

**BENEFITS OF
SUPERVISED AGRICULTURAL EXPERIENCE PROGRAMS:
A SYNTHESIS OF RESEARCH**

James E. Dyer, Assistant Professor
David L. Williams, Professor
Iowa State University

Abstract

*This article presents a synthesis of research on benefits of supervised agricultural experience (SAE) programs during a **thirty-year period** 1964 - 1993. A library search of selected sources was used to gather data for the study. Research in this area is primarily descriptive, detailing the benefits of SAEs. Research supports the belief that SAEs are regarded as beneficial to students, and that SAEs help make agricultural education vocational. Agricultural knowledge and positive work attitudes are among the benefits students gain from SAEs. Research supports the concept that classroom/laboratory, SAEs, and FFA complement each other in the teaching and learning process. The research is state specific, fragmented, and lacks cohesiveness. Regional and national studies are needed on the benefits of SAEs to student learning; outcomes of SAEs; ways to effectively measure benefits from SAEs; optimal scope of SAEs; and building symbiotic relationships between classroom/laboratory instruction, FFA, and SAE to further enhance student learning.*

Learning by doing has been a part of agricultural education in public schools since its conception. Typically, agricultural education instruction includes three integral components: classroom/laboratory instruction, FFA, and supervised agricultural experience (SAE) programs. Each component makes a unique contribution to teaching and learning while complementing the other two. Phipps and Osborne (1988) explained the role of SAE as giving "students opportunities for learning through experiences in real-life activities adapted to particular interest and needs...in order for instruction to be vocational in nature it must be carried to the doing stage" (p. 315). Dickerson (1984) advanced that SAEs are basic to successful secondary school agricultural education programs.

The agricultural education profession provided significant leadership during the early 1980s to assist agricultural education teachers in developing SAEs that would be in concert with new developments in the agricultural industry. National workshops on SAE were conducted in Washington,

D. C., in 1982 and 1984, and a handbook was developed and distributed to guide local initiatives. The handbook reported that students, teachers, employers, agricultural education programs, communities, and the agricultural industry benefit from SAEs. Benefits listed for students included: developing occupational skills, gaining experience in money management, making classroom and laboratory instruction relevant, solving real agricultural problems, gaining experience in decision making, developing plans for career and personal life, developing human relations skills, and developing record keeping skills (Supervised Occupational Handbook, 1982).

Research is needed in all aspects of agricultural education to provide direction for future development of the discipline (Williams, 1991). Much research has been conducted on the benefits of SAEs. Barrick, Hughes, and Baker (1991) reported that the compilation of past research findings on aspects of SAE is needed to "provide the profession a basis on which to make decisions and base future research efforts" (p. 35).

Findings presented in this article and a companion article, "Supervision of Supervised Agricultural Experience Programs: A Synthesis of Research," coupled with earlier syntheses of research on participation in SAE programs (Dyer & Osborne, 1995) and on quality of SAE programs (Dyer & Osborne, 1996) provide a review of research related to SAE during a thirty-year period, 1964-1993.

Objectives

The primary objective of this investigation was to synthesize research related to the benefits of SAE programs. A secondary objective was to identify areas of deficiency in research related to benefits of SAE programs.

Procedures

A library search was used to gather data for the study. Five reference sources were searched for articles/papers/dissertations completed from 1964 through June 1993: Journal of Agricultural Education, The Journal of the American Association of Teacher Education in Agriculture, doctoral dissertations from Dissertation Abstracts International, proceedings from regional and national Agricultural Education Research Meetings, and ERIC Documentation Reproduction Service.

Findings

Benefits Perceived by Teachers

Agricultural education teachers recognize the benefits of SAE. In New York, agricultural education teachers rated SAEs as valuable in the development of favorable work attitudes, values and habits; technical knowledge and skills; and of general benefit to the agricultural education program, the school, and the community (Berkey & Sutphm, 1984). Teachers in Tennessee perceived the greatest benefits of SAEs as enhancing

classroom instruction, developing management skills, career preparation, linkage of agriculture and FFA, and building character (Lamberth, 1986). Teachers in Missouri rated the development of desirable work habits, development of responsibility, adaptation to needs of students, and development of record keeping skills as the major benefits of SAEs (Stewart & Birkenholz, 1991). In Alabama, teachers perceived SAEs as helpful to students in developing good work habits, improving job-related skills, and in relating subject matter to occupations (Cheatham, 1980). Almost all of the Texas teachers participating in a study by Dillingham (1981) believed that SAEs were of immense value in meeting the personal, educational, and occupational needs of students.

SAEs make the study of agriculture practical (Pals, 1988). Harris and Newcomb (1985) reported that agricultural education teachers believed that classroom instruction should be related to SAEs. Hedges (1987) found that Ohio teachers rated having a high-quality SAE for each student as one of the eight requirements to attain excellence in teaching. According to Flowers and Pepple (1987), student participation in SAEs increased teacher morale. They found that beginning teachers in Illinois who reported higher perceptions of students with SAEs also reported higher morale. However, Pals (1988) found that instructors viewed SAEs as not encouraging students to seek a college education and failure to develop citizenship traits.

Benefits Perceived by Parents

Parents perceive SAEs to be of value. Rawls (1982) reported that parents recognized the benefits of SAEs to be in areas of work attitude, occupational development, and human relations. Parental support for SAEs is more likely when they see benefits to their own sons or daughters (Rawls, 1982). However, Pals (1988) concluded that parents might think their child's SAE is not related to what they see them doing for lifelong work.

Benefits Perceived by Emulovers

Memon (cited in Lee, 1985) found that Iowa employers considered SAEs highly important in preparing students for postsecondary education. Fletcher, Williams, and Miller (1985) also reported that employers perceived agribusiness employment experience as being valuable to students. Pals (1988) found that employers rated "helped earn money while in school" at the top of their perceived benefits.

Benefits Perceived by Students

Students perceive SAEs to be beneficial. SAEs help students develop desirable occupational and educational attitudes (Williams, 1979) and work values (Benson, 1981). Nearly 100% of the former Virginia high school agricultural education students participating in a study conducted by Taylor (1983) had positive perceptions of their SAEs. Smailes (cited in Barrick, et al., 1991) reported that nearly 80% of former students currently engaged in farming considered their SAE programs to have been at least somewhat effective in developing their interest in farming, and that record keeping skills learned in conducting SAEs to be the greatest benefit. Dugan and Sutphin (1984) concluded that students with a high level of SAE participation have a higher degree of affective competency development (work attitudes, values, and habits) than students with non-SAE participation.

Pals (1988) identified the five greatest student-perceived benefits of SAEs as being (1) an opportunity to learn on own, (2) acceptance of responsibility, (3) develop independence, (4) pride of ownership, and (5) learn to appreciate work. Reasons students choose a particular SAE are related to occupational objectives, interest, and home resources (Herren, 1987). Slocombe (1985) found that students with production agriculture SAEs scored higher on a knowledge test than those on placement SAEs. Morris and Williams (1984) concluded that placement programs enhance students' self-esteem. Memon (cited in Lee, 1985)

found that Iowa students as well as teachers considered SAEs highly important in preparing students for postsecondary education. However, SAEs were found to be only somewhat beneficial in developing effective communications, problem solving, and individualized instruction (Pals, 1988).

Vocational Value of SAEs

Research findings support the vocational value of SAEs. Herren and Cole (1984) advanced that SAEs make agricultural education "vocational" and helped prepare students for jobs in agriculture. Cavey (1984) reported in a Colorado study that SAEs were 55% effective in placing graduates in the occupations for which they were trained. Mick, Stewart, and Claycomb (1984) found that students who earned more money from SAEs were more likely to be employed in agricultural occupations. Business persons, agricultural education teachers, principals, and extension personnel perceived occupational competencies to be best learned by experiences which bring students into contact with occupational-related activities (Downer, 1968). Herren (1987) reported that about half of the 1984 regional and national FFA proficiency award finalists changed their occupational objectives while in high school. He concluded that SAEs appeared to have influenced that change.

Mick, et al. (1984) concluded that SAEs significantly increased the placement of students in agriculturally-related occupations. They also found that students who gained the most from their SAEs were more likely to be employed their first year out of high school. However, Crawford (cited in Barrick et al., 1991) reported that only slightly more than one-third of the young farmers surveyed considered SAE programs to have been helpful in providing farming experience. Pilgrim and Williams (1984) reported that the number of years in a placement SAE had no relationship to 'students' perceived occupational ability. Students in placement SAEs were more likely to be employed in occupations not related to agriculture (Mick, et al., 1984). Byler (1973) concluded that

occupational aspirations and career maturity were not related to the type of SAE. Likewise, Bakar and McCracken (1993) found no correlation between SAE participation and career maturity.

Research gives mixed signals concerning the connection between type of SAE and the development of work ethics. While Shahrokh (1984) reported that students with different types of SAEs had correspondingly different attitudes toward work and worker, Byler (1973) found no relationship between student vocational maturity, work values, and occupational aspirations and types of SAE.

Scope of SAEs

Research supports the need for time on task with SAEs. Noxel and Cheek (1988) found that students received greater benefits from larger SAEs. Mick, et al., (1984) found that students who earned more money from SAEs were more likely to be employed in agricultural occupations. Taylor (1983) reported that as scope increased so did the likelihood that the student's first and present job would be in agriculture, and that once employed, the yearly income of students who had larger SAEs was greater than those who had smaller programs. Cavey (1984) reported that the more hours students spend working on their SAEs, the higher the program quality. However, Mick, et al. (1984) found no significant relationship between SAE scope and job placement. Bruton (1968) found no relationship between the scope of SAEs and student achievement.

Knowledge Developed Through SAEs

Students who had SAEs scored significantly higher on agricultural knowledge achievement test than did students without SAEs (Cheek, Arrington, Carter, & Randell, 1992; Cheek & McGee, 1985; Kotrlik, Patton, & Leile, 1986; Ogunrinde, 1981). Animal science knowledge for freshmen at Oklahoma State University was higher for students who had animal SAEs during high school (Bruton,

1968). Rhoades (1981) concluded that students in greenhouse-based SAEs who utilized record books produced better crops. Arrington and Cheek (1990) found a positive relationship between achievement and SAE scope, parental expectation and encouragement, FFA involvement, and interest in agriculture. Two studies showed a significant positive relationship between the quality of SAEs and achievement measured by overall GPA (Anyadoh & Barrick, 1990; Gibson, 1988). Another study concluded that students who had SAEs also had higher grades in agricultural education courses (Buyck, cited in Barrick, et al., 1991).

Some studies, however, did not identify benefits from SAEs. A study by Tylke and Arrington (1988) revealed no positive relationship between SAE scope and student achievement in livestock production. Potter (1985) found no significant relationship between SAE scope and achievement of mainstreamed handicapped students. Southworth (1993) found no relationship between achievement and participation in an SAE, except in the area of record keeping.

SAEs and FFA are Complementary

Smith (1983) reported that teachers believed that FFA awards and degrees were effective motivation for student participation in SAEs. Leising and Zilbert (1985) found that participation in SAEs was significantly associated with FFA participation, application for FFA awards and degrees, and FFA membership. Gibson (1988) reported a positive relationship between SAE quality and FFA membership status, including level of FFA activity. Carpenter (1968) found a positive relationship between SAE size and achievement of the state FFA degree. Benson (1981) reported that students who had been active in the FFA had higher SAE affective work value scores than those who did not. Students who were more involved in the FFA tended to have a higher level of achievement in SAE programs involving livestock production (Tylke & Arrington, 1988).

Regional and national FFA proficiency award finalists in 1984 perceived their SAEs as being valuable in securing and advancing in a job (Herren, 1987). However, some studies did not find positive relationships between FFA and SAE variables. Pilgrim and Williams (1984) reported no significant difference in occupational ability when students were classified by whether or not they had received FFA recognition for success in agribusiness placement SAEs. Gamble (1986) found that students who participated in FFA contests in which they had occupational aspirations were less likely to have conducted an SAE.

Conclusions and Recommendations

Research on the benefits of SAEs is primarily descriptive, detailing the general values perceived by partners (students, parents, teachers, and employers). The survey method has been used almost exclusively in research in this area. The research is state specific, fragmented, and lacks cohesiveness. A standardized means for assessing benefits of SAEs, including benefits to student learning, is needed.

Partners generally regarded SAEs as being beneficial to students. Benefits reported were more of a general nature (personal, occupational, and educational) than specific technical competencies. Developing good work attitudes and habits were student benefits of SAE observed by all partners. Achievements in agricultural knowledge were also a benefit frequently cited. When compared to other partners, parents placed less value on SAE. In addition to helping students; teachers recognized that the agricultural education program, the school, and the community also benefited from SAEs.

Research findings support the belief that SAEs help make agricultural education vocational. SAEs were found to be valuable in helping prepare people for jobs in agriculture. The benefit of placement SAEs in helping students develop occupational abilities and gain employment in agricultural

occupations after graduation from high school was not documented. Limited reports of student benefits from SAEs in the areas of developing communication skills and problem-solving skills suggest areas for improvement in the development of SAEs.

The development of agricultural knowledge and positive work attitudes were among the benefits students gained from SAEs. Knowledge achievement in animal science and was especially evident. Significant positive relationships between scope of SAEs and student benefits from SAE, and between SAE scope and employment in agricultural occupations were reported.

Research findings support the concept that SAE is an integral component of agricultural education. Relationships or associations were observed between SAE participation and FFA participation, application for FFA awards, and application for FFA degrees. The research related to benefits of SAEs suggested an integral relationship between SAEs and the classroom/laboratory instruction and FFA components of the agricultural education program.

Research Deficiencies

This synthesis identified several areas of research deficiency pertaining to benefits of SAEs. Future researchers should seek answers to the following questions to make the knowledge about benefits of SAEs more complete:

What are the benefits of SAEs on student learning (learning by doing)?

What are the expected student outcomes (benefits) from SAEs?

Should all partners agree on the expected outcomes of SAEs?

How can the benefits of SAEs be communicated to all partners?

Should SAE selection be based on interest and needs (occupational aspiration, etc.) of students?

Is there an optimal scope for SAEs?

Should SAEs be competency based?

How can SAEs be more effective in the development of communications skills and problem-solving skills?

How can the integral relationships between the three components of agricultural education be further developed to benefit students?

How can the symbiotic relationships between SAE and FFA be further developed?

What are the most effective measures of SAE benefits?

References

Anyadoh, E. B., & Barrick, R. K. (1990). Relationship between selected teacher program and student characteristics and student scores on their supervised occupational experience program in Ohio. (Report No. CE 055 845). Columbus, OH: The Ohio State University, Department of Agricultural Education (ERIC Document Reproduction Service No. ED 324 411).

Arrington, L. R., & Cheek, J. G. (1990). SAE scope and student achievement in agribusiness and natural resources education. The Journal of the American Association of Teacher Educators in Agriculture 31(2), 55-61.

Bakar, A. R., & McCracken, J. D. (1993). FFA and SAE participation as predictors of the career maturity of secondary agricultural education students. Paper presented at the 47th Annual Central Region Research Conference in Agricultural Education, St. Louis, MO.

Barrick R. K., Hughes, M., & Baker, M. (1991). A review and synthesis of research on supervised experience in agriculture. Columbus, OH: The Ohio State University, Department of Agricultural Education. (ERIC Document Reproduction Service No. ED 340 900).

Benson, P. W. (1981). Comparison of affective work competencies and selected background experiences of students, graduates, and supervisors in agricultural mechanization. Dissertation Abstracts International, 42, 59A.

Berkey, A. L., & Sutphin, H. D. (1984). Status and importance/support for supervised occupational experience programs (SOEP) as perceived by New York vocational agriculture teachers and their administrators. Paper presented at the Annual National Agricultural Education Research Meeting, New Orleans, LA. (ERIC Document Reproduction Service No. ED 251 653).

Bruton, J. C. (1968). The effect of vocational agriculture class enrollment and class experience on animal science knowledge of first year students enrolled in Oklahoma colleges of agriculture. Dissertation Abstracts International, 28, 4870A.

Byler, B. L. (1973). A study of factors associated with the vocational development of high school agricultural occupations students. Dissertation Abstracts International, 33, 6245A.

Carpenter, F. R. (1968). A study of the relationship between selected educational experiences of vocational agriculture students and their enrolling in a college of agriculture. Dissertation Abstracts International, 28, 3458A.

Cavey, M. A. (1984). Determining quality indicator relationships in supervised occupational experience programs (Colorado). Dissertation Abstracts International, 45, 161A.

Cheatham, W. J. (1980). Importance of supervised occupational experience in vocational

guidance as perceived by Alabama vocational agriculture teachers. Dissertation Abstracts International, 40, 6 115A.

Cheek, J. G., Arrington, L. R., Carter, S., & Randell, R. S. (1992). Relationship of supervised agricultural experience program participation and student achievement in agricultural education. Paper presented at the Nineteenth Annual National Agricultural Education Research Meeting, St. Louis, MO.

Cheek, J. G., & McGhee, M. (1985). Assessment of competencies possessed by students enrolled in applied principles of agribusiness and natural resources education. The Journal of the American Association of Teacher Educators in Agriculture, 24(4), 55-65.

Dickerson, I. A. (1984). A reexamination of the basics in agricultural education. The Journal of the American Association of Teacher Educators in Agriculture, 25(1), 2-11.

Dillingham, J. M. (1981). The association of selected characteristics with the average net income from supervised project programs of production agriculture students in Texas high schools. Paper presented at the Annual Southern Research Conference in Agricultural Education, Lubbock, TX (ERIC Document Reproduction Service No. ED 206 873).

Downer, H. I. (1968). Attitudes of selected groups concerning the role of vocational-technical education programs for occupations in agriculture resources. Dissertation Abstracts International, 29, 1359A.

Dugan, P. A., & Sutphin, H. D. (1984). The affective work competency development of vocational agriculture students involved in SAE programs in New York state. Paper presented at the Eastern Region Annual Research Conference in Agricultural Education, Sturbridge, MA. (ERIC Document Reproduction Service No. ED 255 676).

Dyer, J. E., & Osborne, E. W. (1995). Participation in supervised agricultural experience programs: a synthesis of research. The Journal of Agricultural Education, 36(1), 6-14.

Dyer, J. E. & Osborne, E. W. (1996). Developing a model for supervised agricultural experience program quality: a synthesis of research. The Journal of Agricultural Education, 37(2), 24-33.

Fletcher, G. W., Williams, D. L., & Miller, W. W. (1985). Employer's perceptions of agribusiness placement SOE programs. The Journal of the American Association of Teacher Educators in Agriculture, 26(3), 62-69.

Flowers, J., & Pepple, J. (1987). Assessment of the morale of beginning vocational agriculture teachers in Illinois. Paper presented at the 36th Annual Southern Research Conference in Agricultural Education, Williamsburg, VA. (ERIC Document Reproduction Service No. ED 28 1 049).

Gamble, K. J. (1986). Impact of national FFA contests on participants' educational and occupational aspirations. Dissertation Abstracts International, 46, 2529A.

Gibson, G. L. (1988). Factors associated with the supervised occupational experience programs of Kentucky vocational agriculture seniors. Dissertation Abstracts International, 48, 2224A.

Harris, D. E., & Newcomb, L. H. (1985). Vocational agriculture teacher characteristics and their relationship to perceptions of SOE importance, attitudes toward supervision, and quality of supervised occupational experience programs. The Journal of the American Association of Teacher Educators in Agriculture, 26(2), 31-39.

Hedges, L. E. (1987). The ingredients necessary for excellence in teaching. Paper presented at the Annual Meeting of the Eastern

Educational Research Association, Boston, MA. (ERIC Document Reproduction Service No. ED 296 110).

Herren, R. (1987). Factors associated with the SOEP and career objectives of the 1984 regional and national proficiency award winners. The Journal of the American Association of Teacher Educators in Agriculture, 28(2), 51-60.

Herren R., & Cole, L. (1984). Attitudes of Oregon vocational agriculture teachers toward the supervised occupational experience program component of the vocational agriculture curriculum. The Journal of the American Association of Teacher Educators in Agriculture, 25(34), 45-51.

Kotrlik, J. W., Parton, G., & Leile, M. (1986). Factors associated with knowledge level attained by vocational agriculture II students. The Journal of the American Association of Teacher Educators in Agriculture, 27(2), 34-39.

Lamberth, E. E. (1986). Determining perceptions of vocational agriculture teachers toward supervised occupational experience programs in Tennessee. (Research Report Series No. 9). Cookeville: Tennessee Technological University, College of Agriculture and Home Economics. (ERIC Document Reproduction Service No. ED 268 279).

Lee, J. S. (1985). Agricultural education: Review and synthesis of the research (4th Ed.) (Info. series No. 298). Columbus, OH: The National Center for Research in Vocational Education. (ERIC Reproduction Service No. ED 260 300).

Leising, J. G., & Zilbert, E. E. (1985). Factors associated with supervised occupational experience in California vocational agriculture programs. The Journal of the American Association of Teacher Educators in Agriculture, 26(2), 56-64.

Mick, J. H., Stewart, B. R., & Claycomb, D. M. (1984). Job placement as influenced by the agricultural background of vocational agriculture graduates. The Journal of the American Association of Teacher Educators in Agriculture, 25(3), 60-65.

Morris, C. E., & Williams, D. L. (1984). Effect of programmatic instruction related to developing SOE programs on the self-image of students. The Journal of the American Association of Teacher Educators in Agriculture, 25(1), 54-59.

Noxel, S., & Cheek, J. G. (1988). Relationship of supervised occupational experience program scope to student achievement in ornamental horticulture. The Journal of the American Association of Teacher Educators in Agriculture, 29(4), 24-31, 48.

Oguminde, S. I. (1981). Student knowledge of agricultural occupations upon enrollment in agricultural programs in Ohio joint vocational schools. Dissertation Abstracts International, 42, 1909A.

Pals, D. A. (1988). The value of supervised occupational experience programs as perceived by students. Journal of Agricultural Education, 29(2), 32-39.

Phipps, L. J., & Osborne, E. W. (1988). Handbook on agricultural education in public schools (5th ed.). Danville, IL: The Interstate Printers & Publishers, Inc.

Pilgrim, D. A., & Williams, D. L. (1984). The contribution of agribusiness placement SOE in developing the occupational ability of vocational agriculture students. The Journal of the American Association of Teacher Educators in Agriculture, 25(3), 52-59.

Potter, O. B. (1985). Supervised occupational experience programs and achievement of students mainstreamed in Ohio vocational agriculture

programs. Dissertation Abstracts International, 45, 2361A.

Rawls, W. J. (1982). An analysis of benefits derived from supervised occupational experience programs. The Journal of American Association of Teacher Educators in Agriculture, 23(1), 31-38.

Rhodes, K. B. (1981). Student achievement and the use of a greenhouse-production record book and potted-chrysanthemum unit of instruction. Dissertation Abstracts International, 41, 3841A.

Shahrokh, D. (1984). A study of the agricultural competencies of senior vocational agriculture students in Michigan based on their supervised occupational experience programs. Dissertation Abstracts International, 44, 2656A.

Slocombe, J. W. (1985). Relationship of selected factors toward student participation and perceptions of supervised occupational experience placement programs. The Journal of the American Association of Teacher Educators in Agriculture, 26(3), 37-47, 56.

Smith, S. C. (1983). Teacher perceptions of the supervised occupational experience programs in Oklahoma vocational agriculture departments. Dissertation Abstracts International, 43, 3 189A.

Southworth, D. L. (1993). A comparison of student achievement in individualized competency-based vocational education and traditional group

instruction using problem-solving. Dissertation Abstracts International, 51, 3717A.

Stewart, B. R., & Birkenholz, R. J. (1991). Outcomes of changing supervised agricultural experience programs. Journal of Agricultural Education, 32(3), 35-41.

Supervised Occupational Experience Handbook (1982). Washington, DC: National FFA Center.

Taylor, W. N. (1983). A follow-up study to determine the relationship between high school supervised occupational experience programs in agriculture and establishment in occupations. Dissertation Abstracts International, 43, 2203A.

Tylke, R. J., & Arrington, L. R (1988). The relationship of supervised occupational experience program scope to student achievement in livestock production. The Journal of the American Association of Teacher Educators in Agriculture, 29(3), 28-34.

Williams, D. L. (1979). Benefits received from supervised occupational experience programs as perceived by students. The Journal of the American Association of Teacher Educators in Agriculture 20(2), 33-40

Williams, D. L. (1991). Focusing agricultural education research: strategies for the discipline. The Journal of Agricultural Education, 32(1), 7-12.