with production enterprises, and the percentage of the vocational agriculture grade based on SOE. On the other hand, as the percentage of students from town or a city and the percentage of students with school-based SOE programs increased, SOE planning and supervision scores tended to decrease.

Negligible relationships were found between SOE planning and supervision scores of teachers and percentage of students with placement SOE programs, number of agricultural students, years of teaching experience, number of periods per day allotted for SOE supervision, and the amount of travel money available.

Table 2

Pearson Correlation of SOE Planning and Supervision Strategies With Selected Demographic Variables

Variable	<u>r</u>
Percentage of students with SOE:	
12th grade	.43***
11th grade	.51***
10th grade	.48***
9th grade	.40***
Required number of improvement projects	.46***
Required number of supplementary skills	.45***
Required number of ownership projects	.42***
Percentage of students with production enterprises	.38***
Percentage of vo-ag grade based on SOE	.32**
Percentage of students with school-based SOE programs	-.29**
Percentage of students from a farm	.24*
Teacher assistance with fairs and shows	.22*
Horticulture course(s) taught	.20*
Percentage of students from town or city	-.20*

* $p < .05$. ** $p < .01$. *** $p < .001$.

A number of t -tests were computed to analyze differences in planning and supervision mean scores when teachers were grouped according to selected demographic variables. Teachers who required all of their students to have SOE programs had significantly higher planning and supervision mean scores than those who did not require SOE programs ($t = -2.41, p < .05$). Additionally, teachers who prepared an annual summary of their students' SOE programs had significantly higher mean scores for SOE planning and supervision than teachers who did not prepare an annual summary ($t = -3.81, p < .001$). The difference in SOE planning and supervision mean scores for teachers who assisted with fairs and shows compared with those who did not approached statistical significance at the .05 level ($t = -1.92, p = .059$). No significant differences in mean SOE planning and supervision scores were found when teachers were grouped according to participation in SOE workshops, completion of undergraduate and graduate course work on SOE programs, availability of a school vehicle for supervisory visits, and the inclusion of SOE as a part of the grade in vocational agriculture.

Finally, one-way analysis of variance was performed to examine the differences in SOE planning and supervision mean scores when teachers were grouped according to length of teacher contract (see Tables 3 and 4). Results of the analysis of variance indicated a significant difference between the mean scores in two or more groups. Scheffe post-hoc

Table 3

Means and Standard Deviations of Teacher SOE Planning and Supervision Scores by Contract Length

Contract	<u>n</u>	<u>\bar{X}</u>	<u>SD</u>
9 months	19	2.86	.875
10 months	24	3.14	.630
11 months	27	3.58	.578
12 months	5	3.75	.332

Table 4

Analysis of Variance of Mean Teacher SOE Planning and Supervision Scores by Contract Length

Source	<u>df</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Between groups	3	7.308	2.436	5.40*
Within groups	71	32.013	.451	
Total	74	39.321		

* $p < .01$.

analysis revealed that teachers with 11-month and those with 12-month contracts had significantly higher SOE planning and supervision mean scores than teachers with 9-month contracts.

Conclusions and Recommendations

While a slight majority of Illinois agricultural production teachers requires all of their vocational agriculture students to have SOE programs, in general teachers follow accepted SOE planning and supervision strategies on an irregular basis. However, teachers who place higher expectations on their students for SOE participation are more systematic and extensive in their planning and supervision efforts. Through workshops and other inservice efforts, teachers should be assisted in identifying higher expectations of their students for SOE participation.

Teacher involvement in SOE planning and supervision is linked to the nature of SOE programs and student backgrounds. Students from farms with traditional SOE programs are more likely to receive needed teacher supervision and assistance in planning. Appropriate SOE strategies for working with students having nontraditional SOE programs need to be addressed in preservice and inservice programs.

SOE supervisory visits are usually made by teachers during the summer months. However, there is evidence in this study to suggest that Illinois teachers are not devoting a strong effort to conducting SOE supervisory visits. Furthermore, written short-range and long-range plans are not usually developed by students for their SOE programs. Teachers need assistance in developing a systematic approach to their SOE planning and supervision strategies.

Teachers on extended contracts are more heavily involved in SOE planning and supervision activities. Schools are not providing time during the school day for SOE supervision. However, most schools in Illinois are providing adequate travel funds for SOE supervision.

Regular evaluation of SOE programs is a common practice among most teachers. Teachers who prepare annual summaries of their students' SOE programs are more extensive in their SOE planning and supervision efforts. A simple form for summarizing SOE programs on an annual basis should be developed with input from teachers. Completed forms should be obtained from teachers each year.

The following areas of further study are also recommended: (a) development and pilot testing of an SOE planning system for teachers to use with their vocational agriculture students, (b) a thorough investigation of the factors associated with teacher commitment toward high quality SOE programs, (c) an analysis of the planning and supervision difficulties encountered by teachers when working with students with nontraditional SOE programs, and (d) a detailed analysis of the SOE supervisory objectives and practices implemented by teachers who are heavily involved in SOE on-site supervision.

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