

EXPLORING THE PARADOX OF SUPERVISED AGRICULTURAL EXPERIENCE PROGRAMS IN AGRICULTURAL EDUCATION

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Abstract

Agricultural teachers in North Carolina were surveyed to assess their attitudes toward Supervised Agricultural Experience (SAE) and to identify barriers to implementation of SAE in their schools. The teachers gave the politically correct answers about why SAE was important. The teachers indicated that SAE was important (8.46 on a 10 point scale) but confessed the quality of their SAE program was only a 6.33 on the 10-point scale. Furthermore, less than 1/3 of the teachers had a 75% or higher participation rate in SAE. Clearly this is a paradox; the results don't match the rhetoric. Teachers believe that SAE is not rewarded/recognized to the extent of involvement in FFA activities. Teachers identified the number of students they teach, conflicting demands on their time, lack of knowledge of new approaches to SAE, inadequate SAE opportunities in the community, and the difficulty in teaching record keeping as barriers to implementing SAE programs. The profession needs to develop a realistic plan for addressing the barriers to implementation of SAE.

Introduction

“Is SOE Destined to Become a Dinosaur?” was the title of an article in *The Agricultural Education Magazine* in 1989. Doug Pals, author of the article, was referring to the entire concept of SOE, not the acronym. Sixteen years earlier, Peterson and McCreight posed a similar question in the same publication. The title of their article was “Are Supervised Occupational Experience Programs Really That Important?” Peterson and McCreight (1973, p. 245) stated, “...in the eyes of some agricultural educators apparently supervised occupational experience programs has become an obsolete item...If not obsolete, at least a supervised occupational experience program apparently does not have a high priority with some agricultural educators.” Have the views regarding supervised experience in agriculture changed since these articles were written?

In the Distinguished Lecture to the American Association for Agricultural Education (AAAE) in 2005, Gary Moore posed the following question to those in attendance, “In your state, which circle is the smallest?” The three circles being

referred to were the traditional three circles depicting the components of an agricultural education program--Instruction, FFA and SAE. Ninety-five percent of the audience members, using electronic hand held responders to record their opinions, indicated that SAE was the smallest circle (Moore, 2006).

Supervised Agricultural Experience (SAE), long regarded as a key component of agricultural education (Harris & Newcomb, 1983), has in fact, become a rather puny component of the total program (Berkey & Sutphin, 1985; Dunham & Long, 1984; Grellner & White, 1992; Leising, 1982; Miller, 1980; Osborne, 1988; Vaughn & Cano, 1982; Zurbrick, 1984). This has not always been the case.

During the first 50 years of agricultural education federal law mandated that all students have a supervised experience program. Federal and state supervisors vigorously enforced this provision of the Smith-Hughes Act. Agriculture teachers were required to keep detailed records of the experience programs conducted by students. Annual reports were forwarded to the state agricultural education office. Regional and district supervisors often accompanied the

agriculture teacher on visits to supervise the experience program of the students. Supervised experience programs were rather healthy. However, the passage of the Vocational Education Act of 1963 signaled a change (Boone, Doerfert, & Elliot, 1987).

In an attempt to broaden agricultural education to be much more than farming, the framers of the Vocational Education Act of 1963 wrote that "...such education [agricultural education] may be provided without directed or supervised practice on a farm." Some educators interpreted this to mean supervised practice was no longer restricted to just farm work while others interpreted this to mean that supervised practice was no longer required (Boone, Doerfert, & Elliot, 1987). The ambiguity of this provision of the law led to a steady erosion of supervised experience in agriculture. This erosion started slowly in the 1960s and gained speed during the 1970s. By the end of the 1970s, the profession was becoming alarmed about the decline in supervised experience programs and decided it was time to do something about the problem.

In 1982 and 1984, national conferences sponsored by DeKalb were held to generate enthusiasm for supervised experience programs. A variety of instructional materials and even a film (SOE: Bridging the Gap) were produced. This initiative was followed by the release of *Understanding Agriculture: New Directions for Education* in 1988. This National Research Council document recommended that supervised experience be strengthened and broadened.

The push to reinvigorate agricultural experience programs continued into the 1990s. There was considerable debate in *The Agricultural Education Magazine* over changing the name from SOE (Supervised Occupational Experience) to SAE (Supervised Agricultural Experience) (Cox, 1991). A task force appointed by the National Council for Agricultural Education released a new SAE handbook, *SAE: Experiencing Agriculture*, in the early 1990s (Barrick, 1992; Camp, Clark, & Fallon, 2000; Hughes, 1992). Moore and Flowers (1993) followed with their ideas as to how SAE should be structured in the future. The National Council for Agricultural Education

released the *Decisions and Dollars* curriculum in 1994. This curriculum guide updated the accounting practices used in SAE. In 1995 the FFA also made major revisions to the Proficiency Award program so that new areas of SAE would be recognized. Later in the 1990s the National FFA Organization mounted a major initiative identified as Local Program Success (LPS). In the LPS materials, there was a major emphasis on SAE.

The drive to enhance the SAE program continued into the 21st century. The National FFA has provided much of the leadership. There are new FFA programs such as the Star in Agriscience and the Star in Placement. The National FFA distributed a new SAE Handbook on CD in 2006. The undertaking to reinvigorate SAE continues.

In spite of all the emphasis on SAE during the past three decades, this component of the agricultural education program remains weak. There has not been a discernible difference in the number of students with SAE programs during the past 30 years. Miller (1980), Dyer & Osborne (1995), and Steele (1997) all report a similar trend in their synthesis of SAE research.

Why is SAE the weak component of agricultural education? Time appears to be an issue (McMillion & Auvillle, 1976; Schut, 2003) as does the number of students in the program (Byers, 1972). The lack of summer employment has also been a contributing factor to weak SAE programs (Arrington, 1981; Gibson, 1987). In a synthesis of SAE research Dyer and Osborne (1996, p. 27) report, "Researchers have identified several obstacles to conducting quality SAE programs." A lack of student motivation, limited student opportunities, lack of teacher time, poor student record keeping practices, inadequate financial resources and facilities, and low parent interest were obstacles cited by Osborne (1988). Miozi (cited in Lee, 1985) reported that excessive paperwork, too many students, and a lack of farm backgrounds by the students discouraged teachers in West Virginia from implementing SAE programs.

The Agricultural Education profession could benefit greatly from determining why SAE programs have not shown appreciable growth during the past three decades in spite

of all the efforts to strengthen them. A logical group to query would be the group responsible for implementing the SAE program—the agriculture teachers.

Purpose and Objectives

The purpose of the study was to determine if agriculture teachers thought SAE was important and to identify factors that might impact the implementation of SAE programs in the total agricultural education program. More specifically, the study sought to answer the following research questions:

1. Do high school agricultural educators perceive that SAE is important?
2. Do high school agricultural educators perceive that they conduct quality SAE programs?
3. What types of SAE programs are found in high school agricultural education programs?
4. What factors do agriculture teachers perceive to impact their ability to implement a quality SAE program?

Theoretical Framework

The theoretical framework for this study was derived from a review of the existing literature regarding motivation theory. A teacher's decision to conduct the SAE component of their program is directly related to this area of psychological theory. In Edwin Locke's schema of motivation, Locke (1991) hypothesized that one motivational theory alone can not explain all the reasons one may be motivated to carry out an action. He postulates that individuals must progress through three stages of motivation in order to take action and that each stage is supported by various classical theories such as Maslow's Need Hierarchy, Vroom's Expectancy Theory and Weiner's Attribution Theory. The stages included in Edwin Locke's (p. 289) schema of motivation are:

1. Motivational Needs: Perceived Importance/Need

2. The Motivation Core: Expected Rewards
3. The Motivational Hub: Intent and Barriers

In this study, Locke's first stage of motivation, motivational needs, was examined by having teachers' rate their perceived importance of SAE. Their journey through the second stage of motivation, the motivation core, was examined by identifying teachers' perceptions that might describe their motives to conduct the SAE component of their program. Factors were identified in the third stage of motivation, the motivational hub, which might serve as barriers to the teacher in conducting the SAE component of their program.

Procedures

The population of this study was high school agricultural educators who were attending the North Carolina summer teacher conference. One hundred and ninety eight of the 378 high school agricultural educators in the state attended the conference. This purposively selected group of teachers was used because the teachers who attend the summer conference tend to be the more progressive teachers, and if anything, should conduct higher quality SAE programs than the non-attendees. It was believed that if these teachers were having problems implementing SAE programs, the reasons given would be more credible than those given by non-attendees.

Because this was descriptive research, a questionnaire was developed by the researcher based on a series of SAE program and teacher characteristics garnered from the literature. Participants were asked several demographic questions and were asked to respond to 23 statements related to the barriers and rewards of conducting the SAE component of their program. Participants were asked to indicate their agreement with the statements by selecting one of the following: Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5.

The survey instrument was reviewed by a panel of experts made up of instructors and administration and a group of selected

graduate students ($n = 7$) for content validity. Clarity revisions were made on the instrument after the content validity assessment. The instrument was then administered to a pilot group ($n = 14$) of agricultural educators attending a summer mentoring workshop. These educators were not in the final sample of the population surveyed. More clarity revisions were made on the instrument after the pilot test. The reliability estimate of the pilot test was also calculated using a Cronbach's alpha on the statement component of the survey and yielded an alpha of .80. The instrument was considered to be reliable and was administered to agricultural teachers who were attending a state summer conference ($n = 198$).

The data was analyzed using the Statistical Package for Social Sciences (SPSS) for Windows Version 11. A profile of the teachers was developed by an analysis of descriptive statistics. Descriptive statistics were generated for teacher age, years of teaching experience, gender, number of students taught, method of receiving licensure, and rural/urban school location. Mean scores were tabulated for teacher's perception of the importance of the SAE component of an agricultural education program and teacher's perception of the quality of the SAE component of their agricultural education program. Mean scores for teacher responses to a series of statements related to the rewards and barriers of conducting the SAE component of their program was also calculated.

Findings

Demographics

The mean age of the respondents was 37.05 years. Thirty-eight percent of the respondents had less than 5 years of total teaching experience and 35% of the respondents had more than 15 years of total teaching experience. The majority of study participants were males. They constituted 74% ($n = 146$) of the teacher group. Females constituted 26% ($n = 52$) of the respondents. Seventy-six percent of the respondents ($n = 150$) were licensed through a traditional four-year agricultural education program and 21% ($n = 44$) were licensed through

lateral entry. The licensure route for 3% ($n = 4$) were unknown. The majority of the teachers ($n = 157$, 79%) taught in schools located in rural counties.

Do high school agricultural educators perceive that SAE is important?

Teachers agree that SAE is an important component of the agricultural education program. The mean score for the teachers' response to the question "How important do you feel the SAE component is to all agricultural education programs on a scale of 1-10?" was 8.46 (10 was highest importance, $SD = 1.68$).

Four of the statements on the attitude scale further reinforce the belief that SAE is important. These were the only four statements with mean ratings above 4.0. The statements were:

1. I believe SAE should be part of a student's grade ($M = 4.17$, $SD = .943$).
2. I believe SAE improves student mastery of course objectives ($M = 4.28$, $SD = .845$).
3. I believe SAE gets students started in an agricultural career ($M = 4.23$, $SD = .806$).
4. I believe SAE provides real life experiences for the student ($M = 4.72$, $SD = .595$).

Based upon the response to these four statements and the response to the question about the importance of SAE, it seems that the teachers believe SAE to be of vital importance in the agricultural education program.

Do high school agricultural educators conduct quality SAE programs?

Teachers were next asked to rate the quality of the SAE component of their program. The question was, "How do you rate the SAE component of your Agricultural Education program?" Again, a 1-10 rating scale was used. The teachers' mean rating was 6.32 ($SD = 2.38$). This rating is more than 2 points lower than the importance rating.

A question related to SAE implementation was "What percent of your

students had a SAE project during the previous school year?" There were four different categories of responses. Twenty-eight percent ($n = 55$) of the respondents indicated that less than 25% of their students had SAE programs. Fifteen percent ($n = 30$) of the respondents indicated that between 25-50% of their students had SAE programs. Sixteen percent

($n = 31$) of the respondents indicated that between 50-75% of their students had SAE programs. Thirty percent ($n = 60$) of the respondents indicated that over 75% of their students had SAE programs. Eleven percent of the respondents ($n = 22$) did not answer this question. These data are reported in Table 1. Less than 1/3 of the teachers had a 75% or higher participation rate in SAE.

Table 1
Students With SAE Programs

Categories	Number of Teachers Responding	%
Less than 25% of my students have SAE Programs	55	27.8
Between 25-50% of my students have SAE Programs	30	15.2
Between 50-75% of my students have SAE Programs	31	15.7
Over 75% of my students have SAE Programs	60	30.3
No Response	22	11.1

What types of SAE programs are found in high school agricultural education programs?

The most common type of SAE is placement followed closely by entrepreneurship; 135 teachers (68.2%) reported that one or more of their students had placement as a type of SAE. This was followed closely by entrepreneurship with 129 teachers (65.2%) reporting one or more students with this type of SAE program. Only 52 teachers (26.3%) reported that one or more students had research-type SAE programs. Seventy-one teachers (35.9%) reported that one or more students had "other" types of SAE programs. In North Carolina those would probably be improvement or exploratory SAEs.

What factors impact the ability of the agriculture teacher to implement a quality SAE program?

Respondents were asked to indicate their agreement to 23 statements by using a Likert-type scale of Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5. Those teachers who

selected Agree = 4 or Strongly Agree = 5 were considered to be in agreement with the statement. The statement mean response, standard deviation, and number of teachers in agreement with the statement can be found in Table 2. Four of the statements were general attitudinal statements about the importance of SAE and were reported in the first research question section. These four statements all had mean scores above 4.0. The remaining 19 statements focused more on factors that might impact the implementation of SAE programs.

Three statements received mean ratings between 3.00 and 3.99. These three statements were all FFA related. They were:

- Increased opportunities in FFA leave me less time for SAE ($M = 3.13$, $SD = 1.17$).
- I encourage my student's to conduct SAE because of the FFA proficiency award recognition ($M = 3.73$, $SD = 1.013$).
- I get more recognition for my chapter by participating in FFA

activities than supervising SAE projects ($M = 3.85$, $SD = 1.09$)

It appears that FFA is of more importance to teachers than SAE.

The remainder of the items on the instrument received mean scores below 3.0, which was the mid-point of the rating scale. However, in an attempt to identify what issues are affecting the SAE component of programs, the researchers paid careful attention to the number of teachers who either agreed or strongly agreed with the remaining statements. Any item that had 50 or more teachers in agreement with it was deemed worthy of examining. Using this screening criterion, six other statements emerged. They were:

- Opportunities for my students to have SAE projects are limited in my school community ($M = 2.60$, $SD = 1.25$, n of teachers agreeing with statement = 52).
- I do not have time to help each student develop individualized SAE

objectives and project plans ($M = 2.61$, $SD = 1.21$, n of teachers agreeing with statement = 54)

- It is harder to garner support for SAE than FFA in my community ($M = 2.93$, $SD = 1.14$, n of teachers agreeing with statement = 63).
- I have too many students to supervise SAE projects ($M = 2.89$, $SD = 1.26$, n of teachers agreeing with statement = 69).
- SAE recordkeeping is too complicated ($M = 2.90$, $SD = 1.24$, n of teachers agreeing with statement = 70).
- There are new SAE categories, such as research, that I am not familiar with conducting ($M = 2.99$, $SD = 1.26$, n of teachers agreeing with statement = 81).

These six statements could be considered as perceived barriers that may be preventing teachers from implementing SAE programs. The entire list of statements is found in Table 2.

Table 2
Teachers' Perception of Factors Related to Conducting/Supervising SAE

Statements	<i>M</i>	<i>SD</i>	<i>n</i> of Teachers Agreeing with the Statement ^a	% of Teachers Agreeing with the Statement ^a
I lack resources such as texts, professional journals, and travel monies.	1.83	1.07	18	9.1
I lack the time to visit their SAE projects.	1.99	1.03	20	10.1
Students lack resources at home such as a garden area, pasture, barn and/ or equipment.	2.03	1.23	30	15.2
I don't know how to teach recordkeeping	2.10	1.11	31	15.6
I lack the knowledge to individualize instruction for my students in all content areas.	2.22	1.18	36	18.2
I receive recognition from my school principal for conducting/supervising SAE.	2.23	1.37	23	11.6

Statements	<i>M</i>	<i>SD</i>	<i>n</i> of Teachers Agreeing with the Statement ^a	% of Teachers Agreeing with the Statement ^a
I was not taught how to supervise SAE projects.	2.29	1.33	43	21.7
I receive recognition from my CTE director for conducting/supervising SAE.	2.35	1.219	33	16
There are so many competing demands for my time; something has to go- SAE.	2.35	1.12	35	17.7
Parents feel SAE is an unrealistic expectation of their child.	2.41	1.03	27	13.6
Opportunities for my students to have SAE projects are limited in my school community.	2.60	1.25	52	26.9
I do not have time to help each student develop individualized SAE objectives and project plans.	2.61	1.21	54	27.3
I have too many students to supervise SAE projects.	2.89	1.26	69	35.2
SAE recordkeeping is too complicated.	2.90	1.24	70	35.9
It is harder to garner support for SAE than FFA in my community.	2.93	1.14	63	32.8
There are new SAE categories, such as research, that I am not familiar with conducting.	2.99	1.26	81	41.9
Increased opportunities in FFA leave me less time for SAE.	3.13	1.17	77	39.3
I encourage my student's to conduct SAE because of the FFA proficiency award recognition.	3.73	1.01	129	67.2
I get more recognition for my chapter by participating in FFA activities than supervising SAE projects.	3.85	1.09	135	68.2

Statements	<i>M</i>	<i>SD</i>	<i>n</i> of Teachers Agreeing with the Statement ^a	% of Teachers Agreeing with the Statement ^a
I believe SAE should be part of a student's grade.	4.17	.94	156	78.7
I believe SAE gets students started in an agricultural career.	4.23	.81	171	86.4
I believe SAE improves student mastery of course objectives.	4.28	.85	171	86.4
I believe SAE provides real life experiences for the student.	4.72	.59	182	97

^aRespondents who selected a response of 4 or 5 on a scale of: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Conclusions and Discussion

There is a paradox between the value teachers place on SAE and the manner in which SAE is being implemented. Teachers state that SAE is an important component of the agricultural education program. They can talk the talk, but they are not doing a quality job of conducting the SAE component of their program. Even though the teachers rated their SAE implementation efforts at a 6.32 on a 10-point scale, one might conclude this rating was too high since less than 1/3 of the teachers had 75% or more of their students with SAE programs. The difference between what the teachers feel is important and what they feel they are doing may be due to motivational factors described in the later stages of Edwin Locke's (1991) schema of motivation. This conclusion suggests that teachers are not carrying out quality SAE due to lack of rewards in the second stage of motivation or the existence of barriers in the third stage of motivation.

National and state efforts to get teachers to conduct the SAE component of their program should not be focused on motivating teachers to value or perceive a need for SAE. Teachers already know the politically correct answer. This study indicates that the teachers need help in

improving the quality of the SAE component of their program.

Teachers appear to get more reward out of FFA activities than SAE activities. As indicated by this study and those participants at the 2005 AAAE conference, SAE is given the least priority. According to the second stage of Locke's (1991) motivational schema, if teachers can expect to gain something from conducting the SAE component of their program (a motive) the more likely they are to do it. If the FFA or state departments of public instruction gave awards for 100% SAE chapters, SAE Teacher of the Year, percent gain of SAE numbers and other award incentives more teachers might conduct a quality SAE component of their agricultural education program. As long as teachers do not receive recognition or reward for conducting quality SAE programs, this may continue to be a low priority.

The agricultural education profession should address the barriers teachers perceive to implementing SAE. Teachers believe that lack of time and too many students are barriers to conducting quality SAE programs. They also believe that record keeping is too complicated. Teachers believe there are limited opportunities for SAE in their communities. This may be directly related to another barrier they identified which was lack of knowledge of the newer

categories of SAE. The fact that most of the teachers have students with entrepreneurship and placement SAEs reinforces this lack of knowledge of new SAEs as a barrier. The third stage of Locke's motivational schema (1991) states that if teachers perceive barriers to performing a task, even if it is a worthwhile task, they still may not carry out the task. Even if state and national associations create SAE recognition programs to increase teacher's expectancy value of SAE they may still not conduct the SAE component of their program because of existing barriers. Teachers need help in overcoming the perceived barriers to conducting quality SAE programs.

Implications and Recommendations

Given the number of students that teachers have in their classes and the time constraints, it may be time to radically think outside the box and embrace new SAE concepts such as agricultural service learning. The literature on service learning indicates students do learn hands-on skills but also benefit in the affective domain. Entire classes or groups of students can be engaged in agricultural service learning which would address the barriers of too little time and too many students.

It appears that record keeping is a turn off in regards to SAE. While the National FFA and National Council for Agricultural Education may have been correct to emphasize new record keeping procedures and practices in 1995, it may have discouraged teachers from teaching about and implementing SAE programs. While a handful of students may have benefited from implementing the Generally Accepted Accounting Practices (GAAP), thousands of other students have not learned record keeping because the teachers think it is too complicated.

The profession needs to stop spending time and resources trying to convince teachers that SAE is of great value. Teachers already know this. Perhaps teachers should be taught about the new types of SAE programs. The teachers in this study indicate they are not aware of the new SAE categories. One way to spread the word might be to start with the national in-service

conference sponsored by the National FFA. The state leaders need to know about the new SAE categories before they can be implemented at the state level. Teacher educators also have a major responsibility in this area.

The agricultural profession needs to reinforce through incentive programs that nontraditional SAE projects are of equal value as traditional (placement and entrepreneurship) projects. Current FFA programs that recognize the current SAE programs are the FFA proficiency award program and the agri-science fair and student recognition program. Research needs to be conducted to determine if teachers perceive that students receive similar recognition from participating in those programs as they do from participating in the more traditional programs.

In addition, a new recognition area should be created to promote non-experimental non-traditional SAE. Analytical project books should be developed and recognized by the National FFA in an incentive program. These project books could have pre-developed competencies and objectives and activities for students to do such as those used in 4-H or the Boy Scouts of America. These project books would address the perceived barriers of teachers of too little time and too many students while helping teachers individualize projects for their students.

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