

Implementation of Supervised Agricultural Experience Programs: The agriculture teachers' perspective

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The purpose of this qualitative exploratory study was to examine how agriculture teachers implement supervised agricultural experience (SAE). A combination of focus groups and individual telephone interviews were conducted. Iowa agriculture teachers offered SAE because it is (a) a means of developing life skills, (b) a component of the FFA award system, and (c) theoretically, one-third of the agricultural education model. Although agriculture teachers were able to talk conceptually and theoretically about the benefits and value of SAE, they did not necessarily practice SAE in that manner. The method in which teachers implemented SAE programs varied considerably as did the means by which they conducted their SAE programs. Five factors were identified that limited SAE: (a) changing demographics and societal attitudes, (b) mechanics and structure of schools, (c) resource availability, (d) image, and (e) the agricultural education system. These findings would indicate that there is dissonance between (a) theory and practice, and (b) experience and learning of SAE. It is recommended that the purpose of SAE be further refined, communication regarding the value of SAE be increased among the stakeholders, creative and innovated approaches to SAE be explored, and the complete experiential learning model be incorporated into SAE programming.

Keywords: supervised agricultural experience, experiential learning, agriculture teachers, secondary education, school-based agricultural education

Introduction and Review of Literature

Supervised Agricultural Experience (SAE) is defined as “the application of the concepts and principles learned in the agricultural education classroom in planned, real-life settings under the supervision of the agriculture teacher” (Talbert, Vaughn, Croom, & Lee, 2007, p. 418) and provides educational value by connecting theory and concepts offered in the agricultural classroom in an understandable context (Phipps, Osborne, Dyer, & Ball, 2008). It most likely evolved from the apprenticeship model utilized in Colonial America and today, as a result of either tradition or a philosophical tenet of the agricultural profession, is espoused as one of the three integral components of agricultural education (Croom, 2008). While there may be some difference of opinion as to who first conceptualized the idea of the project method (Roberts & Harlin, 2007), Rufus Stimson is credited as the father of SAE when he created

the concept of the home project in the early nineteenth hundreds, which serves as the precursor to today's SAE (Croom, 2008; Phipps et al., 2008; Roberts & Harlin, 2007).

The Handbook for Agricultural Education in the Public Schools (Phipps et al., 2008), *Methods of Teaching Agriculture* (Newcomb, McCracken, Warmbrod, & Whittington, 2004), and *Foundations of Agricultural Education* (Talbert et al., 2007) serve as the primary texts for the professional development of school-based agricultural teachers. All three texts describe SAE as an integral, intra-curricular component of agricultural education and each establishes the rationale for and value of SAE. These texts as well as research findings have identified the benefits and issues of SAE.

Talbert et al. (2007) indicated that students realize several benefits from SAE participation including:

development of decision-making skills, including career and personal choices, improved self-confidence and human relation skills, application of knowledge learned in the classroom, knowledge of a variety of occupations and careers, development of time management and record-keeping skills, document of experience needed on job applications, discovery of areas of personal interest, practice of responsibility and development of independence, and development of pride through personal accomplishment. (p. 420–421)

In addition, SAE provides a form of individualized instruction that develops the individual (Hughes & Barrick, 1993), promotes learning, and increases the self-confidence of students (Phipps et al., 2008) in a context that allows skill development and the transfer of knowledge (Dailey, Conroy, & Tolbert, 2001; Stewart & Birkenholtz, 1991).

Academic achievement is an area of contention (Newcomb et al., 2004; Talbert et al., 2007). Ramsey and Edwards (2004) surmised that SAE is an informal learning opportunity that could be used to increase science achievement. Several researchers reported a positive relationship between SAE participation and student achievement (Arrington & Cheek, 1990; Cheek, Arrington, Carter, & Randell, 1994; Noxel & Cheek, 1988), and yet, other researchers have not been able to link SAE to academic achievement (Randell, Arrington, & Cheek, 1993; Tylke & Arrington, 1988).

A fundamental issue of SAE is that teachers understand the value and importance of SAE, but often their actions do not extend beyond rhetoric (Wilson & Moore, 2007). Teachers often believe SAE is inappropriate for their individual situation (Camp, Clarke, & Fallon, 2000) and regularly identify barriers limiting its effectiveness. These barriers include limited time, number of students in the program, lack of summer employment, lack of support from school administration and community, complicatedness of recordkeeping, limited availability of resources, and lack of familiarity with newer SAE categories (Wilson & Moore, 2007). Additionally, the degree to which SAE is incorporated is highly dependent upon agricultural education teachers' attitudes and

expectations (Clark & Scanlon, 1996; Dyer & Osborne, 1995; Warren & Flowers, 1993) and the lack of positive communication among teachers, parents, administrators, and employers (Barrick, Hughes, & Baker, 1991; Dyer & Williams, 1997).

SAE has also had an influence on agricultural education enrollment and the economy. Research among enrollment, FFA membership, and SAE participation has suggested positive relationships between FFA membership and SAE participation (Retallick & Martin, 2008; Talbert & Balschweid, 2004; Thompson & Shumacher, 1998; White & Pals, 2004). Research also suggested a positive economic impact resulting from SAE (Graham & Birkenholz, 1999; Retallick & Martin, 2005; West & Iverson, 1999), including a positive return on investment (Retallick & Martin, 2005).

Because of these findings and the related issues, many researchers have concluded that there is a perceived need to expand the concept and scope of SAE to meet the requirements of a more diverse clientele (Barrick et al., 1991; Graham & Birkenholz, 1999; Retallick & Martin, 2008; Roberts & Harlin, 2007; Steele, 1997; Wilson & Moore, 2007). Others have also identified a need for more in-service and dialogue related to the issues associated with SAE (Dyer & Osborne, 1995; Graham & Birkenholtz; Ramsey & Edwards, 2004; Wilson & Moore, 2007). Furthermore, Dyer and Osborne (1996) reported finding no guidelines as to how program quality was measured and/or evaluated and admitted that, at the time of their study, no empirical research had been conducted to suggest that SAE is educationally beneficial.

In summary, agricultural education texts and agriculture teachers espouse the importance of individualized SAE programs as part of a comprehensive agricultural education experience. However, Retallick and Martin (2008) found that fewer agricultural education students participated in SAE and questioned why agriculture teachers fail to fully integrate the SAE portion into their agricultural education program.

Theoretical Framework

The process associated with SAE is widely accepted and is closely related to experiential learning (Camp et al., 2000; Dyer & Osborne,

1996; Roberts & Harlin, 2007). The National Society of Experiential Education defined experiential learning as those learning activities that involve the learner in the process of active engagement with, and critical reflection about, the phenomena being studied (Sweitzer & King, 2009). Experiential learning is a “framework for examining and strengthening the critical linkages among education, work, and personal development” (Kolb, 1984, p. 4) and can be characterized as both a process and context (Roberts, 2006). In synthesizing experiential learning theory, Knobloch (2003) identified the four tenets of experiential learning as learning by doing, learning through real-life contexts, learning through projects, and learning through problem-solving.

Experiential learning theory evolved from the work of Dewey (1944) who espoused an inextricable linkage between knowledge and experience and argued for a more educative experience. Lewin (1947) expanded on Dewey’s thoughts and theorized that individuals set goals, theorize about prior experience, experiment with that theory, and then revise goals and theories. Kolb (1984) provided a structure for the experiential learning process, which consisted of a four-stage cycle including concrete experience, reflective observation, abstract conceptualization, and active experimentation. Beard and Wilson (2002) further explained that the combination of ingredients within the experience (i.e., external environment, sensors, and internal environment) is what maximizes the power of the experience and, in turn, maximizes learning.

Using the experiential learning theory, Phipps et al. (2008) offered a cyclical experiential learning model specifically for SAE. The four components of the model are experience, reflection, explanation, and evaluation. The initial experience provides the basis for reflection causing explanation (or clarification) of the experience. Finally, the student evaluates whether re-experience is needed or if it is appropriate to move to additional experiences. The cycle is then repeated. The cyclical experiential learning model provides the theoretical framework for this study.

Purpose and Objectives

The purpose of this exploratory research study was to examine how agricultural teachers implement SAE into their agricultural education program. The following objectives guided the study: (a) explore the reason why agriculture teachers may or may be using SAE in their local agricultural education program, (b) determine how teachers implement SAE in their programs, (c) identify factors limiting SAE, and (e) identify ways in which to improve SAE.

Methods and Procedures

A basic interpretive qualitative study was designed to collect and inductively analyze the data (Merriam, 2002) and was framed in a post-positivist epistemological perspective (Gall, Borg, & Gall, 1996). Researcher bias is an issue in qualitative research (Ary, Jacobs, & Razavieh, 2002). As such, it should be noted that the researcher has taught and incorporated SAE into agricultural education at the secondary level. Currently, the researcher is an agricultural teacher educator who has taught post-secondary students about the comprehensive agricultural education model and published other research on SAE.

A mixed methods approach was used to accomplish the purpose and objectives of this study. Focus groups and individual phone interviews were conducted and a survey instrument was developed to collect demographic information on each of the participants. The focus groups were conducted during the State Agricultural Teachers Summer Conference. The individual phone interviews were conducted following the conference.

In an effort to increase transferability, procedures and materials for the focus groups and interviews were developed and conducted by the researcher following the protocol established by Krueger and Casey (2000). A written plan was developed and a list of semi-structured, guiding questions were used to help maintain flow and consistency among focus groups and individuals during the phone interviews. In addition to the guiding questions, a script that included a welcome, an overview of the topic, ground rules, and a list of questions, was developed. Both approaches were reviewed

and human subjects approval was provided by the Institutional Review Board of the university.

Three one-hour focus groups were scheduled during the the Iowa Agricultural Teachers Summer Conference. An announcement was made during the opening session of the conference. Those interested in participating were asked to sign up at the registration desk. Participation was limited to the first eight people to sign up for each focus group time. At the time of sign up, participants were given a copy of the informed consent. A signed copy of the consent form was collected prior to the start of the focus group. An undergraduate research assistant served as moderator while the researcher served as an assistant to the moderator and took field notes.

The use of self-selected focus groups and the topic itself may introduce bias. First, participants may have self-selected to participate, perhaps, due to a strong personal interest in the topic. That interest may have been one in which the participant was strongly in favor of SAE or very frustrated and struggling to implement SAE. Second, the responses to the focus group questions might have been normed to the context; meaning that the participants may have reported that the topic is important and valued because it is continually espoused as such by the profession.

Focus group participants were asked to complete a short, nine-question survey to obtain general demographic information. The questionnaire was developed according to Dillman (2007). Four former school-based agricultural instructors reviewed the instrument for content and face validity. Focus group participants completed the instrument at the beginning of the focus group session.

An undergraduate research assistant conducted telephone interviews with individual agricultural educators. The Iowa Department of Education Agricultural Educator Directory was used to identify and contact the participants. All secondary agricultural educators except for those who participated in the focus groups were eligible to participate. Participants were randomly selected. Telephone calls were made until ten agricultural educators had been contacted and interviews were conducted.

A two-step process was followed for the phone interviews. First, an initial phone call was made to each participant at which time the

purpose of the phone call was explained and a mutually acceptable time was scheduled to conduct the interview if the participant was willing to participate. Second, the phone interview was conducted. At the beginning of the scheduled interview, an informed consent script was read and a verbal consent was obtained. The interview was conducted using guiding questions. At the conclusion of the interview, demographic information was collected using the questionnaire and the participant was thanked for his/her time.

Data analysis was conducted using transcripts of the focus group interviews, field notes, and member checks (Krueger & Casey, 2000). The researcher and two undergraduate research assistants conducted the interviews, reviewed transcripts, and studied field notes using an iterative process to identify the common themes (Dooley, 2007; Krueger & Casey, 2000). Analyst triangulation was used to ensure validity and trustworthiness (Patton, 1990). The combination of focus groups and individual interviews, analysis comparison among the researcher and research assistants, and member checks provided triangulation. All materials were coded to ensure confidentiality.

Findings

A total of 34 agricultural teachers (24 focus group participants and 10 individual telephone interviewees) participated in this study. Years of teaching experience ranged from 1 to 35 years with a mean of 17 years. All participants taught in single teacher programs and all had an extended contract that ranged from 10 to 60 days with a mean of 43 days. Thirty of the 34 participants (88%) reported incorporating SAE into their local agricultural education program. When agriculture teachers were asked to describe their SAE program, there was a wide range of responses from the very traditional, such as crop and livestock enterprises, collecting scrap metal, mowing lawns, and working in grocery stores, to the more creative, including agriscience research, farmer's markets where fruits and vegetables were marketed, as well as horticultural, floricultural, and avian-related businesses.

The first objective was to explore why agricultural teachers may or may not be incorporating SAE into their local programs. For

those teachers who were using SAE, their responses were categorized into three areas. The primary reason for using SAE was the development of life skills. Teachers reported using SAE to teach record-keeping, record analysis, financial management, and money management as a means to enhance decision-making and employment skills while developing skills related to student responsibility. For example, one teacher stated, “the longer I teach, the more I see the value of it ...they’re not being taught these life skills anywhere else in our school.”

The second reason for teaching SAE was the FFA award system. Teachers required students to develop a SAE portfolio for FFA degree advancement and proficiency awards. They incorporated SAE because it was a requirement for FFA degree and award applications. As one teacher suggested, “degree advancement in FFA, proficiency awards in FFA are great portfolios

where you can document skill development and ability to perform on certain levels” using SAE.

The third reason teachers mentioned for incorporating SAE into their agricultural programs was because it is part of the tripartite mission of a comprehensive agricultural education program. Many teachers believed in the agricultural education model represented by the Venn diagram (Figure 1) and claimed that the SAE component is what makes agricultural education unique and valuable at the secondary level. Several teachers stated that without SAE, one-third of agricultural instruction and our identity is missing. For example, many teachers agreed with this teacher’s statement. “One of the main keys to the existence of Ag Ed...if we give up our SAEs and FFA, what is the difference between our program and any other program in the public school system?”

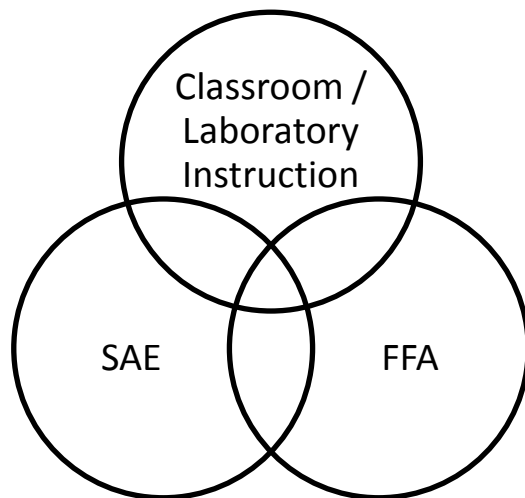


Figure 1. Venn diagram representing the agricultural education program.

Agriculture teachers also reported a variety of benefits for conducting SAE programming. They appreciated the community support and positive public relations that developed from involvement in SAE. Teachers also valued the opportunity for relationship building among agriculture teachers, students, parents, school administrations, employers, and the community as a whole. As one teacher explained, “I think for me, it’s built some community support. You get out and you meet parents and you meet business owners and employers. It just makes

you kind of feel you know people if something comes up, you know who to talk to or you know someone who can provide the information.” Teachers believed that SAE goes beyond the concept of an internship by helping to extend the classroom beyond the school campus. Students are able to apply course material outside the classroom as well as bring outside experiences back into the classroom.

The second objective of this study was to determine how teachers implemented their SAE programs. Interestingly, there was a wide range

of responses, which prevented a common theme from emerging. Some teachers required SAE of all students enrolled in agricultural education courses; others required record books of their FFA members while others made it optional, and a few teachers did not use SAE in their agricultural education program. Some teachers incorporated SAE into their programs beginning with an introduction to SAE in their freshmen-level courses and then regularly updated record books thereafter. Other teachers sporadically used regular class time, often at the end of a grading term, to update record books. Yet other teachers either required students to update record books outside of class or used it as "homework."

The teachers' approach to how they implemented SAE seemed to be influenced by whether or not SAE was part of a student's grade and how SAE was graded. Some teachers made SAE part of the course grade and graded the SAE based upon the completeness and the extent to which it was up-to-date. Others used SAE as the midterm and/or final exam for the class and still others used SAE as extra credit or as a means for helping the student improve their class grade.

The third objective of this study was to identify factors limiting SAE. Agriculture teacher responses were distilled into five categories: (a) changing demographics and societal attitudes, (b) mechanics and structure of schools, (c) resource availability, (d) the agricultural education system and (e) image. For those teachers who didn't utilize SAE, these issues outweighed the benefit and their perceived value of SAE.

The changing demographics and societal attitudes seemed to be the largest struggle for teachers. Teachers commented on the extent to which the agricultural classroom is becoming more diverse including but not limited to gender, ethnicity, socio-economic status, and academic ability. Teachers mentioned that the academic backgrounds and personal experiences of students ranged considerably and suggested that often their students lacked a work ethic and were not accustomed to putting in "sweat equity;" most students looked for instant gratification or the easy way out, which does not fit the SAE model. Teachers also believed that family demographics and the support systems have changed to a point where single parent families

and the lack of a family nucleus have impacted SAE opportunities. Teachers believe society has become too protective of students stating "young kids are not taught how to handle adversity of any kind... we protect them from failure or anything harmful."

From a societal perspective, agriculture teachers believed that the importance and purpose of student work experience has evolved from one of exploration, learning, and skill development to one of necessity to cover costs of automobiles, gas, cellular phones, etc. Teachers also noticed parents and administrators encouraging students to focus more on college preparation rather than career preparation, while other parents view the student's "job" as that of a student. Parental protectionism also seemed to be an issue for agriculture teachers. Students are intimidated by and lack the patience to participate in SAE because parents have not allowed students to face adversity – "to be allowed to fail, manage stress and conflict, or deal with things outside their control."

The mechanics and structure of schools today also impact SAE. Continuity of course offerings has influenced SAE participation. Agriculture teachers reported having fewer students complete their agricultural education program because the curriculum has been changed to make for easier entry and exit. As one teacher stated, a "frustration I run into with SAE is the students who I might have as a freshmen, but can't get back into classes until their sophomore year and they kind of get left behind." The school day structure also influences the continuity, according to the agriculture teachers. School structures could range from semester, trimester, quarter, or year-long courses and the school day schedules could range from various types of modified block schedules to the traditional seven-, eight-, or nine-period day.

Teachers also stated that administrative support in the form of travel funding, extended contracts, and visit periods is an issue because of the administrators' lack of understanding of the comprehensive nature of agricultural education programs. Focus on state and federal mandates as well as credible and verifiable accountability has affected SAE. For example, "our school is really pushing for all teachers to incorporate reading and writing into their classrooms, so I spend absolutely no time on SAE record books

during the classroom period because instead, I've incorporated reading different books related to every class." A final issue raised by the teachers is that high school teachers are now offering their upper level courses for community college credit, which requires the teacher to teach the college content, leaving no time for activities like SAE. "I can't do SAE record books in the class and meet the community college requirements," stated one teacher.

Agricultural teachers mentioned that the lack of resources, for both students and teachers, is an issue for SAE. First, the teachers reported that students no longer have the physical and financial resources and opportunities of former generations of students, requiring more creativity and ingenuity on behalf of the student and teacher. Outside the traditional SAEs, "students lack opportunities in their immediate area and, in many cases, are forced to drive 25 or more miles to a radio station or newspaper to have an SAE experience in agricultural communications," for example. Agriculture teachers stated that resources are an issue. With increasing enrollments and a more diverse student body, the time commitment required of individualized instruction is an issue, as is the level of creativity and effort required to identify and supervise individualized SAE opportunities.

Teachers also believed that the agricultural education system caused issues with SAE. Both the award system as well as the approved SAEs for FFA awards do not necessarily fit today's students. Teachers suggested that there does not seem to be a focused purpose or list of articulated expectations related to SAE and, as a result, SAE varies considerably from teacher to teacher. "There is no consistency among the requirements, expectations, or programs related to SAE," stated one teacher.

Finally, teachers suggested that the image of SAE is an issue. As one teacher put it, "SAE is the interworkings, the engine that makes Ag Ed work, but not as glamorous as FFA or classes." The school administration, parents, and community view the teachers as FFA and agriscience teachers, but not as SAE teachers. The other issue related to image is the stereotype that agricultural education is only about production and "vocational" agriculture.

The final objective of the study was to list teachers' suggestions for improving SAE. Teachers' suggestions could be summarized by

stating that there is a need to redefine SAE and educate stakeholders about SAE so that there are consistent messages and expectations. They stated that SAE needs a structure that can work in a variety of educational settings and with a diverse group of students, allowing more exposure to nontraditional opportunities like entrepreneurial innovation and research. With that said, teachers acknowledged that SAE cannot be one size fits all, but stressed that the structure and purpose of SAE must be consistent across the state and nation. They believed that such an approach would provide a clearer message to stakeholders. Teachers also recommended an increased focus on career exploration and the expansion of the linkage among "what students do every day, what they learn in class, and what they really know."

Although communication was an important component to teachers, they identified it as an area of improvement. SAE should be promoted because it addresses the three R's (rigor, relevance, and relationships) as well as any school curriculum or program. They envisioned the value of SAE being articulated so that students seek agriculture teachers wanting an SAE experience rather than forcing students to participate and creating resistance. They suggested educating the public and school administrators and increasing communication with guidance counselors because their perception of agriculture generally hasn't evolved with the industry or agricultural education curriculum and it's difficult to "educate parents who have not been in FFA."

Conclusions, Recommendations, and Implications

This study helps to identify the factors that affect SAE participation (Dyer & Osborne, 1995). Agriculture teachers stated that they offered SAE because it is (a) a means of developing life skills (i.e., record-keeping and employability skills), (b) a component of the FFA award system, and (c) theoretically, serves as one-third of the agricultural education model. However, the findings of this study would indicate that teachers do not practice SAE as it was conceptualized; they talk about SAE conceptually but do not practice it, which is consistent with Dyer and Osborne (1995) and Wilson and Moore (2007).

The means by which agriculture teachers in this state conducted their SAE programs were very inconsistent and varied in how they were implemented. Five factors evolved that limited SAE programming. These limiting factors were (a) changing demographics and societal attitudes, (b) mechanics and structure of schools, (c) resource availability, (d) image, and (e) agricultural education system. These findings are consistent with the findings of Dyer and Osborne (1995), Graham and Birkenholz (1999), Retallick and Martin (2005), Roberts and Harlin (2007), Steele (1997), and Wilson and Moore (2007). Others have also identified a need for more in-service and dialogue related to the issues associated with SAE (Ramsey & Edwards, 2004; Wilson & Moore, 2007).

Although many of these findings are consistent with previous SAE research and the espoused purpose of SAE, these findings suggest that there are two areas of dissonance within SAE. First, the results of this study suggest a discord between theory and practice. Agriculture teachers believe in the agricultural education model and can articulate the benefits of SAE, but find it difficult to implement in practice. There seems to be a lack of consistency as to how and to what extent SAE is incorporated as part of a comprehensive agricultural education program.

The concept of SAE has evolved since its inception, but it has not kept pace with the changing dynamics of the classroom and the student body. Teachers struggle to incorporate the traditional SAE approach with a more diverse classroom under various types of school structures with fewer resources – all the while facing an increased level of accountability.

It is recommended that SAE be reviewed to further refine its purpose and determine how to fully implement that purpose given the issues classroom teachers face. Questions to consider might include the following: Is SAE still a vital component in agricultural education instruction? Is SAE viable given the issues teachers face? Should SAE serve only as an application of learning and an extension of the classroom as suggested by Newcomb et al. (2004)? How can the context of SAE and the FFA award system fit as part of a comprehensive educational program?

No matter what changes occur related to SAE, communication with all stakeholders is

critical for success, especially those outside the agricultural education profession. Advertising and promotional campaigns, including public service announcements, would help communicate the purpose and value of SAE, increasing stakeholder support and student interest.

It is also recommended that creative and innovative approaches to SAE be encouraged and disseminated to agricultural teachers for implementation into their diverse settings. Examples of such approaches might include short-term, group-based projects; student-owned and -managed cooperatives; agricultural exploratory programs; novel entrepreneurial activities; and various types of agricultural research.

Second, there seems to be a dissonance related to learning and experience. Although today's SAE does not only include skill development and proficiency, but also personal and career development that may extend beyond agriculture (Roberts & Harlin, 2007), agriculture teachers seem to primarily focus on record-keeping and exposure to real-world experiences. Their discussion and focus suggests that their SAE, or lack thereof, does not incorporate the fundamental principles of learning, especially the experiential learning principles that are considered to be the underpinnings of SAE. Few teachers mentioned anything about the development of agricultural skills and only one stressed the value of the learning experience and the role SAE plays in developing life-long learning skills. The focus of SAE was primarily on a "job" for the purpose of completing a record book and lacked a focused learning outcome.

Because SAE is considered an experiential learning component of agricultural education, which expands the classroom, links theory and classroom content to a real-world context (Barrick et al., 1991; Dailey et al., 2001; Talbert et al., 2007), and serves as interest approaches for instruction (Newcomb et al., 2004), it is recommended that the implementation of experiential learning principles be further incorporated into SAE. SAE must be more than experience; it must also include reflection, explanation, and evaluation (Phipps et al., 2008). The results of this study suggest the focus is solely on the experience.

To move beyond the dissonance between (a) theory and practice and (b) learning and experience, it is recommended that teacher education programs and teacher in-service programming go beyond the theoretical purpose of SAE and expose teachers to a variety of proven experiential learning approaches for incorporating SAE into a variety of educational settings, especially those setting that limit

participation. Teacher education programs should work closely with preservice teachers to assist them in melding theory into practice as it relates to SAE. If teachers believe it is important, they are more likely to implement SAE if they are aware of efficient and effective ways of addressing the issues that prevent them from participating (Myers, 2002).

References

- Arrington, L. R., & Cheek, J. G. (1990). SAE scope and student achievement in agribusiness and natural resources education. *Journal of Agricultural Education*, 31(2), 55–61. doi: [10.5032/jae.1990.02055](https://doi.org/10.5032/jae.1990.02055)
- Ary, D., Jacobs, L. C., & Razavieh, A. (2002). *Introduction to research* (6th ed.). Belmont, CA: Wadsworth/Thomson Learning.
- Barrick, R. K., Hughes, M., & Baker, M. (1991). Perceptions regarding supervised experience programs: Past research and future direction. *Journal of Agricultural Education*, 32(4), 31–36. doi: [10.5032/jae.1991.04031](https://doi.org/10.5032/jae.1991.04031)
- Beard, C., & Wilson, J. P. (2002). *The power of experiential learning: A handbook for trainers and educators*. Sterling, VA: Kogan Page.
- Camp, W. G., Clarke, A., & Fallon, M. (2000). Revisiting supervised agricultural experience. *Journal of Agricultural Education*, 41(3), 13–22. doi: [10.5032/jae.2000.03013](https://doi.org/10.5032/jae.2000.03013)
- Cheek, J. G., Arrington, L. R., Carter, S., & Randell, R. (1994). Relationships of supervised agricultural experience program participation and student achievement in agricultural education. *Journal of Agricultural Education*, 35(2), 1–5. doi: [10.5032/jae.1994.02001](https://doi.org/10.5032/jae.1994.02001)
- Clark, R. W., & Scanlon, D. C. (1996). The effects of teacher attitudes and related factors on FFA proficiency awards won above the federation level. *Journal of Agricultural Education*, 37(2), 8–16. doi: [10.5032/jae.1996.02008](https://doi.org/10.5032/jae.1996.02008)
- Croom, D. B. (2008). The development of the integrated three-component model of agricultural education. *Journal of Agricultural Education*, 49(1), 110–120. doi: [10.5032/jae.2008.01110](https://doi.org/10.5032/jae.2008.01110)
- Dailey, A. L., Conroy, C. A., & Shelley Tolbert, C. A. (2001). Using agricultural education as the context to teach life skills. *Journal of Agricultural Education*, 42(1), 11–20. doi: [10.5032/jae.2001.01011](https://doi.org/10.5032/jae.2001.01011)
- Dewey, J. (1944). *Democracy and education: An introduction to the philosophy of education*. New York, NY: The Free Press.
- Dillman, D. A. (2007). *Mail and Internet Surveys: The Tailored Design Method* (2nd Ed.). Hoboken, NJ: John Wiley & Sons, Inc.
- Dooley, K. E. (2007). Viewing agricultural education research through a qualitative lens. *Journal of Agricultural Education*, 48(4), 32–42. doi: [10.5032/jae.2007.04032](https://doi.org/10.5032/jae.2007.04032)
- Dyer, J. E., & Osborne, E. W. (1995). Participation in supervised agricultural experience programs: A syntheses of research. *Journal of Agricultural Education*, 36(1), 6–14. doi: [10.5032/jae.1995.01006](https://doi.org/10.5032/jae.1995.01006)

- Dyer, J. E., & Osborne, E. W. (1996). Developing a model for supervised agricultural experience program quality: A synthesis of research. *Journal of Agricultural Education*, 37(2), 24–33. doi:[10.5032/jae.1996.02024](https://doi.org/10.5032/jae.1996.02024)
- Dyer, J. E., & Williams, D. L. (1997). Supervision of supervised agricultural experience programs: A synthesis of research. *Journal of Agricultural Education*, 38(4), 59–67. doi:[10.5032/jae.1997.04059](https://doi.org/10.5032/jae.1997.04059)
- Gall, M. D., Borg, W. R., & Gall, J. P. (1996). *Educational research: An introduction* (6th ed.). New York, NY: Longman.
- Graham, J., & Birkenholz, R. (1999, December). *Changes in Missouri SAE programs*. Proceeding of the 26th Annual National Agricultural Education Research Conference, Orlando, FL. Retrieved from <http://aaaeonline.org/uploads/allconferences/224899.proceedings.doc>
- Hughes, M., & Barrick, R. K. (1993). A model for agricultural education in public schools. *Journal of Agricultural Education*, 34(3), 59–67. doi:[10.5032/jae.1993.03059](https://doi.org/10.5032/jae.1993.03059)
- Knobloch, N. A. (2003). Is experiential learning authentic? *Journal of Agricultural Education*, 44(4), 22–34. doi:[10.5032/jae.2003.04022](https://doi.org/10.5032/jae.2003.04022)
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice–Hall, Inc.
- Krueger, R. A., & Casey, M. A. (2000) *Focus groups: A practical guide for applied research* (3rd ed.). Thousand Oaks, CA: Sage.
- Lewin, K. (1947). Frontiers in group dynamics: concept, method and reality in social science; social equilibria and social change. *Human Relations*, 1, 5–41. doi:[10.1177/001872674700100103](https://doi.org/10.1177/001872674700100103)
- Merriam, S. B. (2002). *Qualitative research in practice: Examples for discussion and analysis*. San Francisco: Jossey Bass.
- Myers, D. G. (2002). *Exploring Psychology* (5th ed.). New York, NY: Worth Publishers.
- Newcomb, L. H., McCracken, J. D., Warmbrod, J. R., & Whittington, M. S. (2004). *Methods of teaching agriculture* (3rd ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- 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. doi:[10.5032/jaatea.1988.04024](https://doi.org/10.5032/jaatea.1988.04024)
- Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage.
- Phipps, L. J., Osborne, E. W., Dyer, J. E., & Ball, A. L. (2008). *Handbook on agricultural education in public schools*. Clifton Park, NY: Thomson Learning, Inc.
- Ramsey, J. W., & Edwards C. M. (2004). Informal learning in science: Does agricultural education have a role? *Journal of Southern Agricultural Education Research*, 54(1), 86–99. Retrieved from <http://www.jsaer.org/pdf/vol54Whole.pdf>

- Randell, R., Arrington, L. R., & Cheek, J. G. (1993). The relationship of supervised agricultural experience program participation and student achievement in practical skills in agricultural science. *Journal of Agricultural Education*, 34(1), 26–32. doi:10.5032/jae.1993.01026
- Retallick, M. S., & Martin, R. A. (2005). Economic impact of supervised agricultural experience in Iowa: A trend study. *Journal of Agricultural Education*, 46(1), 44–54. doi:10.5032/jae.2005.01044
- Retallick, M. S., & Martin, R. A. (2008). Fifteen year enrollment trends related to the three components of comprehensive agricultural education programs. *Journal of Agricultural Education*, 49(1), 28 – 38. doi:10.5032/jae.2008.01028
- Roberts, T. G. (2006). A philosophical examination of experiential learning theory for agricultural educators. *Journal of Agricultural Education*, 47(1), 17–29. doi:10.5032/jae.2006.01017
- Roberts, T. G., & Harlin, J. F. (2007). The project method in agricultural education: Then and now. *Journal of Agricultural Education*, 48(3), 46–56. doi:10.5032/jae.2007.03046
- Steele, R. (1997). Analysis of the continuing decline in use of supervised agricultural experience (SAE) in New York State. *Journal of Agricultural Education*, 38(2), 49–58. doi:10.5032/jae.1997.02049
- Stewart, B. R., & Birkenholz, R. J. (1991). Outcomes of changing supervised agricultural experience programs. *Journal of Agricultural Education*, 32(3), 35–41. doi:10.5032/jae.1991.03035
- Sweitzer, H. F., & King, M. A. (2009). *The successful internship: Personal, professional, and Civic Development* (3rd Ed.). Belmont, CA: Brooks/Cole Cengage Learning.
- Talbert, B. A., & Balschweid, M. A. (2004). Engaging students in the agricultural education model: Factors affecting student participation in the National FFA Organization. *Journal of Agricultural Education*, 45(1), 29–41. doi:10.5032/jae.2004.01029
- Talbert, B. A., Vaughn, R., Croom, D. B., & Lee, J. (2007). *Foundations of agricultural education* (2nd Ed.). Danville, IL: Professional Educators Publications, Inc.
- Thompson, G. W., & Schumacher, L. G. (1998). Selected characteristics of the National FFA Organization's agriscience teacher of the year award winners and their agriscience programs. *Journal of Agricultural Education*, 39(2), 50–60. doi:10.5032/jae.1998.02050
- Tylke, R. J., & Arrington, L. R. (1988). The relationship of supervised occupational experience program scope to achievement in livestock production. *The Journal of the American Association of Teacher Educators in Agriculture*, 29(3), 28–34. doi:10.5032/jaatea.1988.03028
- Warren, R. J., & Flowers, J. (1993). The relationship between North Carolina secondary agriculture teachers' use of time management practices and the quality of the supervised agricultural experience program component. *Journal of Agricultural Education*, 34(3), 68–75. doi:10.5032/jae.1993.03068
- West, D., & Iverson, M. (1999). *Economic impact of supervised agricultural experience program in Georgia*. Proceeding of the 26th Annual National Agricultural Education Research Conference, Orlando, FL. Retrieved from <http://aaaeonline.org/uploads/allconferences/224899.proceedings.doc>
- White, P. T., & Pals, D. A. (2004). *The current status of supervised agricultural experience programs (SAE) in the Inland Pacific Northwest*. Proceeding of the 31st Annual National Agricultural

Education Research Conference, St. Louis, MO. Retrieved from
<http://aaaeonline.org/uploads/allconferences/916504.ProgramandContents.doc>

Wilson, E. B., & Moore, G. E. (2007). Exploring the paradox of supervised agricultural experience Programs in agricultural education. *Journal of Agricultural Education*, 48(4), 82–92.
doi:[10.5032/jae.2007.04082](https://doi.org/10.5032/jae.2007.04082)

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