EXEMPLARY SUPERVISED AGRICULTURAL EXPERIENCE PROGRAMS IN RURAL SECONDARY SCHOOLS

By

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To my Aunt (Kathleen Kreisher) and Grandmother (Joanne Lobach)
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The purpose of this study was to identify factors that are present in the
development and implementation of exemplary SAE programs in rural schools. The
participants in this study were agriculture teachers, agriculture students, parents of
agriculture students, and community members from two rural school-based agricultural
education programs. In this qualitative study, focus groups, formal interviews, informal
interviews, and observations were conducted. The data were analyzed utilizing the
constant comparative method. From the data, five themes and 20 factors emerged as
the findings of this study. The five themes were: committed teachers, student-centered
SAE programs, supportive surrounding “community”, joint supervision, and shared
expectations. The 20 factors were associated with one of the five themes.

It was concluded that the utilization of SAE programs in SBAE continues to be a
vital component of a total program. A culture for SAE was found to promote the
development and implementation of exemplary SAE programs. Agriculture teachers
were found to be the most important program partner during the development and
implementation processes. It was recommended that further studies be conducted to
examine current practice of agriculture teachers in the development and implementation
of SAE programs. It was also recommended that agriculture teachers provide students with classroom and on-site supervision during a SAE program. It was also recommended that agriculture teachers require 100 percent of their students to conduct a SAE program. Finally, a model for the development and implementation of exemplary SAE programs was presented.
CHAPTER 1
BACKGROUND

How have Supervised Agricultural Experience (SAE) programs been utilized within secondary agricultural education programs? Should SAE still be an integral component of school-based agricultural education (SBAE)? In the early 1900s SAE programs became an integral component of agricultural education (Croom, 2008; Moore, 1988). After nearly 100 years, SAE programs are still an integral component of a total SBAE program (Phipps, Osborne, Dyer, & Ball, 2008). This study examined the teacher, student, parent, community, and school factors that influence the development and implementation of exemplary SAE programs in rural schools.

This chapter will describe the national trends and target outcomes in secondary education and explain how school-based agricultural education can contribute to the achievement of these desired outcomes. Next, this chapter will specifically address the evolution of SAE programs and their current relevance to school-based agricultural education and the educational system. Furthermore, this chapter will examine the current status of SAE programs. Finally, this chapter will examine the need for agricultural education to rejuvenate SAE programs before they become non-existent.

Educational theories and practices utilized in the public education system in the United States have endured many changes (Aldridge & Goldman, 2006; Coleman, 2001). Furthermore, the 2012 Phi Delta Kappa/Gallup Poll reported that Americans have continued to lose confidence in the public school system. Conversely, over 75% of Americans responded as having trust and confidence in the teachers employed in public schools. Further, the study reported that Americans believe that high stakes testing and common core standards could assist in closing achievement gaps (Bushaw
& Lopez, 2012). Consequently, the quality of public schools has become a top priority of United States citizens (Garrett, 1998; Phipps et al., 2008). As parents have become more involved in school operations, their rating of local school quality has increased (Phipps et al, 2008). Therefore, to ensure that all students receive a high quality education, several trends have become established in the public education system. Two such trends include an emphasis on a career-focused education and context-based instruction (Alliance for Excellent Education, 2008; National Research Council 2000, 2009; Newcomb, McCracken, Warmbrod, & Whittington, 2004; Phipps et al, 2008).

When teaching academic content, the National Research Council (2000) stated that all learning should be embedded in a variety of contexts and conducted to prepare students for a career or college enrollment. When examining teaching in a context, Roberts and Ball (2009) stated that the integration of academic principles into a contextual environment allows students to enhance their comprehension of the academic concept. Further, Roberts and Ball stated that instruction should assist in preparing a workforce that is ready for college or a career. An Educational Longitudinal Study conducted in 2002 by the National Center for Education Statistics (NCES) found that over 85% of the students who completed a questionnaire agreed or strongly agreed that going to school is important for obtaining a job. Further, the study found that over 75% of the students perceived that the skills that they were taught and learned in school would be vital within their careers (NCES, 2002).

For the first time in 2006, the NCES utilized a newly developed system that classified school location as urban, suburban, town, and rural (NCES, 2007). The
classification system was developed due to an increased focus on rural schools in recent years (NCES, 2007). According to the NCES (2007), white English speaking students comprised nearly 75% of the total enrollment in rural schools. Furthermore, the report purported that rural students were less likely to enroll in college, when compared to students from town, suburban, and urban schools. However, when examining student academic performance, the NCES (2007) found that a larger percentage of rural fourth and eighth grade students scored at or above the proficient level on the science National Assessment of Educational Progress than urban fourth and eighth grade students. Finally, the National FFA Organization (2012), the leadership development component of agricultural education, reported that a larger percentage of FFA Chapters, and presumably secondary-school agricultural education programs, were located in rural areas than in suburban or urban locales.

The National Research Council publication *Transforming Agricultural Education for a Changing World* (2009) called for the integration of science in agricultural education curriculum. The National Research Council (2000) posited that when teaching science, hands-on laboratory activities should be utilized to increase students’ skills and science content knowledge. The contextual or hands-on science movement began with Dewey (1910), who stated that hands-on learning engages students in learning and provides concrete examples for students to apply their knowledge to real-world contextual experiences. Further, researchers have argued that agriculture is a science (Hammonds, 1950; Thoron & Myers, 2009; True, 1929), and therefore, the science inherently embodied in agricultural practices should be highlighted to provide students with contextual laboratory application of science concepts (Phipps et al, 2008).
Several studies have been conducted examining the integration or highlighting of science in secondary-schools agricultural curricula. These studies have shown that agricultural educators have favorable perceptions of science-based agricultural curricula (Enderlin & Osborne, 1992; Enderlin, Petrea, & Osborne, 1993; Johnson, 1996; Rogge & Russell, 1990; Whent & Leising, 1988). Furthermore, studies have reported that students enrolled in agricultural education courses perform at the same level or at a higher level on standardized science assessments than students not enrolled in agricultural education courses (Burleson & Thoron, n.d; Chiasson & Burnett, 2001; Conners & Elliot, 1995; Enderlin & Osborne, 1991; Ricketts, Duncan, & Peake, 2006; Rogge & Russell, 1990; Whent & Leising, 1988). Finally, the incorporation of contextual laboratory activities in SBAE has promoted career and college readiness (NRC, 2000; NRC 2009).

To assist in career and college readiness, SBAE has provided instruction both “in” and “about” agriculture (Phipps et al, 2008). When instructing “in” agriculture, students have been engaged in instruction related to necessary skills, knowledge, and competencies needed for careers within the agricultural industry. Conversely, students instructed “about” agriculture have been engaged in instruction centered on producing an agriculturally literate society that values the agricultural industry. Within SBAE programs, instruction has occurred both “in” and “about” agriculture to ensure that students are adequately prepared for a career or further schooling, depending on the student’s interests and abilities (Phipps et al., 2008; Roberts & Ball, 2009).

Within SBAE, agricultural educators have utilized SAE programs to promote the contextual application of academic content and the enhancement or development of
career and life skills (Phipps et al., 2008; Stimson, 1919; Talbert, Vaughn, Croom, & Lee, 2007). Barrick et al. (2011) purported that an SAE program is “a planned and supervised program of experience-based learning activities that extend school-based instruction and enhance their [student] knowledge, skills, and awareness of the agricultural industry” (p. 9). Newcomb et al. (2004) stated that students engaged in an SAE program should produce educational goals, career goals, and yearly plans for enhancing their overall program. A student’s yearly plan should include specific skills that the student will complete throughout the program, therefore providing contextual application of academic knowledge and skills (Barrick et al., 2011; Newcomb et al., 2004; Phipps et al., 2008; Stimson, 1919; Talbert et al., 2007). In addition, a student’s ability to set attainable goals has been essential to the development of SAE programs and career aspirations (Newcomb et al., 2004; Phipps et al., 2008; Talbert et al., 2007). Previous studies have reported that students believe that SAE programs enhance their career aspirations and strengthen their knowledge of agricultural concepts (Dyer & Williams, 1997; Pals, 1988; Williams 1979). Further, Herren and Cole (1984) concluded that SAE programs prepare students for careers in agriculture and promote the application of agricultural skills.

Opinion currently suggests that SAE programs provide students with the ability to apply academic concepts and develop career skills (Cheek, Arrington, Carter, & Randell, 1994; Newcomb et al., 2004; Phipps et al., 2008; Stimson, 1919). Stimson (1915) provided a clear description of the project method, now SAE, which described a program that was focused on the application of classroom principles in a real-world environment, typically the student’s home farm. Further, Stimson stated that students’
SAE programs should increase in difficulty and scope each year students were enrolled in agricultural education. While agricultural educators have continued to believe that SAE programs should increase in difficulty and scope, today’s SAE programs have not been as prescribed, allowing for students to have more freedom in the development of a program that meets their interests and career aspiration needs. In addition, SAE programs have moved away from strictly promoting skill development in production agriculture to include all facets of the agricultural industry (Barrick et al., 2011; Newcomb et al., 2004; Phipps et al., 2008; Talbert et al., 2007). Beyond production agriculture, SAE programs have focused on: agricultural education, food science, manufacturing and fabrication, agricultural communications, environmental science, research, small animal production, sales and service, and community service (Rubenstein & Myers, 2012).

Beyond the literature published about SAE, governmental policy related to SBAE programs has historically incorporated verbiage dictating the use of SAE programs in SBAE (Phipps et al., 2008). The Smith-Hughes Act of 1917 (as cited in Phipps et al., 2008, p.) stated “that such schools shall provide for directed or supervised practice in agriculture, either on a farm provided for by the school or other farm, for at least six months per year” (para. 17). Therefore, in order to receive federal Smith-Hughes funding every student enrolled in an agricultural education program was required to complete an SAE program. Later in 1963, the passage of the Vocational Education Act removed the requirement of supervised experience, which was an essential component of the Smith-Hughes Act of 1917. However, the Vocational Education Act did state that supervised experience may be provided to students enrolled in agricultural education.
Then, with the passage of the Vocational Education Amendment of 1968, language regarding supervised experience instruction was completely removed from federal legislation (Phipps et al., 2008). Since the passage of the 1968 Amendment, agricultural educators have continued to utilize supervised instruction within agricultural education programs. Nevertheless, student participation has continued to drop since the 1980s (Barrick et al., 1991; Dyer & Osborne, 1995; Dyer & Williams, 1997).

Historically, SAE has been a form of individualized application for students to apply their knowledge gained in classroom instruction to a real-world setting (Newcomb et al., 2004; Phipps et al., 2008). When developing an SAE program, agriculture students have individually selected a project area that is tied to a career interest within the agricultural industry (Barrick, 1992; Newcomb et al., & Phipps et al., 2008). In turn, students have strengthened and developed workforce and societal skills necessary to be successful in their careers and life (Barrick et al., 1992). In addition, Roberts and Ball (2009) argued that industry-relevant skills and knowledge must be incorporated in the agricultural education curriculum, and SAE programs provide students the opportunity to develop these skills. Further, agricultural education programs must develop lasting relationships with industry representatives to ensure that students learn the necessary skills to be a productive member of the workforce (Phipps et al., 2008; & Roberts & Ball, 2009).

SAE programs have been an integral component of a total SBME program (Barrick et al., 2011; Dyer & Osborne, 1995; Newcomb et al., 2004; Phipps et al., 2008; Talbert et al., 2007). Talbert et al. (2007) stated that the utilization of SAE programs has allowed students to retain knowledge, skills, and competencies at a higher rate than
students who simply memorize information. In 1994, Cheek et al. reported a positive relationship between student participation in SAE programs and overall student achievement in agricultural education. Moreover, the literature suggests that students who set personal education and career goals achieved at a higher rate than students who did not utilize goal setting (Newcomb et al., 2004). Furthermore, Roberts and Harlin (2007) reported that SAE programs were still relevant.

School-based agricultural education (SBAE) has embraced the project method since Stimson first utilized this method in his classroom in 1908 (Roberts & Harlin, 2007). Today, the agricultural education profession uses the term Supervised Agricultural Experience (SAE) as the term for Stimson’s project method (Phipps, Osborne, Dyer, & Ball, 2008). Over the past 100 years, several changes have occurred in the purpose of SAE in agricultural education. The focus on skill-based projects has shifted to a professional development focus that enhances students’ knowledge of the agricultural industry (Roberts & Harlin, 2007).

According to the American Management Association’s Critical Skills Survey (2010), United States employers reported that the future workforce must be equipped with skills beyond reading, writing, and arithmetic to include skills such as problem solving and critical thinking. Phipps et al. (2008) stated that student involvement in SAE programs further promotes the acquisition of problem solving and critical thinking skills. Students who complete an SAE program have been required to make decisions that affect the economic productivity and overall success of their program (Newcomb et al., 2004). Finally, the development of these vital skills will assist students in being
successful member of society and a well-prepared employee for the workforce (Barrick et al., 1992).

To ensure that SAE programs were properly implemented, teachers have been expected to supervise the student’s program (Newcomb et al., & Phipps et al., 2008). Traditionally, supervision has occurred through an annual home visit to the student’s SAE program. During the home visit, teachers have often been presented with an opportunity to interact with the student’s parents. This opportunity was used to provide parents with an understanding of SAE programs and garner support for the agricultural education program (Newcomb et al., & Phipps et al., 2008). Based on this interaction, a lasting impression can be made with the parents that will further benefit the student’s education (Phipps et al., 2008). Finally, more informal supervision can be conducted by the parent, community members, and employers (Newcomb et al., & Phipps et al., 2008). Further, support for the agricultural education program can be promoted through the interactions that community members and employers have with students and their SAE programs (Phipps et al., 2008).

In order to ensure that the relevance of SAE was maintained, various considerations to the administration, development, and implementation of SAE programs in SBAE must be explored. Roberts and Harlin (2007) proposed several changes to ensure that SAE programs remain relevant. Due to some students inability to acquire the necessary resources to conduct an SAE program (Retallick, 2010), teachers should allow students to utilize school facilities and resources to conduct an effective SAE program. Further, students should have the ability to work on SAE programs during school hours, as long as those hours are not during an agricultural
education course (Roberts & Harlin, 2007). When examining the teacher’s role in SAE programs, Roberts and Harlin reported that teachers must shift their role from being the holder-of-knowledge to the role of a facilitator. In addition, teachers should utilize program partners (parents, community members, employers, etc.) to assist in the supervision of SAE programs. However, the teacher should still be involved in the supervision of SAE programs (Barrick et al., 2011; Phipps et al., 2008; Talbert et al., 2007). An examination of these considerations could assist in an increased relevance of SAE in SBAE.

Each of the aforementioned considerations could assist in alleviating the current issues pertaining to the utilization of SAE programs in SBAE. The agricultural education literature has reported that a decreasing number of students actually begin and continue to implement SAE programs (Barrick, Hughes, Baker, 1991; Dyer & Osborne, 1995; Leising & Zilbert, 1985; Miller, 1980; Newcomb et al., 2004; Phipps et al., 2008; Retallick, 2010; Retallick & Martin, 2008; Roberts & Harlin, 2007; Steele, 1997; Talbert et al., 2007; Wilson & Moore, 2007). Studies have reported the following as factors that limit student participation in SAE programs:

- lack of time due to involvement in other school and community activities
- lack of teacher encouragement to complete an SAE
- the amount of help from teachers
- teacher attitudes towards SAE
- teacher expectations of SAE
- lack of facilities
- lack of resources
- lack of student motivation
• lack of communication between program partners
• and inadequate teacher supervision (Barrick et al., 1991; Dyer & Osborne, 1995; Foster, 1986; Lewis, Rayfield, & Moore, 2012; Steele, 1997; Wilson & Moore, 2007).

In addition, teachers have reported several issues that have decreased utilization of SAE programs in SBAE. These have included: difficulty designing an SAE program for every student, difficulty implementing SAE, dissatisfaction with SAE, lack of time/decreasing summer contracts, difficulty teaching SAE, lack of resources, and keeping records (Barrick et al., 1991; Dyer & Osborne, 1995; Lewis, Rayfield, & Moore, 2012; Myers, Dyer, & Washburn, 2005; Steele, 1997; Wilson & Moore, 2007). Further, while teachers have believed that SAE is relevant to agricultural education (Dyer & Osborne, 1995; Robinson & Hayes, 2010), the literature has purported that teachers do not view SAE as appropriate for their SBAE program (Camp, Clarke, & Fallon, 2000). When examining teachers’ utilization of SAE, several studies have reported that some teachers have discussed SAE as it was philosophically and theoretically conceptualized but have not implemented SAE in the same manner (Dyer & Osborne, 1995; Moore & Wilson, 2007; Retallick, 2010). Finally, Retallick (2010) reported that SAE programs lack the utilization of a focused learning outcome; instead, teachers have utilized SAE as a means towards the completion of a record-book.

In response to the current status of SAE, The National Council for Agricultural Education appointed an Experiential Learning Planning Committee to address the following objectives:

1. “To bring all organizations together to create a definition of experiential learning;
2. To identify the educational merits of experiential learning;
3. To add SAE to the college-ready/career-ready conversations;
4. To identify strategies that will help get SAE implemented by teachers;
5. To answer the question, What does the construct of experiential learning contribute to learning?;
6. To identify resources that exist to make SAE happen” (Barrick et al., 2011, p. 3).

In the final report produced by the Experiential Learning Planning Committee, 19 action items were presented for teachers to undertake to increase the utilization of SAE programs within SBAE. The following six action items pertain directly to this study:
7. “Advisory council – community support …
8. Individual teacher must take ownership in implementation
9. Individual teacher defines best way for implementation at local level …
10. Teachers should be provided professional development for strategies to use community/advisory councils, for SAE implementation …
11. Teacher needs to be committed to SAE beyond awards program …
12. Allow students to think outside the box …
13. Must have teacher buy-in” (Barrick et al., 2012, p. 33-34).

Therefore, a need existed to identify the factors that contribute in the development and implementation of exemplary SAE programs in rural SBAE programs.

**Statement of the Problem**

The National Council for Agricultural Education developed an initiative to renew and reinvigorate the utilization of SAE within SBAE classrooms. The Experiential Learning Planning Committee was developed to address the six objectives previously mentioned (Barrick et al., 2011). Following the presentation of the final report, the planning committee was recharged with the development of specific methods to renew and reinvigorate the development and implementation of SAE.
Many issues regarding the utilization of SAE have been discussed within the agricultural education literature. Throughout the literature, the decreasing level of student participation has been a major concern of the agricultural education community (Barrick & Esteep; 2011; Newcomb et al., 2004; Phipps et al., 2008; Talbert et al., 2007). Further, teachers have reported numerous concerns regarding their ability to develop and implement SAE programs (Barrick & Estepp, 2011; Dyer & Osborne, 1995; Dyer & Osborne, 1996; Newcomb et al., 2004; Phipps et al., 2008; Talbert et al., 2007). Studies have recommended that further examination of SAE program utilization in SBAE is needed (Barrick et al., 1991; Lewis et al., 2012; Dyer & Osborne, 1995; Retallick, 2010; Robinson & Hayes, 2010). However, there is a paucity of research has been conducted examining teacher practice with respect to SAE programs (Dyer & Osborne, 1995; Dyer & Osborne, 1996; Dyer & Williams, 1997).

Agriculture teachers consider SAE programs as a vital contextual learning opportunity for students (Phipps et al., 2008). These learning opportunities provide students in the development of personal skills that will benefit them as they become productive members of society. In order for SAE to be reinvented or reinvigorated, SAE inquiry must evolve beyond perception-based research and identify successful teaching strategies for SAE instruction. The previously presented issues have caused the relevance and vitality of SAE programs to be questioned. With the vitality of SAE programs in question, the problem this study investigated was the declining presence of SAE programs in SBAE and the real possibility that this cornerstone dimension of SBAE programs may not be recovered.
Purpose of the Study

The purpose of this study was to identify factors that are present in the development and implementation of exemplary SAE programs in rural schools. The research questions that guided this study were as follows:

1. What teacher factors are present in the development and implementation of exemplary SAE programs in rural schools?
2. What student factors are present in the development and implementation of exemplary SAE programs in rural schools?
3. What school factors are present in the development and implementation of exemplary SAE programs in rural schools?
4. What community factors are present in the development and implementation of exemplary SAE programs in rural schools?
5. What family factors are present in the development and implementation of exemplary SAE programs in rural schools?

Significance of the Study

This study is significant for agricultural educators, agriculture teachers, state agricultural education supervisors, agriculture students, parents of agriculture students, employers, school administration, policy leaders, and The National Council for Agricultural Education. Teacher educators have often provided professional development seminars to inservice teachers. When conducting coursework and professional development presentations, this study will inform agricultural educators’ conceptualization of current practice and the factors that should be utilized when developing and implementing SAE programs in rural SBAE. Beyond the utilization of this study in professional development workshops, agriculture teachers will be able to individually utilize the results of this study to address development and implementation decisions related to the utilization of SAE. Additionally, the results of this study could
assist agricultural educators in informing school administrators of the need for agricultural education in the public school system and the need for extended contracts to adequately implement and supervise SAE programs. In addition, the results of this study will assist school administrators in recognizing the responsibilities for SAE of agriculture teachers and the impact that SAE has on student development and growth. Further, this study will assist teachers in addressing the need to increase students’ career and academic readiness. The results of this study will also influence the instructional techniques and strategies that agriculture teachers utilize within their instruction. Therefore, agriculture students will be provided with educational instruction that is strengthened by a teacher’s utilization of SAE programs.

Parents and employers of agricultural education students may use the results of this study to enhance their contributions to student development through SAE. Further, state and federal policy leaders could utilize the results of this study when making budgetary considerations for the agricultural industry and agricultural education programs within the public school system. In addition, this study will provide policy makers with further evidence that SAE is a unique component of SBAE that should be preserved for further agriculture students. Further, this study could provide vital information to the National Council for Agricultural Education’s Experiential Learning Planning Committee for utilization in the development of specific teaching methods as part of the initiative to renew and reinvigorate SAE programs.

More specifically, this study examined a current gap in the agricultural education literature base. This study will provide agricultural educators and agriculture teachers with influential factors that should be considered when developing and implementing
SAE programs. Finally, this study addressed the need for further examination of SAE programs in SBAE as a dimension of Priority Area 4 of the National Research Agenda (NRA) (Doerfert, 2011). Doerfert (2011) called for research to be conducted that “deepen[s] our understanding of effective teaching and learning processes in all agricultural education environments” (p 9).

**Definition of Terms**

The following terms were operationally defined in this study:

- **Agricultural Teacher**: a secondary-school instructor or teacher of school-based agricultural education (Phipps et al., 2008). Only agriculture teachers in rural schools participated in this study.

- **Community Factors**: in this study this classification was utilized for the contribution, influence, and involvement of employers, community members, advisory council members, FFA alumni members, and the local and state economy on the SAE development and implementation process.

- **Exemplary Supervised Agricultural Experience Programs**: in this study programs were identified based on established criteria. The utilized criteria were developed from previous research findings within the agricultural education literature base. These criteria include:
  
  1. SBAE programs that conduct exemplary student SAEs have, at minimum, 75% of students enrolled in agricultural education courses engaged in SAE programs, where student SAEs consist of a multi-year program in which more than 100 hours of active participation have been recorded in their respective SAE programs.
  
  2. Rural programs are SBAE programs where a majority of the student body lives in a community of less than 2,500 people (USDA, 2013). However, if a county school system is utilized, than the SBAE program should be located in counties of less than 49,999 people (Office of Management and Budgets, 2013).

- **Parent Factors**: in this study this classification was utilized for the contribution, influence, and involvement of parents on the SAE development and implementation process.

- **Program partners**: in this study the individuals classified in this group were teachers, parents, and community members.
• **School-based Agricultural Education:** secondary agricultural education programs that instruct individuals in the food, fiber, and natural resource industry (Phipps et al., 2008).

• **School Factors:** in this study this classification was utilized for the contribution, influence, and involvement of school administrators, school facilities, and school operation procedures on the SAE development and implementation process.

• **Supervised Agricultural Experience Program:** an integral component of agricultural education that assists students in the development of real-world applications for classroom instruction and career skills (Phipps et al., 2008).

• **SAE Program Development:** the teacher, student, community member, employer, and school factors utilized when creating new SAE programs. Further, this process is continued each year that the student remains in an agricultural education course (Phipps et al., 2008).

• **SAE Program Implementation:** the process of initiating the utilization of a developed student SAE program. This requires the teacher and student to gather the required resources for the developed SAE program (Phipps et al., 2008).

**Limitations of the Study**

The findings of this study should be interpreted with the consideration of the following limitations:

• The data included in this study were collected through the utilization of qualitative methodology from a purposively selected sample. Therefore, the results of this study could not be generalized beyond the sample.

• This study only examined SAE program development and implementation factors in rural schools and may not be applicable to urban and suburban schools.

• In qualitative research, the researcher is sole instrument utilized for data collection and analysis. Therefore, the analysis and collection of the data can be influenced by the researcher’s bias. However, researcher bias can be overcome or reduced through the use of triangulation, multiple data sources, prolonged engagement, and other methods utilized to uphold credibility of the study.

**Assumptions of the Study**

The following assumptions were made in this study:
The students, teachers, and community members involved in this study provided truthful information.

This study utilized semi-structured interviews, prepared questionnaires, and observational guides to control the influence of researcher bias.

Chapter Summary

This chapter provided evidence that agricultural education and SAE programs have supported current educational trends affecting the United States public education system. This study focused on program partner, teacher, and student factors that influenced the development and implementation of SAE programs in agriculture programs in rural schools.

School-based agriculture programs have assisted in providing context-based instruction that has prepared students for careers and college. Further, SAE programs have been a vital component that assists in increasing student career and college readiness. However, student participation in SAE programs has continued to decline with no signs that this trend will be reversed. Students have reported that several external factors have influenced their participation in SAE programs including: resources, facilities, time, motivation, and teacher supervision.

Teachers have accurately described the purpose of SAE programs but failed to implement them accordingly. Teachers have reported several factors that have influenced their utilization of SAE within their agricultural education program including: dissatisfaction with SAE, difficulty in developing a SAE program for every student, lack of time, lack of resources, and difficulty in teaching SAE.

The significance of this study was to begin identification of factors that should be considered when students develop and implement SAE programs in agricultural education. The purpose of this study was to identify the factors that influence the
development and implementation of SAE programs in rural SBAE. The problem this study aimed to investigate was the declining presence of SAE in SBAE. Following in Chapter 2, relevant empirical literature will be presented and the conceptual framework of this study will be described.
CHAPTER 2
LITERATURE REVIEW

Introduction

Chapter 1 described the national trends in the educational system and how school-based agricultural education (SBAE) has contributed to the achievement of these goals. Further, Chapter 1 described the role of supervised agricultural experience (SAE) in SBAE and examined the current status of SAE programs. Finally, the research questions, limitations of the study, assumptions of the study, purpose of the study, and significance of the study were presented.

Chapter 2 will describe the conceptual and theoretical frameworks that guided the study. Further, this chapter includes a discussion of relevant research that has been conducted within the agricultural education and educational literature base. The literature included in this chapter pertains to the following areas: historical SAE components, student factors influencing SAE, teacher factors influencing SAE, parent factors influencing SAE, community factors influencing SAE, school factors influencing SAE, and the development and implementation of SAE programs.

Conceptual Model Guiding the Study

Within the SAE literature, little work has been completed in the construction of a model that guides the development and implementation of SAE programs. Figure 2–1 represents the conceptual framework developed to guide this study. The framework explains the role of student, teacher, parent, community, and school factors on student intention, development, implementation, and continual use of SAE programs. Phipps et al., (2008) stated that the development and implementation of SAE programs must be
agreed upon by all involved in the program administration. This includes the student, teacher, parent, and, in some cases, an employer or community member.

SAE program development and implementation is affected by the students’ intention to participate in SAE. Bird, Martin, & Simonsen (2013) stated that external and internal factors influence a student’s decision to participate in SAE. Historically, participation in SAE has been extrinsically motivated during the development and implementation segment of the SAE program (Bird et al., 2013). The goal of this study was to identify the student, teacher, parent, community, and school factors that influence the development and implementation of SAE programs.

![Figure 2-1. Conceptual model of SAE programs in SBAE.](image)
Supervised Agricultural Experience

During the early 1900s agricultural education teaching methods consisted of lecture and physical skill labor training on the school farm (Stimson, 1915; Stimson, 1919). Stimson believed that the skills and abilities that were taught in agriculture classrooms could not be taught by merely books and observation. Further, Stimson believed that these teaching practices were impractical because students were forced to watch others complete the skill due to limited supplies and equipment. Conversely, Stimson believed that hands-on teaching strategies and programs needed to be included to ensure that students developed an understanding of the economic and commercial relevance of the lesson. Stimson (1919, p. 32) stated that

Neither skill nor business ability can be learned from books alone, nor merely management of others. Both require active participation, during the learning period, in productive farming operations of real economic or commercial importance.

Stimson (1919) purported that most schools were far from being able to support all of their educational practices on school grounds. However, in the early 1900s all of the educational requirements for graduation were contained and implemented within the school facilities. During this time, agricultural instructors had little understanding of the conditions of a student’s family farm. Therefore, Stimson proposed that students should utilize their home farms, or local farms within a close vicinity of the school, to practice and develop skills. Further, Stimson believed that the school’s primary aim should be to focus on building connections between the classroom content taught to students and their experiences on their home or assigned farm. This concept was called the project method (Stimson, 1915; Stimson, 1919). This belief and conceptualization is the foundation to Stimson’s philosophy of vocational education (Moore, 1988).
The foundational tenets of the project method were that of an instructional methodology used to develop student skills and competencies (Stimson, 1915; Stimson, 1919). Stimson defined a project as a task that should be completed on a farm and involves the use of equipment and resources to accomplish a specific result that will enhance the educational process. Students that completed projects were expected to utilize their home farms to further their learning within agricultural education. Each project was designed to be hands-on and a practical, real-world application of classroom instruction. Students were expected to keep financial and diary records to track their progress on each project. Stimson believed that recordkeeping was needed for students to further develop their knowledge in the field. Further, three main forms of projects were completed by students. These included: improvement, trial, and production projects. An improvement project was conducted to improve the farm facilities or working conditions. Trial projects were utilized to encourage students to try new plants, animals, or techniques to enhance their production practices. Finally, production projects were utilized for students to produce a specific crop for market. Agriculture students completed at least one project with records in each category prior to graduation (Stimson, 1915; Stimson, 1919).

Stimson (1919) stated that student projects should increase in difficulty, scope, and sequence each year. Specific projects were provided for students to complete each year to ensure that projects increased in difficulty, scope, and sequence. The projects Stimson required students to conduct were:

- First year - a plant project of kitchen gardening or ornamental planting;
- Second year – an animal husbandry project of raising poultry, sheep, goats, swine, or bees;
• Third year – an advanced plant project of fruit production, market gardening, or producing fruits and vegetables for market;

• Fourth year – an advanced animal husbandry project of dairying, general farm management, or agriculture as a business.

Additional projects could be conducted or continued throughout the four-year agriculture program. These projects could be the continuation of a previous year’s project. Likewise, students could develop a project to solve a problem on their home farm (Stimson, 1915; Stimson, 1919).

While many projects were aimed at increasing student knowledge, Stimson (1919) stated families must be involved in the student’s project. Parents were in favor of the home-project method. Furthermore, parents found that the cost of having students stay at home was less than sending them to a boarding school. Stimson (1919) argued that family interaction would increase the student’s and ultimately the family’s knowledge of new research-proven techniques and practices. Families found that the projects that were completed assisted farmers in experimenting with new crops and techniques that had been proven successful in other locations. Stimson found that parents had a positive perception of the agricultural instructor, due to their ability to assist students in transferring knowledge from the classroom directly to their family farm. Further, Stimson alleged that student-parent interaction formed a relationship that proved essential in the operation of the farm.

Finally, Stimson (1919) posited that an agricultural educator had a distinct role in the success of the project method. Heald (1929) reported that since agriculture teachers were employed through the summer, Stimson required a weekly visit to each student’s farm. Additionally, teachers were expected to complete mid-summer and mid-winter professional development. Professional development was devoted to assisting
teachers in fostering teamwork in their classrooms and communities (Heald, 1929).

Stimson (1919) identified teamwork as a vital component of the project method.

Since the conceptualization of the project method, several changes have occurred in the utilization of these projects (Phipps et al., 2008). The project method has endured several name changes that have, in turn, broadened the scope of SAE programs. These name changes, and year established, were as follows:

- Home-School Cooperation Plan (1908);
- Farming Project (1919);
- Productive Farm Enterprise (1926);
- Supervised Farm Practice Program (1938);
- Supervised Farming Program (1943);
- Supervised Occupational Experience Program (1972); and

Further, the categories of SAE projects have been changed and broadened to include a larger portion of the agricultural industry (Phipps et al., 2008). The current category types are as follows: ownership/entrepreneurship, placement, research, and exploratory.

Ownership/entrepreneurship SAEs are utilized to prepare students to own and operate an agricultural business or facility (Phipps et al., 2008). Newcomb et al. (2004) stated that there are three types of entrepreneurship programs: production, group enterprise, and entrepreneurship. Production SAEs refer to operations that focus on the production of animals and crops for market sales. Group enterprise SAEs are when a group of individuals share the ownership and decision making power of the venture. Typically, each student in the group completes a separate SAE project (Newcomb et al., 2004; Phipps et al., 2008). Phipps et al. (2008) stated that entrepreneurship programs are non-farm programs that student develop and operate agribusiness ventures for
profit. The utilization of entrepreneurship SAEs has provided students with the opportunity to develop needed managerial and technical skills (Newcomb et al., 2004). During the utilization of an ownership/entrepreneurship SAE, students are expected to keep diary and financial records. The diary and financial records should illustrate the decisions that were made by the student regarding the success of the ownership venture (Newcomb et al., 2004; Phipps et al., 2008).

Placement SAEs are utilized when a student is employed by a company or business. Students who are engaged in a placement SAE can be paid or can volunteer (Phipps et al., 2008). Newcomb et al. (2004) stated that placement SAEs can be completed both after school and during the school day. Placement SAEs that are completed during the school day are referred to as cooperative learning projects. When students utilize a placement SAE, an agreement form should be completed by both the employer and student (Newcomb et al., 2004; Phipps et al., 2008). The agreement informs both parties of their responsibilities during the placement SAE (Phipps et al., 2008). Once an agreement has been reached, a formal training plan should be established to ensure that the student has the necessary skills to complete any assigned tasks. Further, the training plan will describe the skills and experiences that should be provided to the student during the placement SAE (Phipps et al., 2008).

Within the last 20 years, research and exploratory projects have been established as SAE categories (Phipps et al., 2008). Research SAEs should have a strong emphasis in agriscience and build on student’s interest within the agricultural industry. An experimental research SAE allows a student to conduct relevant and interesting research to develop new information and further the student knowledge of
the topic and scientific process. Students are responsible for designing, conducting, analyzing, and communicating their effort and results of an experimental research SAE (Phipps et al., 2008). Phipps et al. (2008) defined a second form of research SAE as an analysis SAE. During an analysis SAE, students collect information from various sources, followed with a thorough analysis and evaluation of the collected information. Once the information is analyzed and evaluated, the student completes a finished product that is equal to an experimental SAE in terms of quality and rigor. Meanwhile, exploratory SAEs are designed to provide students with the opportunity to further learn about an agricultural career. Students who complete an exploratory SAE collect relevant information from various sources to develop a firm awareness of a particular agricultural career of interest. Phipps et al. (2008) stated that exploratory SAEs can be enhanced when partnered with a placement, ownership, or research program to further support a student’s interest in a specific agricultural career.

Roberts and Harlin (2007) posited that agricultural education profession should move away from the utilization of SAE programs and reexamine Stimson’s original conceptualization of the project method. The agricultural education profession has utilized the term “program” to describe a multi-year and singularly focused SAE (Roberts & Harlin, 2007). Phipps et al. (2008) stated that teachers should assist students in the development of a multi-year program that builds in scope, sequence and difficulty. Roberts and Harlin (2007) postulated that the utilization of programs has limited student involvement in SAE and that a conceptual change to projects could produce higher participation rates in students.
Student Factors Influencing SAE

The examination of student participation, knowledge, benefit, and motivation in SAE has been examined throughout the agricultural education literature base (Arrington & Cheek, 1990; Barrick et al., 1991; Bird, Martin, & Simonsen, 2013; Dyer & Osborne, 1995; Dyer & Osborne, 1996; Dyer & Williams, 1997; Hanagriff, Murphy, Roberts, Briers, & Linder, 2010; Kotrlik, Parton, & Leile, 1986; Lawver & Torres, 2012; Leising & Zilbert, 1985; Lewis, Rayfield, & Moore, 2012a; Lewis, Rayfield, & Moore, 2012b; Osborne, 1988; Pals, 1987; Retallick, 2010; Retallick & Martin, 2008; Ricketts, Duncan, & Peake, 2006; Steel, 1997; Talbert & Balschweid, 2004; Talbert & Balschweid, 2006; Williams, 1979; Williams, 1980; Wilson & Moore, 2007). However, a lack of experimental research studies, that examined student factors in SAE programs, exist (Dyer & Osborne, 1995). Much of the research that existed in regards to SAE and student factors were perception based (Dyer & Osborne, 1995).

When examining student factors of SAE, three influencing factors of student participation in SAE have been researched within the agricultural education literature base. These three influential factors include: benefits of SAE for students (Dyer & Osborne, 1995, Dyer & Williams, 1997), student motivation towards SAE (Bird et al., 2013), student knowledge of SAE (Lewis et al., 2012a).

The benefits of SAE participation have been examined from both the teacher and student perspective (Dyer & Osborne, 1996; Dyer & Williams, 1997). When examining the student perspective, Knobloch (1999, p. 16) stated that:

Supervised agricultural experiences implemented in agricultural education programs by its true definition of students experiencing agriculture with adult supervision have proved to help students apply knowledge, clarify career choices, solve problems through decision making, develop responsibility, and learn agricultural skills through practical experience.
However, many other benefits of student participation in SAE have been established throughout the agricultural education literature.

Student motivation is known to influence a student’s involvement in learning activities (Phipps et al., 2008); involvement in SAE is no exception (Bird et al., 2013; Dyer & Osborne, 1995; Osborne, 1988). Studies have found that both rewards and awards have motivated students to participate in SAE programs (Bird et al., 2013; Dyer & Williams, 1997; Leising & Zilbert, 1985). Rewards were classified as money and program requirements (Bird et al., 2013), whereas awards were recognized as the National FFA Awards and Degree Program (Bird et al., 2013; Dyer and Williams, 1997; Leising & Zilbert, 1985; Retallick 2010; Wilson & Moore, 2007). Further, Bird et al. (2013) stated that intrinsic motivation can motivate students to continually participate in SAE programs.

Student knowledge of SAE has recently been examined within the literature base. Lewis et al. (2012a) found that students who were included in the study (n = 1,027) were not knowledgeable about SAEs. Further studies have found that SAE programs can influence students’ selection of a college major and their success in college (Arrington & Cheek, 1990; Lawver & Torres, 2011; Lawver & Torres, 2012; Retallick & Martin, 2008; Talbert & Balschweid, 2006).

Student participation in SAE programs has continued to decrease over the last 25 years (Barrick, Hughes, Baker, 1991; Dyer & Osborne, 1995; Kotrlik, Parton, & Leile, 1986; Leising & Zilbert, 1985; Miller, 1980; Newcomb et al., 2004; Phipps et al., 2008; Retallick, 2010; Retallick & Martin, 2008; Roberts & Harlin, 2007; Steele, 1997; Talbert et al., 2007; Wilson & Moore, 2007). Retallick (2010) reported five factors that have
influenced student participation in SAE: “(a) changing student demographics and societal attitudes, (b) mechanics and structure of schools, (c) resource availability, (d) image, and (e) agricultural education system” (p. 66). Studies have established a need for the expansion of concepts related to SAE programs to adapt to the changing demographics and limited resources of agricultural education students (Barrick et al., 1991; Rayfield & Croom, 2010; Retallick, 2010; Retallick & Martin, 2008; Roberts & Harlin, 2007; Wilson & Moore, 2007).

Benefits

Williams (1979) examined high school seniors who received the FFA Chapter Farmer Degree or the FFA State Farmer Degree as their highest FFA degree in high school and their perceived benefits of participation in SAE. Williams found that the top five benefits for the entire sample were as follows: “(1) encouraged the keeping of records, (2) promoted the acceptance of responsibility, (3) developed pride in ownership, (4) helped attain advanced FFA degree, and (5) encouraged the production of animals and crops” (p. 36 & 38). When examining chapter farmers’ perceived benefits the following items were the top five greatest benefits: “(1) developed pride in ownership, (2) promoted the acceptance of responsibility, (3) encouraged the keeping of records, (4) encouraged the production of animals and crops, and (5) developed pride in ownership” (p. 38). Further, the researchers reported that the top five benefits of state farmers were as follows: “(1) helped attain advanced FFA degrees, (2) encouraged the keeping of records, (3) promoted the acceptance of responsibility, (4) encouraged the production of animals and crops, and (5) developed pride in ownership” (p. 38). Williams found that benefits that did not directly relate to the student’s development (school, home, and community) were raked in the bottom one-third. Williams concluded
that a majority of the students who participated in this study planned to enter an agricultural profession, and a majority of the students planned to obtain higher education. Finally, Williams purported that SAE programs are beneficial in the development of student knowledge, skill, occupation attitudes, and educational attitudes.

Rubenstein and Thoron (2014) conducted a qualitative study of the student benefits of participation in SAE by the 2012 FFA American Degree Star Finalists. Rubenstein and Thoron reported that the participants cited student learning and recognition through the FFA award and degree system as benefits of participation in SAE. Further, the researchers found that participation in SAE influenced student career choices and skill development. Finally, these researchers found that student interest and family resources influenced a student’s participation in SAE.

Pals (1988) conducted a comparison study of high school agricultural education students from 1981-1985 and 1986. The study examined the students' perceived value of SAE programs. Pals found that the number of production oriented SAE programs dropped in 1986 to 40% from 51% in 1981-1985. Further, the researcher found a slight increase in placement SAE programs. Pals found that students perceived SAE programs to be most beneficial in the “development of behavior attitudes, values, and human relation skills” (p. 39). Moreover, Pals stated that the 1981-1985 students reported the following as benefits of SAE: “(a) promote acceptance of responsibility, (b) develop interest in agriculture, (c) learn to keep records, (d) make vo-ag class practical, and (e) develop a good relationship with instructor” (p. 39). Finally, Pals recommended
that more emphasis should be given to ensure that urban and suburban students find SAE to be a relevant component to agricultural education.

Dyer and Williams (1997) conducted a synthesis of research that examined the benefits of SAE programs. These researchers found that studies that had examined the benefits of SAE were descriptive in nature, almost exclusively used survey methodology, and lacked cohesiveness. Further, the benefits that were reported were general rather than specific in nature. The study found that the following benefits were cited frequently in the literature: good work habits and attitudes, achievement in agricultural knowledge, SAE helped make agricultural education vocational, preparation of students for jobs in agriculture, development of agricultural knowledge (especially animal science), and positive work attitudes.

**Motivation**

Bird, Martin, & Simonsen (2013) conducted a historical qualitative study that examined the role of motivation in SAE literature published between 1928-1934, 1947-1953, and 1966-1973. Bird et al. found that historically extrinsic motivational factors have been utilized to engage student in SAE. The researchers stated that mandating SAE participation, awards, and collaborative SAEs at school were the primary external motivational factors that influenced student participation. However, the researchers stated that following the first year, intrinsic motivational factors must perpetuate a student’s engagement in SAE. Bird et al. reported that student interest and a student-owned project were the two most frequent internal motivators of student participation. Bird et al. concluded that the utilization of external rewards could diminish a student’s internal drive to complete an SAE program for the experience.
Knowledge

Lewis, Rayfield, and Moore (2012a) conducted a descriptive study of Florida, Iowa, Missouri, and Utah high school students’ knowledge of SAE. Lewis et al. found that students from Utah could classify three to four categories of SAE, Indiana and Missouri students could classify two to three categories of SAE, and students from Florida could classify only one to two categories of SAE. Over one-third of the students from Florida could not classify any of the categories of SAE, while in Missouri, Indiana, and Utah, approximately one-third of the students could classify all of the categories of SAE. Overall, the researchers reported that the students who participated in this study were not knowledgeable about SAE. The researchers reported that one factor that could influence a student’s knowledge of SAE is classroom instructional time. However, the participants of this study reported that additional SAE instructional time was not needed. Further, Lewis et al. stated that if teachers assigned a grade to SAE completion, student participation in SAE would increase. Finally, Lewis et al. purported that due to a lack of SAE knowledge, students who are not interested in the completion of a production SAE program do not feel as though they are able to participate in SAE.

Arrington and Cheek (1990) conducted a correlational study that examined Florida high school students’ relationship between SAE scope and student achievement in agribusiness and natural resources education. They reported that a positive relationship between SAE scope and student achievement in agribusiness and natural resources education. However, the researchers found that participation in SAE was low within the sample population.

Ricketts, Duncan, and Peake (2006) examined Georgia high school agriscience students’ performance on science achievement standardized exams. Ricketts et al.
found that engagement in an agriscience program positively influenced students’ performance on the standardized science examination. More specifically, the researchers found a low-positive relationship between student participation in SAE and achievement on the science standardized test.

Talbert and Balschweid (2006) conducted a study that examined FFA members’ career aspirations. The researchers found that FFA members were interested in a career in science; however less than 10% of those students were engaged in a research SAE program. Therefore, the researchers recommended that science careers be emphasized in the agricultural education curriculum and through student SAE programs.

Lawver and Torres (2012), in a study of post-secondary agricultural education students, found that students’ participation in SAE contributed to their intent and attitude towards teaching agriculture. However, participation in SAE did not contribute to their beliefs of teaching agriculture. Therefore, Lawver and Torres purported that students who are involved in the total agricultural education program are more likely to enroll in an agriculture teacher preparation program.

**Participation**

Dyer and Osborne (1995) conducted a synthesis of research that examined student participation trends within the literature base. They found a lack of experimental studies or true foundational pieces of literature had been conducted and that the literature lacked cohesiveness. The researchers reported that “SAE programs lack definition, focus, and direction” (p. 10). The researchers reported that participation in SAE has been decreasing. Further, Dyer and Osborne reported that a lack of resources, facilities, teacher supervision, and student motivation were major causes for
decreased student participation in SAE. Finally, these researchers purported that rural white males were the most active SAE participants.

Steel (1997) analyzed student participation in the State of New York. Steel found that only 29% of students surveyed in New York had an SAE program. The researcher speculated that the lack of a federal legislative requirement to implement SAE could be a basis of the problem. Further, Steel found that a lack of student knowledge of SAE categories could influence a student’s participation in an SAE program. Finally, Steel recommended that agricultural education researchers and practitioners jointly overhaul the conceptualization and utilization of SAE in agricultural education.

Retallick and Martin (2008) investigated enrollment trends of high school agricultural education students over a 15-year period. These researchers found a growing gap between the number of students enrolled in agricultural education and the number of students participating in SAE programs. The study reported that as enrollment in agricultural education increased the number of students that participated in SAE decreased. Furthermore, the researchers found that the growth rates of student participation in agriscience and agribusiness SAE programs grew faster than student participation in production-oriented SAE programs.

Talbert and Balschweid (2004) conducted a study that examined high school student factors for participation in SAE and FFA. The researchers found that more FFA members participated in SAE programs than non-FFA members. Further, these researchers reported that all students enrolled in agricultural education should
participate in an SAE program and receive instruction in career exploration and career opportunities.

Lewis, Rayfield, and Moore (2012b) examined Iowa, Missouri, Indiana, and Florida high school students’ perception of factors that influence SAE participation. Lewis et al. found that students who participated in the study identified the following influential factors of SAE participation: skills developed through a SAE program and involvement in other school or community activities. In contrast to previous studies, this study concluded that the following factors do not influence a student’s participation in SAE: awards and recognition activities; enjoyment in agricultural education courses; adequate resources; adequate facilities; teacher encouragement; and teacher help. The researchers suggested that agricultural education programs begin offering additional facilities and resources to students for their use in SAE programs. Lewis et al. proposed that teachers make a stronger effort to help students with their SAE programs and encourage higher participation from students who reported that their teachers never helped them with their SAE program. Similarly to other studies, the researchers purported that the supervision responsibility of a SAE program should be shared between the teacher, parent, and community.

**Teacher Factors Influencing SAE**

The teacher was considered to have the largest impact on the utilization of SAE programs within agricultural education (Dyer & Osborne, 1995; Phipps et al., 2008; Swortzel, 1996). Phipps et al. (2008) stated that SAE is one of the major three components of a total agricultural education program. Therefore, secondary agriculture teachers were expected to utilize SAE programs with students (Terry & Briers, 2010). However, Terry & Briers (2010) stated that, on average, only three percent of an
experienced teacher’s time was dedicated to SAE. Research studies have found that teachers discuss SAE in a conceptual and theoretical manner but fail to implement SAE as they conceptually and theoretically define (Dyer & Osborne, 1995; Retallick, 2010; Wilson & Moore, 2007).

Effective agricultural educators were expected to encourage students to participate in SAE and have a firm knowledge of SAE concepts (Roberts & Dyer, 2004). In a study conducted by Pals (1989) teachers reported the following four items as benefits of student participation in SAE:

- Helped learn additional concepts not taught in SBAE courses
- Provided opportunity to make decisions
- Provided individualized instruction, and
- Learned to communicate effectively (p. 23).

These perceived benefits could influence a teacher’s utilization of SAE within the agricultural education classroom. Mowen, Wingenbach, Roberts, & Harlin (2007) found that biotechnology teachers acknowledged that their students should conduct SAE programs in biotechnology. However, Mowen et al. (2007) speculated that teachers’ lack of knowledge about biotechnology could limit their utilization of biotechnology concepts throughout different aspects of the agriscience program. Moreover, studies that examined teachers’ utilization of SAE have reported that teaching SAE is one of the most difficult components of agricultural education and that teachers are growing dissatisfied with developing and implementing SAE (Dyer & Osborne, 1995; Robinson & Haynes, 2011). Further, studies have found that a teacher’s limited time has influenced the declining utilization of SAE in agricultural education (Dyer & Osborne, 1995; Osborne, 1988). Finally, studies have reported that in-service teachers could benefit from professional development seminars on the topic of SAE (Joerger, 2002; Johnson,

The supervision of SAE programs was an important role of an effective agriculture teacher (Dyer & Williams, 1997; Roberts & Dyer, 2004). Studies have reported that the number of supervisory visits that a teacher conducts positively influences the quality of the SAE program (Anyadoh & Barrick, 1990; Harris & Newcomb, 1985; Gibson, 1988; Dyer & Williams, 1997). Franklin (2008) found that 81% of teachers surveyed in Arizona utilized their school greenhouse facilities to house and implement student SAE programs. The utilization of school facilities can reduce teacher time spent traveling to SAE supervisory visits and increasing the level of supervision that the student receives while conducting a SAE program (Franklin, 2008). Dyer and Williams (1997) found that teachers, school administrators, and employers believe that teacher supervision is necessary; however the utilization of supervision practices varies by state and teacher. Due to the lack of empirical evidence within the SAE supervision literature base, Dyer and Williams (1997) recommended that experimental studies be completed to assist in the development and establishment of SAE supervision standards.

To ensure the development and implementation of SAE programs within SBAE, teachers must be adequately prepared to utilize SAE during a preservice agriculture teacher preparation program. When preparing preservice agricultural education teachers, instruction related to SAE program utilization, development, and implantation was an essential component of an agriculture teacher preparation program (McLean &
Camp, 2000). However, McLean & Camp (2000) found that few agriculture teacher preparation programs in the United States offer a separate course on SAE program utilization, development, and implementation, while every program in the study reported teaching students about SAE. Young and Edwards (2006) found that Oklahoma State University student teachers ranked the importance of SAE lowest both before and after their internship experiences. Therefore, the study recommended that teacher preparation programs reexamine the coursework that students complete in SAE to ensure that preservice teachers are instructed on the diversity of student SAE program areas (Young & Edwards, 2006).

Studies that Synthesize Literature

A synthesis of literature by Dyer and Osborne (1995) found that teacher attitudes and expectations have a strong influence on student participation in SAE. The researchers reported that beginning teachers believe that SAE program development is of high priority, but their actual performance is lacking. Further, they stated that participation of teachers in SAE programs is limited. Therefore, these researchers recommended that the agricultural education profession establish a mission, definition, and vision for SAE program utilization, development, and implementation. Finally, the researchers suggested that teacher educators need to provide inservice teachers with assistance in developing science-oriented SAE programs.

Dyer and Williams (1997) conducted a synthesis of literature regarding supervision of SAE programs. The researchers found that the teacher is the key provider of SAE supervision and that teachers provide more supervision to production-oriented SAE programs than the other category types. Finally, these researchers
postulated that the decreasing number of extended teacher contracts could lead to a reduced quality and quantity of teacher supervisory visits.

Roberts and Harlin (2007) conducted a philosophical review of literature regarding the utilization of the project method. These researchers recommended that SAE programs should encompass a broader perspective of careers that reflect agricultural education students’ career choices. Further, the researchers stated that the current classification system of SAEs might limit the development and utilization of innovative SAE programs. They purported that agriculture teachers should allow students individually or as a group to utilize school resources for their SAE and conduct their SAE program during school hours. Finally, Roberts and Harlin concluded that teachers should serve as facilitators in the development, implementation, and utilization of SAE programs.

**Inservice Teachers’ Perception of SAE**

Swortzel (1996) conducted a study that examined Tennessee agriculture teachers’ perceptions of planning and supervising SAE programs. Swortzel found that teachers have relatively positive perceptions of planning and supervision practices. The researcher found that multi-teacher programs and teachers that grade SAEs have higher perceptions of planning. Furthermore, Swortzel found that teachers had a higher perception of supervision if they graded SAE programs, were given paid hours for supervision, and were not agricultural education students in high school.

Leising and Zilbert (1985) examined factors that influenced California agriculture teachers’ utilization of SAE programs. The study found that student participation was influenced by a teacher requiring the student to conduct an SAE and if the SAE program was graded. The researchers noted that teachers reported that 57% of their students
completed an SAE program, while the students of the participating teachers reported that 68% of the students had an SAE program. Finally, they recommended that policies be developed to encourage agriculture teachers to have 100% student involvement in SAE programs.

Wilson and Moore (2007) conducted a study of North Carolina agriculture teachers’ perceptions of SAE. The researchers found that teachers give the least amount of priority to SAE components of the agricultural education curriculum. Further, they reported the following barriers to effectively utilizing SAE: record keeping, high enrollment in agricultural education programs, lack of time, limited opportunities for student SAE programs, and lack of knowledge of new SAE categories. Finally, these researchers posited that more effort needs to be spent on assisting teachers in understanding advancements in SAE and how to utilize new SAE categories within SAE program development.

Miller (1980) conducted a study of North Carolina agriculture teachers’ perceptions of the changing status of SAE. Miller found that student participation in SAE was decreasing, and those teachers were not emphasizing SAE as much as they had in the past. However, the researcher noted that the teachers reported that they planned to increase their emphasis in the future. Further, Miller purported that teachers believed that the opportunities for student SAE programs had increased but teachers did not believe that school facilities were available for student SAE programs. Finally, Miller reported that over half of the teachers were conducting SAE home visits, with reduced school time provided for home visits.
Retallick (2010) conducted a qualitative study of Iowa agriculture teachers’ perspectives of the implementation of SAE programs. Retallick found that agriculture teachers utilized SAE in their classrooms “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” (p. 65). Further Retallick stated that current SAE practice has not advanced or adapted with the changing demographics of agricultural education classrooms and student populations. Retallick recommended that additional efforts be made to ensure that teachers are provided with training opportunities to assist in alleviating the current barriers of SAE implementation that are present within agricultural education classrooms.

Rayfield and Croom (2010) conducted a modified delphi study that examined middle school agriculture teachers’ program needs. The researchers reported that the panelists indicated difficulty in engaging middle school students in SAE programs. They suggested that middle school agriculture teachers introduce SAE as a concept that they will further explore more in depth in high school. Finally, the researchers stated that middle school teachers are developing innovation instruction practices to improve SAE instruction.

Johnson, Wilson, Flowers, and Croom (2012) examined North Carolina agricultural educators’ perceptions of the participation of special needs students in SAE. Johnson et al. found that teachers have a positive perception of student participation in SAE programs. Further, the researchers reported that student ability was not a major concern of teachers, and opportunities for SAE involvement were a major barrier. The
authors purported that teacher involvement in professional development regarding working with special needs students did not influence teachers’ perception of working with special needs student on SAE. Finally, Johnson et al. recommended that professional development workshop be developed to assist teachers with modifying SAE programs for special needs students.

Students Perceptions of Teachers’ Role in SAE

Williams (1980) conducted a study of high school students’ perceptions of the assistance that they received from their agriculture teachers. Williams found students perceived that agriculture teachers provided assistance in areas such as “keeping records, providing encouragement, setting educational goals and learning skills in agriculture” (p. 26). Further, the researchers reported that older students perceived that they received more assistance than younger students. Williams recommended that teacher education programs include instruction on how teachers interact with parents during the development and implementation of SAE programs and on a teacher’s responsibilities during an SAE program.

Preservice Teachers’ Perceptions of SAE

Robinson, Krysher, Haynes, and Edwards (2010) examined how Oklahoma State University preservice teachers spent their time during their student internship. Robinson et al. found that all preservice teachers were afforded the opportunity to supervise SAE programs during their student internship. However, the researchers reported that preservice teachers who completed their student internships in the spring spent 30 minutes more a week supervising SAE programs than preservice teachers who conducted their student internships in the fall. Finally, Robinson et al. recommended
that preservice teachers experience a wider variety of SAEs during their student internships.

**Beginning Teachers’ Perceptions of SAE**

Wolf (2011) conducted a descriptive study of Ohio beginning teachers’ self-efficacy of teaching agriculture. The researcher found that beginning teachers were least efficacious in the SAE component of agricultural education. Therefore, Wolf recommended that more emphasis should be placed on SAE in agriculture teacher preparation programs. Finally, the researcher found that teachers who were not an agricultural education student in high school had a lower teacher self-efficacy in SAE.

**Alternatively Certified Teachers’ Perception of SAE**

A study conducted by Robinson and Haynes (2011), which examined Oklahoma alternatively certified agricultural instructors value and expectation of SAE programs, found that all of the participants value SAE programs and have distinct expectations for student participation. Robinson and Haynes reported that teachers in this study perceived that SAE programs develop student career skills, life skills, relationships with community/industry representatives, with their teacher. Furthermore, the researchers found that the participants expected their students “to own and manage their SAE programs, keep accurate data (i.e., record books) in their SAE programs, compete at a high level with their SAE … teach student responsibility, accountability, and work ethic” (p. 54). Finally, Robinson and Haynes recommended that teachers embrace a wider variety of SAE programs, which in turn may lead to higher student participation rates.

**Studies Comparing Traditionally and Alternatively Certified Teachers**

Duncan & Ricketts (2008) examined the traditionally certified agriculture teachers and alternatively certified agriculture teachers to compare their total program efficacy.
Duncan & Ricketts found that both traditionally and alternatively certified teachers were efficacious about different aspects of their program management abilities. However, the researchers found that traditionally certified teachers were more efficacious in their utilization of SAE activities. Therefore, Duncan and Ricketts recommended that teacher educators reexamine their alternative certification programs to ensure that alternatively certified teachers are better prepared to utilize SAE within their agriculture programs.

**Parent Factors Influencing SAE**

Parental support was essential to the development and implementation of SAE programs within agricultural education. However, many parents did not understand the educational merit of SAE (Phipps et al., 2008). Parents often found that SAE programs invaded on family time and can impact a family's privacy. Therefore, Phipps et al. (2008) stated that a teacher must establish a working relationship with students' parents to ensure they understand their role in the SAE program. The development of this working relationship will assist in strengthening a parent's perceived value of SAE (Phipps et al., 2008). Further, parents have a positive perception of supervision practices of SAE (Byers, 1972, as cited in Dyer & Williams, 1997). SAE supervisory visits provide teachers an opportunity to meet with parents and discuss a student's educational endeavors in a positive perspective (Phipps et al., 2008). Finally, Williams (1980) found that students perceived that their parents provided the most assistance in “providing facilities, developing interest in agriculture, learning skills in agriculture and marketing agricultural products” (p. 27).

Williams (1980) conducted a study of high school students’ perceptions of parental assistance during the utilization, development, and implementation of SAE programs. Williams found that parents were significantly more influential than teachers
on more than half of the survey items. Therefore, Williams concluded that parents have an extremely important role in the utilization of SAE programs in SBAE. Williams reported that parents provided more support in the following areas: development of agricultural interest, providing necessary SAE resources, production and marketing of SAE developed products, and making important decisions that influenced the SAE program. Finally, Williams concluded that teachers must have a firm understanding of a parent’s role in the development and implementation of SAE.

In an additional study that examined parents’ perceived value of SAE programs, Pals (1989) reported that parents believed the greatest value of SAE was found in the following five items: “(a) promoted acceptance of responsibilities; (b) developed self-confidence; (c) provided opportunity to learn on own; (d) developed independence; and (e) learned to work with others. However, the researcher reported that parents ranked career benefit as the lowest item. Williams postulated that parents may not see a student’s SAE program as being a life-long career goal. Finally, Williams recommended that agriculture teachers continue to utilize parents to support the utilization of SAE in agricultural education.

Community Factors Influencing SAE

The utilization of SAE programs within agricultural education relied on the support and participation of community members (Phipps et al., 2008). Community members can include employers, future employers, and other supervisors (Phipps et al., 2008; Newcomb et al., 2004). Furthermore, Pals (1989) reported that employers ranked the following items as the top five benefits of student involvement in SAE programs: helped earn money while in school, promoted the acceptance of responsibility, developed self-confidence, developed independence, and learn to work with others.
Later, Dyer and Osborne (1995) added that employers believe student participation in SAE is valuable to students. Moreover, literature supported that community members can and should assist in the supervision of student SAE programs (Lewis et al., 2012a; Phipps et al., 2008; Roberts & Harlin, 2007). In addition, studies have reported that SAE programs have provided economic support of community business and corporations (Hannagrif, Murphy, Roberts, Briers, & Linder, 2010; Retallick & Martin, 2005).

Fletcher, Williams, & Miller (1985) examined employers’ perceptions of placement SAE programs. Fletcher et al. found that employers believe that student participation in placement SAE programs promoted the development of occupational skills. Further, the researchers noted that employers valued the interaction that was established and maintained between the teacher and employer during the SAE program. Fletcher et al. reported that employers ranked the following items as the top five factors in the development and implementation of placement SAE programs: “the people in the agribusiness where students work, students’ parent(s) and guardian(s), the agricultural experience students had before starting their agribusiness employment, the individualized (one-on-one) coordination-teaching efforts by the vocational agriculture teacher, [and] the evaluations of students’ agribusiness experience carried out by themselves, their teachers, employers, or others” (p. 68).

A study conducted by Retallick and Martin (2005) of the economic impact of SAE programs in Iowa found that school districts have a solid return on their investment in SBAE, and more specifically, SAE. Retallick and Martin found that the return on investment increased from $1.14 in 1991 to $1.95 in 2001. However, the researchers
noted that the number of unpaid SAE hours is increasing. Due to this increase, Retallick and Miller purported that this indicated a change in SAE programs. They suggested that the number of students enrolled in a SBAE classroom could affect the utilization of SAE.

Hannagrif, Murphy, Roberts, Briers, and Linder (2010) conducted a study that examined the economic impact of SAE programs in Texas from 2007-2008. Hannagrif et al. found that animal science SAE programs are the most prevalent in the State of Texas. Further, they found that FFA chapters spent over $12,000 a year on travel for students to exhibit their animal SAE programs (steers, lambs, & goats). The researchers concluded that SAE programs in Texas have had a significant ($189 million) impact on the state economy.

Dittmar and Allen (2012) conducted a yearly analysis of Illinois SAE utilization in high school and middle school agricultural education departments. Their report found that students earned a total of $10,353,154 from their SAE programs, which equated to an average of $1,047 per student. Further, Dittmar and Allen reported that 40% of agricultural education students participated in an SAE program. Finally, the report stated that 50% of students with an SAE received at least one supervisory visit from their agriculture teacher.

**School Factors Influencing SAE**

While little research has been conducted on the influence of school administrators and other school factors on the utilization of SAE, Phipps et al. (2008) stated that it is important for an agriculture teacher to ensure that school administrators understand the educational value of SAE programs. Phipps et al. (2008) suggested the
utilization of the following techniques to assist administrators in comprehending the educational value of SAE programs:

- Ask administrator to participate in a SAE supervisory visit;
- Ask administrator to participate in an informational meeting with parents, student, and employers;
- Prepare and submit SAE visitation reports to administration;
- Prepare and collect photos of SAE programs to provide to administrators;
- Inform community of SAE programs through the local press;
- Construct an economic impact statement on community to present to administrators and community leaders; and
- Ask administrators to observe instructional lessons on SAE.

Phipps et al. (2008) further stated that administrators do not always comprehend the importance of supervision practices within SAE. Therefore, the utilization of the aforementioned techniques could assist teachers in educating administrators on the importance of proper and effective supervision of SAE programs. Additional school factors may influence the utilization and effectiveness of SAE. Moore, Kirby, and Becton (1997) stated that teachers felt that SAE was the weakest component of the total SBAE program before and after the implementation of block scheduling. Further, the researchers stated that the agricultural education profession must examine the utilization of SAE to ensure that programs are still viable in the future.

Rayfield and Wilson (2009) examined principals’ perceptions of SAE through a researcher-developed survey. Rayfield and Wilson found that those high school principals perceived SAE as an important component of agricultural education. Further, the researchers reported that principals believe it is important that agriculture teachers conduct supervisory visits. However, the researchers stated that principals did not
believe that their agriculture teachers were effectively completing supervisory visits. Rayfield and Wilson developed two promising conclusions: (1) both urban and rural teachers value the importance of SAE and (2) prior experience with SAE does not affect a principal’s perceived value of importance. Finally, they concluded that principals do not reward students for their participation in SAE.

Smith and Myers (2012) conducted a study that examined Florida principals’ perceptions of agricultural education programs. The authors found that principals have positive perceptions of agricultural education programs. Further, Smith and Myers reported that administrators want to see growth in student content knowledge. Finally, the researchers recommended that agriculture teachers work with administrators to ensure that student growth in content knowledge is obtained and noticed by local administrators.

**Development and Implementation of SAE**

For SAE to be successful, teachers must effectively assist students in the development and implementation of SAE programs that meet their needs and interests (Barrick et al., 1992). In order to effectively develop SAE programs, teachers must develop positive working relationships with students, parents, employers, administrators, and community members (Phipps et al., 2008). Many teachers have reported that changing demographics and increased student enrollment have affected the SAE development and implementation process (Dyer & Williams, 1997; Phipps et al, 2008). However, little research to no research has been done to examine how teachers currently develop and implement SAE programs.

Barrick et al. (1992) developed a model for the total agricultural education program (Figure 2-2). In this model, Barrick et al. (1992) stated that classroom and
laboratory instruction in agriculture influence the development of application programs – SAE and FFA. The model illustrates that SAE programs are influenced by incentives within FFA or for personal improvement. A student’s engagement in the application of classroom and laboratory content will then influence their future employment opportunities and career choices (Barrick et al., 1992).

Figure 2-2. The Agricultural Education Program Model (Barrick, 1992)

In order to develop appropriate and meaningful SAE programs, teachers must provide effective instruction in and supervision of SAE programs (Barrick et al., 1992). To assist teachers in developing and implementing effective SAE programs, Barrick et al. developed nine requirements for SAE programs. These requirements are:

- The teacher must conduct systematic classroom instruction in SAE for all agricultural education students;
- The teacher, in cooperation with an advisory committee, must determine the acceptable type, size and scope of SAE;
- The teacher must ensure that students maintain neat, complete, and accurate records;
• The teacher should provide school administrators and state officials with summary information on the nature and scope of student SAEs;

• The school administration must support the SAE component of the agricultural education program by providing the teacher with a reasonable student-teacher ratio;

• Adequate time for supervision on SAEs must be provided to the teacher;

• Since many SAEs are year-round experiences for students, the teacher must have an extended contract to ensure supervision of SAEs during summer months;

• Travel funds must be provided to the teacher to supervise SAEs;

• Adequate facilities and instructional materials for school and community laboratory programs must be provided to the teacher and the agricultural education program (p. 13).

The final component that must be examined during the development and implementation of SAE is the selection of a suitable SAE program area (Barrick et al., 1992). When selecting a topic area for an SAE program the teacher must work with the student, parent, community member, and/or employer that will be assisting with the program. When selecting a suitable SAE, the following factors must be considered: student prior experiences, student interests, student resources, student career interests, parental support, and available facilities for utilization (Barrick et al., 1992). Phipps et al. (2008) stated that not every student will come into an agricultural education program with an SAE program topic.

Quality Factors of SAE

When examining the definition of a quality SAE program, little research existed within the agricultural education literature base (Dyer & Osborne, 1995). Barrick et al. (2011), through a special project by the National Council for Agricultural Education, developed 16 assumptions of SAE from the literature base. While these assumptions
have not been accepted as quality factors, they did provide evidence towards the philosophical and conceptual status of SAE programs. The following were the 16 assumptions developed by Barrick et al. (2011, p. 7-8):

- Viewed as a program, not as a project;
- Planned, with learning objectives and agreements among parties involved;
- Record/portfolio of experiences are kept by student and teacher and are part of instruction and evaluation;
- Shows evidence of growth in scope and sequence;
- Evidence of skill/competency/knowledge/experience development;
- Related to state-approved agricultural content standards;
- A part of the curriculum, extended beyond classroom and laboratory instruction;
- Required of all students;
- Programs differ between students studying in agriculture and those studying about agriculture;
- Instructor prepared for and supportive of experience programs;
- Approved by school administration;
- Supported by program advisory committee;
- Program is supervised year-round;
- Parents are informed and supportive of student involvement;
- Students invest time, energy and/or money; and
- Student programs are recognized.

Further, the SAE literature has lacked a formal definition of success.

Jenkins and Kitchel (2009) conducted a modified delphi study to examine quality indicators of SAE programs. Jenkins and Kitchel established a panel of 36 professionals from various levels of the agricultural education profession. The
researchers found four quality indicators that were agreed upon by the panel. Those four indicators were:

- Teacher has supervision time for SAE
- Student has up-to-date records on SAE
- SAE involves goal-setting
- A diversity/variety of SAE types are promoted (p. 36).

Further, the researchers reported that the panel identified the following indicators of quality SAE programs: goal setting, approval of program (advisory council & administration), demonstration of growth, skill development, opportunity for recognition, parents/students/teachers are engaged in the SAE program, continuous year-long instruction and supervision occurs, and all students have an SAE program.

**Constructivism**

Constructivism served as the guiding epistemology of this study. Schunk (2012) stated that constructivism is not unanimously accepted as a theory. Many believe that constructivism is a philosophical or epistemological perspective that should be considered when examining teaching and learning (Simpson, 2002). Fosnot and Perry (2005) purported that the focus of the constructivist perspective and epistemology is an individual’s cognitive development and deep understanding of the content.

The constructivist epistemology has had a profound impact on the educational field (Fosnot, 2005; Schunk, 2012). Further, the constructivist epistemology described the teacher’s role as a facilitator of teaching and learning when interacting with students (Bringuier, 1980; Schunk, 2012; von Glasersfeld, 1995; Simpson, 2002) and a provider of context to student learning environments (Phipps et al., 2008). Fosnot and Perry (2005) stated that constructivism is a nonlinear process that is dictated by the individual learner. Constructivists believe that knowledge cannot be independent from the
individual but is actually adaptive to the individual (Driver, 1995; von Glasersfeld, 2005). Further, Driver (1995) stated that learners’ mental conception of a phenomenon influences their construction of knowledge and their future interaction with the phenomenon.

In order for an individual to develop meaningful knowledge, learners must build upon their prior knowledge of the content and context while engaging with a new phenomenon (Dewey, 1916). Cobb (2005) stated that interaction is essential to an individual’s construction of knowledge. The interaction in which an individual must engage can be individualistic or within a social environment (Doolittle & Camp, 1999). Constructivism literature has identified three main forms of interaction: learners and their instructors (Crotty, 2010; Fosnot 2005), learners and their environment (Crotty, 2010; von Glasersfeld, 2005), and learners and learners (Brooks & Brooks, 1993). Crotty (2010) stated that individuals must interact with the environment or the phenomenon/object when they construct knowledge without social interaction. However, Vygotsky (1962) stated that an individual’s interaction with others increases the learner’s potential to develop deeper and additional knowledge. Therefore, within an educational setting, both individualistic and social constructivist practices have promoted learning (Schunk, 2012).

The agricultural education literature base has extensively utilized and examined constructivism (Myers & Dyer, 2006; Newcomb, McCracken, & Warmbrod, 2004; Phipps, Osborne, Dyer, & Ball, 2008; Roberts, 2006; Roberts & Harlin, 2007; Thoron & Myers, 2011; Thoron & Myers, 2012). Phipps et al. (2008) stated that the utilization of constructivist methods has been and will continue to be utilized within agricultural
education due to the naturalistic and hands-on teaching approaches utilized by agriculture teachers. Further, Phipps et al. (2008) proposed seven principles to assist in guiding the utilization and implementation of constructivist methods in teaching and learning. These principles include the following:

- Students are active learners.
- Learning is in search of meaning.
- Learning is social as students interact with a given phenomenon (student to student; teacher to student; student to teacher).
- Teachers need a foundation in learning theory to guide the learners’ cognitive processes.
- Learning is promoted through a context.
- Learning requires a holistic understanding of the lesson or unit.
- Learners are empowered to discover, create, and reflect to create a deeper understanding of instructional content (Phipps et al., 2008).

Students enrolled in agricultural education courses are active learners; want to create meaning from classroom content; interact with peers and adults; learn within a context; and discover, create, and reflect on the learning that takes place throughout their SAE programs (Phipps et al., 2008).

**Situated Cognition**

Situated cognition is recognized as a constructivist learning theory that develops student knowledge and skill through student interaction with animate and inanimate objects and hands-on teaching methods within a relevant context (Lave & Wenger, 1991). Learning environments that utilize situated cognition are usually rich with context, engaging to students, and incorporate social interaction (Wilson & Myers, 1999). Brown, Collins, & Duguid (1989) defined situated cognition as “the notion of
learning knowledge and skills in contexts that reflect the way they will be used in real life" (p 2). Further, the authors argued that learning that has been removed from the original context limits a learner's conceptual knowledge. For example, students who are learning about food production should be engaged in an authentic learning experience within the food manufacturing and production industry. The removal of context from the learning environment causes students to misuse or lack comprehension of their knowledge. Therefore, educators must ensure that learners understand the community, industry, and/or culture in which their knowledge is being developed and applied. Learners are unable to adopt and transfer the usage of a learned skill, if the learner lacks an understanding of the skill’s culture or context. Due to a lack of resources available to teachers, current educational practice has limited a student's ability to learn within context. Further, the authors argued that the education system denies students’ the opportunity to engage in industry-relevant learning (Brown, Collins, & Duguid, 1989).

Brown, Collins, & Duguid (1989) purported that the usage of situated cognition provides four benefits to students: 1) knowledge application; 2) invention of knowledge; 3) implication of knowledge; and 4) construction of appropriate industry-related knowledge. These benefits are developed when teachers utilize the following scaffold teaching model. First, the teacher should promote learning by having learners model skills or knowledge through an authentic activity in an appropriate context or culture. Second, the educators should assist learners in practicing the skill or content. Finally, the student should be encouraged to continue to indicate, apply, and transfer the learned skill or content independently (Brown, Collins, & Duguid, 1989). Lave and Wenger (1991) stated that the learner must then interact with others that are engaged in
utilizing a learned skill or content. Through this interaction learners are able to develop the following features of group learning:

- Collective problem solving skills;
- Displaying multiple roles;
- Confronting ineffective strategies and misconceptions; and
- Providing collaborative work skills (Brown, Collins & Duguid, 1989 p. 40).

Lave and Wenger (1991) presented four key instructional factors that must be followed when utilizing the theory of situated cognition during instruction: authentic information, learning in the appropriate social and physical environment, hands-on learning, and interaction and collaboration. First, information must be presented in an authentic manner for students to appropriately learn, apply, and transfer knowledge. Situated cognition promotes industry skill development to be taught through a contextual application (Brown, Collins, & Duguid, 1989). Second, Lave and Wenger (1991) stated that learning should be taught in social and physical environments that are relevant, useful, and transferable to real-world situations. Third, learning should be hands-on, allowing the student to individually construct or socially co-construct knowledge. Fourth, student learning should include interaction and collaboration with others (peers, teachers, community members, or industry representatives) (Lave & Wenger, 1991).

**Summary**

The purpose of Chapter 2 was to present and describe the conceptual and theoretical frameworks that guided this study. Further, this chapter included relevant research literature that presented contributions to the development of this study. The literature included in this chapter was focused on student, teacher, parent, community,
and school factors that influence the development and implementation of exemplary SAE programs.

SAE programs remain an integral component of a total agricultural education program. The utilization of SAE programs assisted students in developing career and college skills that will be beneficial to their success throughout the remainder of their lives. While studies have established perceived benefits to student participation in SAE, the literature still reported a decreasing level of student participation in SAE. Furthermore, teachers have purported that limited student resources, large class sizes, limited school provided time, and changing student demographics have influenced teachers’ utilization of SAE programs.

Parents, community members, and school administrators perceived SAE to be beneficial to student development of skills and content knowledge. However, little research has been done to completely describe the role of parents, community members, and school administrators on the development and implementation of SAE programs. Further, little experimental research has been conducted that examined SAE within SBAE. Therefore, a vital need exists to examine current practice utilized by teachers, students, parents, community members, and school administrators in the development and implementation of SAE programs.
CHAPTER 3
METHODS

Introduction

Chapter 1 described the role of SBAE and more specifically, SAE programs in the United States public education system. The primary focus of this study was to identify the factors that influence the development and implementation of exemplary SAE in rural secondary schools. This study was one of the first research studies that examined the utilization of SAE within SBAE classrooms. Finally, Chapter 1 described the limitations, assumptions, and need for this study.

Chapter 2 introduced and described the conceptual framework that guided this study. Further, relevant empirical research was presented. The empirical research focused on the following factors: student, teacher, parent, community, and school factors that influence the development and implementation of SAE programs. Previous researchers noted that student participation in SAE and teacher utilization of SAE has continually decreased over the last 30 years. Furthermore, researchers have purported that teachers do not implement SAE programs as they philosophically and conceptually define SAE.

In this chapter, the specific methods utilized in this study will be described. This chapter describes the ontology, epistemological perspective, theoretical perspective, participants, data collection methods, data analysis methods, and the measures of trustworthiness and rigor utilized in this study. In an effort to describe the factors that influenced the development and implementation of SAE programs, qualitative methodology was utilized for this study.
The purpose of this study was to identify factors that present in the development and implementation of exemplary SAE programs in rural schools. The research questions that guided the study were as follows:

1. What teacher factors are present in the development and implementation of exemplary SAE programs in rural schools?

2. What student factors are present in the development and implementation of exemplary SAE programs in rural schools?

3. What school factors are present in the development and implementation of exemplary SAE programs in rural schools?

4. What community factors are present in the development and implementation of exemplary SAE programs in rural schools?

5. What family factors are present in the development and implementation of exemplary SAE programs in rural schools?

**Research Approach**

This study utilized qualitative methodology. Creswell (1998, p. 15) described qualitative research as:

> An inquiry process of understanding based on distinct methodological traditions of inquiry that explores a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting.

In addition, McMillian and Schumacher (2013, p. 489) defined the qualitative research process as “a type of research that refers to an in-depth study using face-to-face or observation technique to collect data from people in their natural settings.” The data that are collected through qualitative collection methods provide a rich description of the context, participants, environment, and content. Further, the research objectives and questions utilized in qualitative research specify the topics or phenomenons that will be examined by the study (Bogdan & Bicklen, 2003). While allowing for the researcher to further explore various facets related to the examined phenomenon (Creswell, 2013)
Creswell (2013) stated that prior to beginning research, qualitative researchers should identify the physiological assumptions under which they operate. These assumptions include: ontological, epistemological, axiological, rhetorical, and methodological (Table 3-1).

Table 3-1. Qualitative Physiological Assumptions

<table>
<thead>
<tr>
<th>Physiological Assumption</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ontological</td>
<td>the existence of multiple realities and an individual's own reality or perception</td>
</tr>
<tr>
<td>Epistemological</td>
<td>the closeness of the researcher to the collected data and participants in the study</td>
</tr>
<tr>
<td>Axiological</td>
<td>requires that researchers note and recognize personal biases to the topic being examined</td>
</tr>
<tr>
<td>Rhetorical</td>
<td>the tense utilized by the researcher in the written manuscript – qualitative research may be written in a first person tense, while quantitative research is written in third person.</td>
</tr>
<tr>
<td>Methodological</td>
<td>allows the researcher to begin research with a specific data set in mind and broaden the scope of the research as needed to examine the given phenomenon</td>
</tr>
</tbody>
</table>

Adapted from Creswell (2013)

Further, Bogdan and Bicklen (2003) described five characteristics of qualitative research. Those five characteristics were: (1) naturalistic, (2) descriptive data, (3) concern with process, (4) inductive, and (5) meaning. First, qualitative research is naturalistic in nature. The researcher collects data from participants in their natural setting, and the researcher is the key instrument to data collection. Second, words or pictures typically serve as the descriptive data collected during a qualitative study. Then, researchers utilize the collected words and pictures to establish themes and meaning from the data. Researchers utilize quotations from the data in the written manuscript to convey the theme or meaning developed from the analysis method. Third, qualitative researchers provide a thorough description of the data collection and analysis process to alleviate any readers’ concerns with the process. The qualitative
research process has been shown to be effective in educational research that examines student involvement and cognitive development (Rosenthal & Jacobson, 1968). Fourth, Bogdan and Bicklen stated that qualitative researchers tend to inductively analyze their data. Qualitative researchers gather meaning from the data and build abstractions that convey the data in a holistic manner. Fifth, qualitative researchers collect and interpret data to develop the meaning of an individual’s perspective. Qualitative researchers ensure that participant perspectives are accurately portrayed during the analysis and in the written manuscript.

This study operated with an epistemological perspective of constructionism. Further the study utilized an interpretivistic constructivism and social constructivism theoretical perspective. To ensure that appropriate data were collected, the researcher utilized focus groups, interviews, and observations.

Ontology and Epistemology

Realism

According to Crotty (2010), ontology refers to the study of the existence of multiple realities. The study of ontology examines the “what is” (Crotty, 2010, p. 10) of the phenomenon that was examined within the research. This study and researcher utilized the ontology of realism. Realism “is the doctrine that there are real objects that exist independently of our knowledge of their existence” (Schwandt, 1997, p. 133).

Similarly, Mark, Henry, and Julnes (2000, p. 15-16) stated that

Realism presumes the existence of an external world in which events and experiences are triggered by underlying (and often unobservable) mechanisms and structures (Bhaskar, 1975). Commonsense realism also gives standing to everyday experiences. It is antiformalist in the sense of not expecting logical, formal solutions to vexing problems such as the nature of truth. And it places a priority on practice and the lessons drawn from practice … As realists, we see no meaningful epistemological
difference between qualitative and quantitative methods. Instead we see both as assisted sensemaking techniques that have specific benefits and limitations and commonsense realists, we believe that although there is a world out there to be made sense of, the specific constructions and construals that individuals make are critical and need to be considered.

Turner (2008) suggested that realism accepts that a real world exists that must be explored and interpreted through physical interaction between the individual and the world. In this study, the participants physically interacted with a SAE program and developed knowledge based upon their interactions with the physical world. Further, Crotty (2010) posited that individuals occupy their own reality. Therefore, the existence of multiple realities influences individuals’ interpretation and perception of knowing and meaning within their personal reality. This study utilized a realist approach that assumed each participant had an individual reality where truth exists. Individual’s experiences with the development and implementation of SAE programs could be constructed differently; therefore, the research was permitted to examine the participants’ perspective of the factors associated with the development and implementation process of SAE.

**Constructionism**

Guba and Lincoln (1990) posited that a human’s reality of the world is different than the natural physical world. Therefore, different research methods must be utilized to construct and develop meaning from an individual’s thoughts and perspectives. According to Patton (2002), due to a human’s ability to interpret and construct meaning from his/her reality, a human’s reality “is not real in an absolute sense, as the sun is real, but is ‘made up’ and shaped by cultural and linguistic constructs” (p. 96). Furthermore, constructionists believed that knowledge is constructed through
individuals’ interaction with their reality of the world (Crotty, 2010). Crotty further stated that “it is clear that different people may construct meaning in different ways, even in relation to the same phenomenon” (p. 9). In this study, the researcher examined each participant’s perspective and interaction with SAE development and implementation within the participant’s individualized reality.

Theoretical Perspective

The theoretical frameworks of constructivism guided this study. Crotty (2010) defined a theoretical perspective as “an elaboration … of the assumptions brought to the research task and reflected in the methodology as we understand and employ it” (p. 7). Constructivism refers to an individual’s meaning-making process as a construction of meaning rather than a discovery. Denzin and Lincoln (2000) define constructivism as an individual’s construction of knowledge that is constructed through interaction between the individual and an object. Constructivism denies the existence of an objective reality; therefore, each individual’s construction of meaning and knowledge will be inherently different based upon their previous experience, established schemas, and personal interactions with the object of interest (Crotty, 2010).

Procedures

Participants

This study utilized a purposive method for participant selection. Koro-Ljungberg, Yendol-Hoppey, Smith, and Hayes (2009) stated that studies utilizing a constructionism epistemological perspective and a constructivism theoretical perspective should utilize purposeful participant selection methods. The states of Minnesota and Georgia were selected by the researcher. The researcher selected the states and schools based on the demographic characteristics. Further, states were selected because a lack of
knowledge of their SAE practices exists, therefore reducing potential bias in the data collection and analysis methods.

After selection of the two states, the researcher contacted an agricultural education university faculty member and the state agricultural education supervisor to garner three to five rural agricultural education programs that met the researcher *a priori* criteria of exemplary SAE programs. The criteria were as follows:

1. SBAE programs that conduct exemplary student SAEs have, at minimum, 75% of students enrolled in agricultural education courses engaged in SAE programs, where student SAEs consist of a multi-year program in which more than 100 hours of active participation have been recorded in their respective SAE programs.

2. Rural programs are SBAE programs where a majority of the student body lives in a community of less than 2,500 people (USDA, 2013). However, if a county school system is utilized, than the SBAE program should be located in counties of less than 49,999 people (Office of Management and Budgets, 2013).

Seven schools in Minnesota and ten schools in Georgia were identified by the state agricultural education supervisor and agricultural education university faculty member. Following, the researcher emailed each school to establish contact and request a phone interview. If contact could not be made through email, the researcher made phone calls to the school to request a phone interview. All of the seven teachers in Minnesota and ten teachers in Georgia were contacted and interviewed by phone. The researcher conducted a phone interview with the agriculture teacher(s) to gather evidence of the criteria *a priori*. The researcher gathered evidence through the United States Department of Education and the United States Department of Agriculture to determine if the school met the demographic characteristics. Following the phone interviews, the researcher identified the specific rural school, in Minnesota and Georgia, which was utilized in the study. The rural schools were identified based upon the agriculture teachers’ responses to the main and probing questions asked during the
phone interview. Specifically, agriculture teachers that were not interested in participating in this research study were removed from consideration. The selected schools were deemed to be situated in a rural agriculturally-based community. The teacher in the selected schools reported that every student in an agricultural education course was required to conduct a SAE program. Furthermore, the teacher’s philosophical description of SAE was similar to their described utilization of SAE within the SBAE program. Once the schools were selected, the agriculture teacher at each agricultural education program was notified of his or her selection for participation in the study, and visitation dates were established. The agriculture teacher was then asked to select six students who were establishing a SAE program for the first time and six students who had conducted a SAE program for 3 years or more. A parent or guardian of each of the 12 students was contacted by the agriculture teacher to participate in a focus group during the on-site visit.

**Data Collection**

Site visits were scheduled for a three-day observation and data collection period. During the site visit, a minimum of two student focus groups, two parent focus groups, one community member focus group, and one or two teacher interviews (depending on the number of agriculture teachers in the program) were conducted. Each focus group contained between four and six participants. According to Morgan (1988), focus groups may comprise of four to 12 individual participants. Participants were given the opportunity to opt-out of the focus group or interview at any point during the data collection process. Each focus group was held in a conference room or classroom that was familiar to the student, parent, and community member participants. School A comprised nine students, eight parents, and three community member participants.
School B comprised 12 students, eight parents, and one community member. The number of community member participants was lower than expected due to unexpected conflicts the day of the focus groups (harvest time and emergency vet calls). The individual interviews with the agriculture teacher were conducted in their classrooms. The focus groups and interviews were audio recorded and transcribed for data analysis. Observations and informal interviews with additional agriculture students, who did not participate in the focus groups, were conducted by the researcher to establish consistency in the data between all students enrolled in an agricultural education course and to ensure that the researcher had achieved data saturation. Data saturation was achieved by the researcher and was noted during the initial stages of data analysis.

The data collection process spanned two on-site days. During day one, the agriculture teachers were asked to conduct a normal instructional lesson. During the instructional lessons, the researcher observed the relationships between the agriculture teacher and students. These observations were conducted to better understand the teacher-student dynamic and to assist in reducing the novelty effect. During day one, the agriculture teacher was interviewed during their planning period or after school. Immediately following school, the researcher conducted one student and one parent focus group. The second on-site day consisted of observing the students engaged in SAE related lessons. The researcher conducted observations of the students’ interaction with their SAE program, their record system, and the agricultural education facilities utilization in SAE programs. The researcher’s observations were guided by a researcher developed observation form (Appendix E). During the lesson, the researcher identified students to participate in an informal interview. Each informal
interview was conducted during student work time that was built into the lesson. The informal interview was conducted through an informal discussion with the student during SAE instructional work time. The students who participated in the informal interviews were randomly selected by the researcher, only those students who had returned IRB consent were selected.

Interviews and focus groups were conducted utilizing a semi-structured interview guide (Appendices A, B, C, & D). The researcher utilized the moderator's guide, which consisted of prompts and probing questions, established prior to the data collection process, while adding additional probing questions to fully understand given statements made by the participants. The individual interviews lasted between 50 and 90 minutes, while the focus groups lasted between 80 and 110 minutes. During the interviews and focus groups, participants were permitted to utilize a pseudonym. Even if participants chose not to utilize a pseudonym, pseudonyms were assigned to all participants during the transcription process to ensure anonymity of the data (Creswell, 2013; McMillian & Schumacher, 2010). Further, all identifiers were removed from the data to ensure that participant anonymity was upheld.

The semi-structured moderator guides were constructed to ensure that participants generated discussion and examples to strengthen their thoughts and argument. An opening statement was constructed and read to participants at the beginning of each focus group and interview. Further, the researcher collected preliminary summaries of the data to ensure that participant statements were interpreted correctly by the researcher. The researcher shared the preliminary summaries with participants at the end of each focus group and interview as a form of
member checking. During the data collection process, the researcher ensured that the participants felt comfortable to share their thoughts and views regarding their personal influence on SAE program development and implementation. Prior to the beginning of the focus groups and formal interviews, the researcher worked to develop a positive relationship with the participants to increase their sense of security and comfort.

The research further stated that focus group participants should receive an incentive for participating in the research study. The incentive is not a reward, honorarium, or salary. An incentive was utilized as a stimulus to participate in the focus group. Public and nonprofit organization research should provide a monetary incentive of $50 to $75 per participant. Further, nonmonetary incentives are worthy incentives for participation in focus groups (Krueger & Casey, 2009). In this study, parents and community members were provided with a $25 check for participation in the study. Further, the agriculture teachers were provided with a $75 dollar check for their participation and assistance with organizing participants and rooming needs for the study. Furthermore, the participants were provided with snack items before the focus group was conducted.

**Data Analysis**

The constant comparative method was first developed and described by Glaser (1965) as an analysis methodology utilized to develop theories from qualitative data. The analysis method was developed to ensure that data from various cases and samples could be analyzed simultaneously (Glaser, 1965). Glaser & Strauss (1967) utilized Glaser’s (1965) constant comparative method as the analysis tool when conducting a grounded theory study. However, qualitative researchers have sought to utilize the constant comparative analysis method separate from a grounded theory study.
In response, Lincoln and Guba (1985) construed a four-step constant comparative method that was utilized to compare across multiple cases without the development of relationships and a theory, thereby allowing the constant comparative method to be used solely as an analysis methodology. Lincoln & Guba’s (1985) four-step constant comparative analysis method included: 1) compare incidents applicable to each category, 2) integrate categories and their properties, 3) delimit the construction, and 4) write the construction. This study utilized Lincoln and Guba’s (1985) constant comparative method as a data analysis method. This study sought to identify factors that influenced the development and implementation of SAE programs without the establishment of relationships. Further, this study was not conducted to develop a mid-level theory; it was conducted to identify factors that should be utilized by agriculture teachers when developing and implementing SAE programs within rural secondary agricultural education programs. Therefore, the researcher utilized each of the proposed steps as follows:

1. Compare incidents applicable to each category – during this step the researcher established the creation of categories that described occurrences within the data. Categories were developed for each case and then compared between cases. The researcher defined properties or rules for the data that was incorporated in each category.

2. Integrate categories and their properties – during this step the researcher analyzed the categories that were established during the first step of the process. Some of the established categories were redefined, combined, or a subcategory was created.

3. Delimit the construction – during this step the researcher integrated categories as they become more defined during the analysis process. During this step fewer categories were created and more categories were combined to develop one category.

4. Write the construction – during this stage the researcher ensured that member checking of the data had been conducted and that the final written manuscript had been prepared.
Measures of Trustworthiness and Rigor

This study utilized trustworthiness and rigor as described by Lincoln and Guba (1985). Lincoln & Guba (1985) stated that when ensuring trustworthiness and rigor in qualitative research, the researcher must ensure the credibility, transferability, dependability, and confirmability of the research.

Credibility has a similar role to internal validity in quantitative research. Further, confirmability ensures that the data provided by participants in the study are accurately presented and properly described during the analysis methods and in the written manuscript (Dooley, 2007; Lincoln & Guba, 1985). To ensure the credibility of the research study, the researcher utilized the following methods:

1. Member checking – the researcher presented the analyzed data to the participants to ensure that they accurately described their responses;
2. Peer debriefing – the researcher worked with a researcher that was not linked to the study to ensure that appropriate analysis methods were utilized;
3. Persistent observations – the researcher ensured that interviews (50-90 minutes) and focus groups were conducted in an in-depth manner;
4. Referential adequacy materials – the researcher examined written documents to verify and provide a holistic view of the context of the phenomenon being studied; and
5. Triangulation – the researcher utilized more than two data collection methods to ensure that verification of the data was achieved (Dooley, 2007; Lincoln & Guba, 1985).

Transferability has a similar role to external validity within quantitative research. Lincoln and Guba (1985) stated that transferability ensures that the results of the study can be applied by other researchers to similar contexts (not generalized). Further, Dooley (2007) stated that the researcher must provide thorough and thick descriptions
of the context and data to ensure that the results of the study can be applied and fully understood by the reader.

Lincoln and Guba (1985) stated that dependability is similar to reliability in quantitative studies. Dependability emphasizes the need for the researcher to account for the ever-changing context within which the research occurred (Lincoln & Guba, 1985). The researcher should include a description of the changes that occurred in the research setting and how the changes affected the research approach utilized in the study (Dooley, 2007; Lincoln & Guba, 1985). To ensure that dependability is upheld, the researcher must provide an audit trail with documentation on methodological decisions and reflection on the influence that the methodological decision had on the outcome of the research (Dooley, 2007).

The confirmability portion of Lincoln & Guba’s (1985) description of trustworthiness and rigor refers to the degree in which the results can be confirmed or corroborated by others. The researcher is responsible for describing the changes that occurred in the setting and how those changes affect the research approach utilized for the study (Dooley, 2007; Lincoln & Guba, 1985). Finally, to ensure that confirmability is upheld, the researcher must provide an audit trail with documentation of methodological decisions made during the study and reflections on the impact that the methodological decision had on the outcome of the study (Dooley, 2007).

**Researcher Subjectivity Statement**

As a child, I grew up in a family that valued the importance of the agricultural industry. While I did not grow up on a farm, my extended family was actively engaged in the crop and animal aspects of production agriculture. However, I was not actively
engaged in agriculture until I entered the ninth grade and took my first agricultural education course.

As a freshman in high school, I dreamed of becoming a veterinarian. Throughout my high school agricultural education experience, I participated in a variety of SAE projects – not an SAE program. My high school agriculture teacher believed that SAE was an avenue for students to explore and discover their passion for the agriculture industry. In my first SAE program, I conducted a small animal care project where I cared for my family’s dogs and cared for a new litter of Cocker Spaniel puppies. During this year, my interest in becoming a veterinarian increased. However due to only being 14 at the end of my freshman year, I was unable to work for a veterinarian.

During my second year of conducting an SAE program, I completed two separate SAE projects. My first project was taking my family’s golden retriever to local nursing homes and participating in a pet therapy program that several of my classmates participated in as well. This project allowed me to first realize that I might want to become a teacher rather than become a veterinarian. I enjoyed the opportunity to interact with the residents and assist them in learning more about the animals that were part of the pet therapy program. For my second SAE program, I adopted, tamed, and trained a wild mustang mare that I named “Willow.” I formally adopted her during my freshman year of high school as part of a graduation project. My interactions with Willow fueled my passion to become a veterinarian.

Throughout my third year of high school I conducted a new SAE project once again, a placement project at a local veterinary office. Throughout my first year of working for a veterinarian I quickly realized that my interest of majoring in veterinary
science was diminished. However, in my agricultural leadership course, we began implementing an elementary school mentorship program. During this program, my classmates and I would travel to a local second grade classroom and present 30-minute lessons to students about agriculture. During one of our monthly lessons, my agriculture teacher observed my interactions with my group of students and pulled me aside as we were leaving the elementary school. She informed me that she thought that I was a natural teacher, and I quickly responded that if I were to become a teacher, I would definitely want to teach agriculture.

The SAE projects that I conducted my senior year were the most impactful on my future career. I continued my placement project at the veterinary office, where I trained to become a receptionist and a veterinary technician. My new SAE project was a half-day internship in a seventh grade life science classroom. During the final 3 periods of the school day, I observed and assisted Ms. Roberta Coulter with the integration of agricultural concepts into the seventh grade life science curriculum. Throughout the year, I planned a variety of agriculturally based lessons and laboratory activities for students to apply the science concepts taught in the life science curriculum within an agricultural context. During this experience my passion for education developed and flourished.

After my high school graduation, I was elected to serve as the 2003-2004 State FFA President. During my year of service, I was granted the opportunity to interact with a variety of FFA members and agricultural education students and learn about their SAE programs. Through this experience my knowledge and interest in SAE became stronger. I witnessed students that began and ran their own businesses that have now
become their careers. As I entered my undergraduate courses at The Pennsylvania State University, I believed I had a strong grasp of SAE and how I could engage students in SAE projects. During my undergraduate coursework, only one of my courses discussed SAE and the utilization of SAE within the total agricultural education program.

As I completed my coursework in my undergraduate agricultural education program, I was introduced to the concept of SAE programs. I initially believed that SAE should still be organized as projects instead of through a program concept. However, as I completed my student teaching internship, I witnessed the effect that SAE programs can have on student knowledge development and retention. Further, the students that I worked with during my student teaching experience that completed an SAE program had stronger career goals. Due to my student teaching experience, I adopted and fully believed in the concept of SAE programs.

As I worked with my students as a teacher, I fully expected every student to develop a program topic area and to develop a project that could be conducted to assist students’ in meeting their goals. I found that this method of SAE program development and implementation was successful but was rather teacher intensive. Many students required a great deal of assistance in discovering an agricultural topic area in which to focus their SAE program. As a teacher, I found the development of SAE program topic areas as the most time consuming aspect of the entire development and implementation process. Once students had a topic area chosen, they were rather successful in developing an individual project that would be completed each year of their SAE program.
I strived to visit at least 75% of my students’ SAE programs each year. I found that during a SAE supervisory visit that I was able to engage in high quality discussion with the student’s parents about the student’s career and educational goals. Further, due to my engagement in SAE visits, community members and parents became actively involved in the activities of the agricultural education program and FFA chapter. During my supervisory visits, I would discuss the success that students had with their individual program and allow the student to ask questions and/or seek advice on any aspect of their SAE. Many times students that had a production-based SAE program had more questions than students that were in a placement or exploratory program. I must admit that I rarely utilized the research SAE category, due to a lack of understanding of the research SAE record book in the Commonwealth of Pennsylvania. During my teaching experience, my interest and passion for student participation in SAE grew and developed.

As I began my Master of Science and Doctor of Philosophy programs at the University of Florida, I found that many of the questions in which I was interested in answering revolved around the concept of SAE. My graduate coursework in educational theory and practice strengthened my belief that SAE is a vital component of agricultural education that should not be lost. However, researchers have noted throughout the research literature that SAE participation is decreasing, and that teachers are overwhelmed with the development of SAE programs for every agricultural education student. I firmly believe that if the concept of SAE is not reinvented or reinvigorated, agricultural education programs will begin to operate without utilizing SAE programs. While I do believe that any change to SAE will take time to become fully
adopted by agriculture teachers, I do believe that a change must be made within the next five years.

I recognize that not every agriculture teacher that enters the classroom has the same passion for SAE that I possess. However, I believe that teachers should ensure that students receive adequate supervision during their SAE program – both in the classroom and at home during supervisory visits. Teachers should ensure that students create, develop, and implement SAE programs – not individual projects – that focus on a distinctive agricultural topic and increase in scope and sequence each year. Further, parents should have an active role in the development, implementation, and sustainment of SAE programs. I believe that teacher educators in agriculture teacher preparation programs should emphasize the importance of SAE with preservice agriculture teachers. Furthermore, teacher educators should conduct research that examines the impact of SAE and the utilization of SAE through experimental studies. Ultimately, the agricultural literature base regarding SAE has only examined student, teacher, parent, and employer perceptions and student participation in SAE. As we work to reinvent and reinvigorate SAE within agricultural education, professional development workshops must be presented, and curriculum materials on SAE program development and implementation must be developed to assist students and teachers in identifying SAE programs that can be completed.

**Chapter Summary**

Chapter 3 addressed the methods that were utilized in the study. In this chapter, the ontology, epistemology, and theoretical perspectives were presented. Further, this chapter contained the researcher’s subjectivity statement regarding his beliefs and potential bias towards the development, implementation, and utilization of SAE
programs in secondary agricultural education. Finally, this chapter outlined the specific methods that were utilized during the data collection and analysis phases.

This study utilized qualitative methods to determine the student, parent, teacher, community member, and school factors that influence the development and implementation of SAE programs in rural secondary schools. This study operated under a realism ontology that recognized the presence of multiple realities and acknowledged that an individual’s reality is constructed by experience and prior knowledge. Further, this study utilized a constructionist epistemology. Constructivist epistemology specified that a human’s reality is different from the real world, and each person’s reality is shaped through culture, language, and experience. Finally, this study functioned under a constructivism theoretical perspective. Constructivists have posited that meaning is constructed through interaction between the individual and the environment/phenomenon.

The participants in this study were purposively selected, based upon the established criteria for the study and through an informal interview between the researcher and agriculture teacher. Data were collected through the utilization of semi-structured focus groups, semi-structured interviews, observations, and informal interviews. The semi-structured focus groups and interviews were audio record and transcribed. The collected data was then analyzed utilizing the constant comparative analysis method. The following chapter presents the results of this study.
CHAPTER 4
FINDINGS

Introduction

Chapter 1 described the current educational system and the current concerns regarding the utilization of Supervised Agricultural Experience (SAE) programs in School-Based Agricultural Education (SBAE). Further, Chapter 1 presented the justification for examining SAE programs within rural SBAE. The primary purpose of this study was to identify factors that are present in the development and implementation of exemplary SAE programs in rural schools.

Chapter 2 described the conceptual framework that guided this study and presented a thorough review of recent and historical literature that was relevant to this study. The review of literature concentrated on empirical research in the following areas: student, teacher, parent, community, and school factors that influence the development and implementation of SAE programs.

Chapter 3 presented the research methodology that was utilized to guide this study. The chapter presented the ontological perspective, epistemological perspective, theoretical perspective, data collection procedures, data analysis techniques, and measures to ensure the trustworthiness and rigor of this study.

This chapter presents the findings obtained through the data collection and analysis processes. The findings address the research questions of this study.

1. What teacher factors are present in the development and implementation of exemplary SAE programs in rural schools?
2. What student factors are present in the development and implementation of exemplary SAE programs in rural schools?
3. What school factors are present in the development and implementation of exemplary SAE programs in rural schools?
4. What community factors are present in the development and implementation of exemplary SAE programs in rural schools?

5. What family factors are present in the development and implementation of exemplary SAE programs in rural schools?

This chapter includes the five themes present in the data that were collected from students, teachers, parents, and community members who were engaged in SAE in a rural SBAE program. The SBAE programs that were examined were deemed to conduct exemplary SAE programs, based upon the criteria presented in this study. The examined SBAE programs were located in the states of Minnesota and Georgia. The population was acquired through a purposive selection. The researcher contacted the state agricultural education supervisor and an agricultural education university faculty member to nominate rural programs that met the a priori criteria of this study. The researcher then contacted each SBAE program to ensure that the program was deemed appropriate for participation in this study.

Nine focus groups were conducted with students, parents, and community members and three individual interviews were conducted with the three agriscience teachers. The transcription of the 12 focus groups and interviews resulted in a total of 956 minutes of audio and 261 pages of typed transcripts that were utilized in the data analysis process. Each transcript was analyzed separately before employing the constant comparative technique to compare similar demographic groups. Following the comparison of focus groups and interviews of similar demographic groups, the transcripts were analyzed together to identify the five themes and 20 factors that will be presented in this chapter.
Description of Participants

The participating schools in this study were located in rural settings. Based upon the criteria established by this study, each school was conducting exemplary SAE programs. School A had one agriculture teacher and over 150 agriculture students. School A was located in rural Minnesota in a community where the primary agricultural industry is seed corn production. School B is located in rural Georgia where a variety of agricultural industries is prevalent. School B had two teachers and over 225 students enrolled in the SBAE program.

School A located in the middle of a large corn field roughly a half mile from the city limits. Several agricultural-based companies were located next to the road between the city limits and the high school. Next to the high school was a large grain elevator that was utilized by the local corn and grain producers. Several different agricultural industries exist within the local community. Through informal interviews with the agriculture teacher and students it was discovered the following agricultural industries were present in the community: veterinary science, row crop production, vegetable production, fruit production, dairy production, greenhouse/nursery/ornamental horticulture production, poultry production, and landscape construction. The agricultural education program was located in the back of the high school with the greenhouse located next to the agriculture classroom’s external door. The high school had a land laboratory that was located next to the football field approximately 1,000 yards from the agriculture classroom. There were no standing structures on the high school land laboratory, only open fields where row crops had been planted and harvested. It was observed that the SBAE program had access to the following laboratory facilities, each of which was utilized for student SAE programs: greenhouse, field crops laboratory,
agricultural mechanics laboratory, computer laboratory, and a school-wide vending machine. Further, it was observed that the school utilized The AET as a record management system for all student SAE programs. During the classroom observations that were conducted at School A, it was observed that the agriculture teacher utilized the following instructional strategies: lecture, questions, demonstration, and individualized application. Throughout the instructional period, the teacher provided students with concrete examples, repeated and stressed important concepts/steps at an appropriate pace, provided clear explanations and directions, and provided time for students to contemplate the newly instructed concepts.

School B was located roughly three miles outside of the city limits in the middle of a field that was surrounded by hedge rows. Several farms and fields were located between the city limits and the school grounds. There were also several wooded areas where the students noted that they would hunt. The school had several entrances where students and teachers gained access to the building. The agricultural education program was located in the back of the building near the school bus lot. Outside of the agriculture classroom door was an open nursery/landscaping facility and the greenhouse. Roughly 500 yards from the agriculture classroom was a modern livestock facility and show ring. The school utilized this area to house chapter and student animals. The show ring was the location of a chapter show that was held each year for students across the state. During the classroom observations, it was observed that the agricultural education program had access to a variety of agricultural education laboratories. These laboratories included: greenhouse, large animal facilities, agricultural mechanics laboratories, landscape laboratories, computer laboratories,
garden plots, and a biotechnology laboratory. It was noted by the agriculture teachers and students that all of the facilities were utilized in student SAE programs except the biotechnology and landscape laboratories. It was observed and noted during informal interviews with the agriculture teacher that the following industries were present in the local community: agricultural business, veterinary science, forestry, crop production, vegetable production, greenhouse/nursery/ornamental horticulture production, beef production, sheep/goat production, poultry production, and landscape construction. During the classroom observations, the agriculture teachers utilized the various instruction approaches within their classrooms. These instructional approaches included: lecture, questioning, demonstration, discussion, cooperative learning, experiential learning, and individualized application. During the classroom instruction, the agriculture teachers provided concrete examples, provided students with an opportunity to contemplate and apply newly learned concepts, stressed and repeated important concepts at an appropriate pace, and gave clear directions and explanations for student activities.

The agriculture teachers in both programs had completed or were in the process of completing a Master of Science degree specializing in Agricultural Education. Two of the agriculture teacher participants were male and one was female. The agriculture teachers had between five and seven years of teaching experience and were enrolled in SBAE as a high school student. As a high school agriculture student, each agriculture teacher was a member of the FFA chapter and conducted a SAE program. It was observed in both schools that the agriculture teachers had developed a positive relationship with the students enrolled in the agricultural education program.
Throughout the day, even before school began, students constantly visited the agriculture teachers and would sit in their rooms to talk about the happenings in their lives. Body language and their sincere tone demonstrated that the agriculture students fully respected their agriculture teacher’s opinions and thoughts.

The student participants were currently enrolled in an agricultural education class and were personally conducting a SAE program. The students had varying experience with agricultural education, FFA, and SAE. The types of programs that were conducted by the student participants were focused in various different agricultural topics (Table 4-1).

Table 4-1. Student Participant SAE Programs

<table>
<thead>
<tr>
<th>Student</th>
<th>Gender</th>
<th>SAE Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Female</td>
<td>Equine Management – Placement and Entrepreneurship</td>
</tr>
<tr>
<td>2</td>
<td>Male</td>
<td>Beef Production – Entrepreneurship</td>
</tr>
<tr>
<td>3</td>
<td>Male</td>
<td>Equine Science – Placement</td>
</tr>
<tr>
<td>4</td>
<td>Female</td>
<td>Specialty Crop Production – Entrepreneurship</td>
</tr>
<tr>
<td>5</td>
<td>Male</td>
<td>Agricultural Mechanics – Entrepreneurship</td>
</tr>
<tr>
<td>6</td>
<td>Female</td>
<td>Equine Management – Placement</td>
</tr>
<tr>
<td>7</td>
<td>Female</td>
<td>Agricultural Education – Placement</td>
</tr>
<tr>
<td>8</td>
<td>Female</td>
<td>Veterinary Medicine and Veterinary Assisting – Placement</td>
</tr>
<tr>
<td>9</td>
<td>Female</td>
<td>Agricultural Education – Placement</td>
</tr>
<tr>
<td>10</td>
<td>Female</td>
<td>Goat Production – Entrepreneurship</td>
</tr>
<tr>
<td>11</td>
<td>Female</td>
<td>Greenhouse Management – Placement</td>
</tr>
<tr>
<td>12</td>
<td>Female</td>
<td>Garden Production – Entrepreneurship</td>
</tr>
<tr>
<td>13</td>
<td>Female</td>
<td>Dairy Production – Entrepreneurship</td>
</tr>
<tr>
<td>14</td>
<td>Male</td>
<td>Dairy and Crop Production – Entrepreneurship</td>
</tr>
<tr>
<td>15</td>
<td>Male</td>
<td>Dairy Production - Placement</td>
</tr>
<tr>
<td>16</td>
<td>Female</td>
<td>Poultry Production – Entrepreneurship</td>
</tr>
<tr>
<td>17</td>
<td>Female</td>
<td>Specialty Animal Production (Honey Bees) – Entrepreneurship</td>
</tr>
<tr>
<td>18</td>
<td>Female</td>
<td>Poultry Production – Entrepreneurship</td>
</tr>
<tr>
<td>19</td>
<td>Male</td>
<td>Specialty Crop Production (Seed Corn) – Placement</td>
</tr>
<tr>
<td>20</td>
<td>Female</td>
<td>Landscape Maintenance – Placement</td>
</tr>
<tr>
<td>21</td>
<td>Female</td>
<td>Agricultural Sales - Placement</td>
</tr>
</tbody>
</table>

The parents and community members who participated in this study were all actively engaged in working with a student conducting a SAE program. Over half of the
parents and all of the community members had worked with previous student’s SAE programs. All of the community members and one-quarter of the parents were employed in the agricultural industry (Table 4-2 and Table 4-3).

Table 4-2. Community Member Careers

<table>
<thead>
<tr>
<th>Parent</th>
<th>Gender</th>
<th>Career</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Male</td>
<td>Owner of a Family Farm</td>
</tr>
<tr>
<td>2</td>
<td>Male</td>
<td>Owner of a Family Farm</td>
</tr>
<tr>
<td>3</td>
<td>Male</td>
<td>Extension Agent</td>
</tr>
<tr>
<td>4</td>
<td>Female</td>
<td>Owner of a Family Farm</td>
</tr>
</tbody>
</table>

Table 4-3. Parent Careers

<table>
<thead>
<tr>
<th>Parent</th>
<th>Gender</th>
<th>Career</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Female</td>
<td>Owner of a Dairy Farm</td>
</tr>
<tr>
<td>2</td>
<td>Female</td>
<td>Animal Handler for a Assisting Care Facility</td>
</tr>
<tr>
<td>3</td>
<td>Female</td>
<td>Owner of a Dairy Farm</td>
</tr>
<tr>
<td>4</td>
<td>Female</td>
<td>Radiology Technologist</td>
</tr>
<tr>
<td>5</td>
<td>Female</td>
<td>Bookkeeper/Accountant</td>
</tr>
<tr>
<td>6</td>
<td>Female</td>
<td>Parent Educator &amp; College Student</td>
</tr>
<tr>
<td>7</td>
<td>Male</td>
<td>Director of Engineering for a Milk Producer Coalition</td>
</tr>
<tr>
<td>8</td>
<td>Male</td>
<td>Township Maintenance Department</td>
</tr>
<tr>
<td>9</td>
<td>Female</td>
<td>Stay-at-home Mom</td>
</tr>
<tr>
<td>10</td>
<td>Female</td>
<td>Accountant</td>
</tr>
<tr>
<td>11</td>
<td>Male</td>
<td>Contractor</td>
</tr>
<tr>
<td>12</td>
<td>Female</td>
<td>Secretary</td>
</tr>
<tr>
<td>13</td>
<td>Female</td>
<td>Disable – Owner of Family Farm</td>
</tr>
<tr>
<td>14</td>
<td>Female</td>
<td>Landscape Maintenance Department</td>
</tr>
<tr>
<td>15</td>
<td>Female</td>
<td>Owner of a Remodeling Company</td>
</tr>
<tr>
<td>16</td>
<td>Female</td>
<td>Sales Coordinator</td>
</tr>
</tbody>
</table>

From the analysis of the data five themes were established. Those five themes were: committed teachers, student-centered SAE programs, supportive surrounding “community,” joint supervision, and shared expectations.

**Committed Teachers**

The first theme established from the data was the classroom. The classroom theme incorporated a variety of specific factors that are primarily implemented by the
agriculture teacher. The four participant groups discussed these factors throughout the informal interviews, formal interviews, and focus groups. These factors were also supported by the researcher's observations of the participants' body language and the interaction between the agriculture teacher and students during the program visit. The identified factors included: involved teachers, concrete examples, early introduction of SAE, required SAE programs, team approach to development, and SAE grade.

**Involved Teachers**

The student and parent participants noted that the agriculture teacher was involved in the development and implementation of SAE programs. The participants stated that throughout the development and implementation process that the agriculture teacher was constantly involved in working with students. The agriculture teacher worked to ensure that every student enrolled in their classes had a SAE program.

Parent-6 said,

> I would say that the biggest person that probably influenced what the kids were going to do was the instructor. I think there’s a lot of expectations on the kids to participate; not only to participate but to do well at whatever they’re doing. I would say it’s a lot of probably coming from the teacher and rolling down.

Beyond simply helping students establish an SAE program, the agriculture teachers were involved in assisting students with continually improving their SAE. Student-5, who conducted an agricultural mechanics entrepreneurship SAE, stated, “[My teacher] helped me in my ag mechanics class and also outside of school giving me tips on how to do certain things to build my chairs more effectively.” Student-5’s mother Parent-10 responded that “It really has been a lot of involvement with the teachers and advisors” that her son has an SAE program. Student-12 stated,
[My teacher] also has helped me and [my teacher] does that really want to further adding it. [My teacher] approached me about competing in the FFA horse show but it got canceled this year. [My teacher]’s always looking for new opportunities for you to attend on what you’re doing.

Participants stated that the agriculture teachers provided support to the students in acquiring resources to conduct their SAE program. Some of the students in the participating schools lacked resources to conduct a SAE program. Therefore, the agriculture teachers spent time assisting students in finding adequate resources in order to conduct the students’ desired SAE program. Parent-2 responded,

When he [student] first brought the idea up that he wanted to raise cows, [my teacher] gave him input on what to do, where to go if he needed [help finding a cow], mainly with the ACS office [Department of Agriculture Agency] because [my teacher] had to sign some forms for him to be even involved with the Ag program.

Student-7 whose SAE focused on agricultural education programing mentioned that their agriculture teacher “did play a huge role with helping me find opportunities and helping me develop lesson plans and events” to utilize for her SAE program.

The participants noted that the agriculture teacher encouraged students to participate in SAE. The agriculture students noted that without the agriculture teacher’s encouragement to participate that they would have never conducted an SAE program. Student-13 responded that

I never would've had an SAE without [my teacher] being like, you have to have an SAE, because we have [him/her] for an Ag class, so that was part of it. [My teacher] made me want to do something more involved than like a flower garden or something.

Student-11 stated that the agriculture teacher "knew I liked plants and it really opened my eyes to see what I could do, because I would’ve never done it without [My teacher] telling me that I was capable of doing that."
Concrete Examples

When instructing the students in class about SAE programs, the agriculture teachers who participated in this study stated that they constantly utilized concrete examples of current or previous SAE programs that were conducted by students. The teachers discussed that the utilization of these examples assisted students who were developing an SAE program for the first time with selecting an appropriate SAE topic and type. Within School B, the students are required to complete a student presentation of their SAE programs to their class. The student presentations must include a description of their SAE program, program goals, program achievements, and photos of their SAE. Teacher-2 stated, “in conjunction with their proficiency application or report that they complete, we have them complete a tri-board display and then they … each class is assigned a presentation day, and they will present about their project.”

Teacher-1 responded,

They have 3 minutes to talk about their projects. They’re talking to other students about their project so we actually use this frame and setup their boards. Half the kids in the class are presenting and the other class is judging or kind of seeing what’s going on with each person’s project. They really have enjoyed doing that and I think that’s helping with the buy in of their project.

Beyond having the students present about their SAE programs, the teachers discussed that they work with students and provide example SAE programs. When initially discussing SAE, the teachers stated that they work with students to determine if the students were engaged in an activity that could become their SAE program. Teacher-3 stated,

Well, what I want them to do, and I expect most of them to do, is look at what they are already doing first. Am I already? Am I already working in my parents yard? Am I already doing some heavy equipment operation or
repairs or something like that? If I am, then maybe I already got something. We do that on the very first day actually.

When discussing the development of a student's SAE, Teacher-2 described that “the kids are doing it anyway, whether they’re working on a job or this, that and the other. A lot of it is they’re doing something already that ties to an SAE here, but they just don’t realize it.”

Students described that the examples provided in class assisted them in developing their SAE programs. During an informal interview, one student stated, “if [My teacher] had not spent time providing me examples, I am not sure if I would have ever figured out a SAE for this class.” The students recognized that being presented different example SAE’s demonstrated that a SAE could be interesting and engaging. Student-3 responded that when he first learned about SAE that the agriculture teacher had

Several students in the room that were very involved in theirs stand up and say what they did and why they enjoyed it and what they were able to do to it. Having four, five people talked about it showed you the diversity of that is engaged from production agriculture to growing rabbits and what you can do and how it fits in your interest.

Furthermore, Student-6 stated, “I remember freshman year … the posters from the years before of everyone’s SAE projects all over the walls. Just going around and looking at everyone’s pictures, you would think this could be a lot of fun.”

**Early Introduction of SAE**

When beginning an agricultural education course in both of the participating schools, the agriculture teachers were adamant that they began their SAE instructional unit within the first two to three weeks of school. They believed that it was important to ensure that students had developed an adequate SAE program early in the agricultural
education course. During this instructional unit, the agriculture teacher conducted various activities to assist students in identifying a SAE program that meet their interests, abilities, and resources. Teacher-1 stated, “for selection (of an SAE topic) we really spend ... there’s about a two week time period (within the first three weeks of school) between when we introduce SAE’s and the time that the student needs to make their selection. We do several different things during that time.” More specifically, Teacher-1 described the teacher’s role in the development and implementation by stating that “I think that as the teacher you have to guide students in a direction. Students have a hard time determining what they want their project to be or may have a hard time seeing what it could become.”

During the informal interviews the researcher determined that this teacher had students complete a career survey, listen to other students present on their SAE’s, conduct research about different SAE programs, examine their current after-school activities, and complete a teacher approval form. Teachers in both SBAE programs required students to complete a teacher approval form for their SAE programs. Teacher-2 explained the teacher approval process as

They’ll come up with three options, and they’ll list those options first, second, and third. Then, me and the student will sit down and we’ll try to figure out exactly which one fits the best ... that directly relates to the area that they’re wanting to pursue.

Teacher-3 explained that “every student in the class is provided a program planning sheet at the beginning of the class. They are expected to fill it out to tell me what they’re doing.”

The agriculture teachers also discuss the possible rewards for students that complete an SAE program. These rewards vary from recognition for monetary gains to
the student’s personal and skill development. Teacher-3 described that when they introduce SAE that they present about the Scholarship opportunities through the FFA, and that’s the one that usually lights up most of their (student) faces, and they start to go, ‘You know what? I see this as an immediate benefit, not a 10, 12 years down the line benefit’. That’s what probably sells most of the kids, not all of them, but most of the kids.

Teacher-2 stated during instruction about SAE that students are informed that the “soft skills or people skills that they learn are going to go with them more than how to water a plant or properly plant a plant or things like that.”

When introducing the concept of SAE to their students, agriculture teachers also promote the development of record books and the need for accurate record keeping practices throughout the SAE program. Each of the agriculture teachers who participated in this study utilized the Agriculture Experience Tracker (AET) online record keeping system. The teachers expressed that the online system had recently replaced a paper-based record keeping system. However, the teachers believed that the online AET system was more widely accepted by students due to the students’ ability to easily update their records from their mobile devices and home computers. Teacher-2 stated,

It seems to be a little bit easier for them to keep up with, because they can do stuff at home and they can do stuff here at school. We used to require them to leave the record books here at school and give them time in class to work on it, but now that they can do it either or, their participation seems to have gone up.

Teacher-3 supported Teacher-2’s comments by responding that “now with the opportunity that we have to see these records be developed, I really am pushing every single agriculture student to take this as if it's their home Quicken books or their Home accounting system.”
When discussing classroom instruction in SAE, the student participants were adamant that they were initially intimidated by the concept. Some of the students stated that the multiple pages of handouts worried them about the complexity of the SAE program. They also stated they were skeptical in their ability to be successful. Student-8 responded that the introduction of a SAE program was very scary. [My teacher] stands up and [my teacher] has this stack of papers in their hand and [my teacher] goes, buckle your seatbelt, because you’re going to be dedicated to this class until the end of the semester. And as a freshman with no previous knowledge of what [my teacher] was talking about … It was very scary. It was very intimidating …

However, other students were immediately interested in the concept of SAE because of the examples that were provided by the agriculture teacher. Student-1 stated, “I remember [My teacher] giving all kinds of examples … [My teacher] makes it seem really fun and that you can really get engaged and that you can really do something with it.”

When initially beginning their SAE program, students stated that, with the assistance of the agriculture teacher, they completed various activities related to the development of a SAE program. These activities assisted students in the development of a SAE topic and ensuring that their record books were established before the SAE program was implemented. These activities assisted students in feeling more confident about their SAE programs and their ability to conduct a SAE. Student-12 said that “we started by going on the AET website and that helped us set-up what kind of SAE we wanted to do and it helped us keep track of all of our finances and everything that needed for our SAE’s.” Student-9 responded that during classroom SAE instructional activities that their agriculture teacher would
Tell you exactly how to do it and pinpoints everything we had to do and … come up to you one-on-one and really be able to work with you to do it … they’re willing to help you and they’re willing to work with you, it’s just your aspect on it.

When discussing the concept of record keeping and the instruction that students’ received in their agricultural education courses, parents and community members agreed that the practice was valuable to students. However, a majority of parents and community members stated that they were unsure if students keep up with their journal entries and financial records. Parents and community members noted that students did in fact have a record keeping system in place, but that information was the extent of their knowledge regarding their students’ SAE record book. Community member-3 stated that “the nice thing about SAE versus a plain-job, even if there’s a job first it really causes them to think about the records part and learning something and what that means, and how that fits into their future.” Parent-3 responded,

I think that’s important because it will show her progression as she starts recording before she ever did it so right now she shows to herself, first, oh I look, I learned that and I learnt that I know how to do this or this is what he did or this is what I did so I think overall, like I said, I don’t think she can do it on weekly or daily basis …

Parent-6 remarked that “I know she had to have paperwork, but I really don’t know if she kept them or what she did with them and how she used them.” Parent-12 explained that their son believed that the student

Can keep up with it in his mind and he thinks that is all that he needs to do and in life, we’re trying to tell him that not necessarily are you always going to have the best memory to remember everything that you do right now.

However, one community member did have a larger influence on the student participation in record keeping process. Community member-2 affirmed that

We have one young lady who is working for us right now and she’s in the unfortunate position where I know that she’s supposed to have a record
book and I threatened last week that if she didn’t have her record book up-to-date she was not going to get her paycheck.

**Required SAE Programs**

Teachers, students, and parents agreed that one of the major reasons that students participated in SAE was due to the course requirement for every student to conduct a SAE program. The requirement to participate ensured that every student would initially start a SAE program and continually be engaged in the program throughout the agricultural education course. The agriculture teachers believed that it is essential to engage all students in an SAE. Teacher-2 reported that

Each student has to complete an SAE for the class that consists of 15 hours of outside of classroom instruction. We do five or six checks throughout the course of the year to make sure that they’re reaching their goals, hours-wise, they’ve got certain pictures that go along with it. We require them to do a resume as part of their SAE project. At the end, they complete a … at the end of the semester, they complete a proficiency application.

Teacher-1 stated,

We go ahead and tell them (students) before they even enroll in the class, there is a project that goes with this and this requires a lot of time and it requires some work outside of the classroom. We want those parents to understand how important it is not only to not see his grade but to them having a successful experience in our Ag Department.

Further, teacher-1 expressed the rationale for including and requiring SAE programs in the SBAE program. Teacher-1 affirmed that

I feel like they learn a lot more from the SAE’s and that’s just because to me they is so much real life application there. They might not even know that they’re learning it until they’ve been out of school for 10 years and think “Oh yeah, I did have to do that and now I’m doing it in real life, I had to do budget and now I have to do one again.” To me it has that real world application there and that’s again another challenge I think that faces SAE implementation is that a high score in real world.
Teacher-3 agreed that SAE programs were vital to the success of SBAE when they stated, “If I didn't have SAE, my classes wouldn't be as strong as they are and my students wouldn't be as successful as they are, so I need those programs to be there.”

The student participants agreed that they were required to conduct an SAE program. Student-16 responded that “in your agricultural education class you have to do an SAE … because everyone’s required to do an SAE.” The students also agreed that they initially conducted a SAE program because it was required to be in an agricultural education course and to be a member of the FFA chapter. Student-17 stated that “without having to the requirement of an SAE to be in FFA, compete on different teams and stuff I probably wouldn’t care as much … but if I didn’t have to do one, I guess I probably wouldn’t have.” Student-12 said, “I think if more schools required it, more students would do it and they’d see how beneficial it is towards them.”

The requirement of conducting a SAE program was recognized by the parent participants as well. Parent-16 responded, “I think once she took the agriculture class it was basically maybe a requirement to do it.” Parent-6 supported Parent-16 when it was stated that the student “started her SAE when she was in class, in the horticulture class. It was also required for the class, too, to do it. I think there was a lot of instruction there.”

**Team Approach to Development**

When developing a SAE program, it was believed by teachers and community members that a team approach should be utilized during the development process. Both participant groups did not believe that the same individuals (teacher, parent, or community member) were necessary in the development of every SAE program. In some cases, only a teacher would be involved in the development process, while in other situations a parent, teacher, and community member would all be involved.
Teacher-2 believed that “SAE is a total involvement between the parent and the student and the teacher.” While, teacher-1 contested that “maybe not the more people but that the quality of people that you have involved with an SAE can have a big influence on its success.” Teacher-1 continued, “it doesn’t necessarily have to be a lot of people but I think there needs to be at least one adult who has a vested interest and is playing an active role in that SAE.” Teacher-3 added that a student can need

Community members that are involved in helping them to get that first animal, but more importantly, is being able to have the opportunity for them to help evaluate those kids with SAEs and even maybe help push those kids to make sure their SAEs are successful.

Community members conjectured that the needs of every student were different during the development of an SAE programs. Community member-2 stated,

Sometimes the parent can or could be (the primary influencer) sometimes the employer, sometimes the Ag instructor. That will vary by every situation and by every student that goes through the program. Whoever he or she connects with the most I think can be the primary influencer.

Community member-3 admitted, “I think a big driver needs to be the advisor because I think if the advisor isn’t then kids will have a hard time. Parents can do it but then that’s not going to be every parent.”

**SAE Grade**

Beyond simply requiring every student to conduct a SAE program, the teachers stated that they also assigned every student a grade for involvement in SAE. The teachers believed that the students were responsible for being actively involved in their SAE program and to keep an accurate record book documenting their involvement. Teacher-2 commented that “it’s the teacher’s job to evaluate the student.” Teacher-1 added,
our students know that if they don’t do an SAE project and they don’t turn in the assignments that go with it that they do not have an opportunity to pass. I mean it is about 33% of their grade because in the three circle model, the SAE is one third of it.

When grading a student’s SAE program, the teachers discussed their grading procedures. Each of the teachers described a subjective grading system that examined if evidence of student learning was present and if students had achieved their established goals for their SAE program. Teacher-3 stated,

All that I use is my own quality of evaluation, so I don’t have a set rubric. I look through their program and ... Mostly because every one of them is going to be on a different level. I look at them as, you take an exploratory project and you say, did that student put in the effort, not just to explore something, but to show what they’ve learned from that exploration.

Teacher-1 commented that the way that that SAE grades are assessed should “come down to each individual program needs to do what works best for them and their administration but having it tie into their grade I feel like it’s the best way to ensure that they have the projects.” Teacher-2 conjectured that student grades should be based on the following questions: “Do they have three goals present? Did they achieve their goals? Do they have a clear description of what they’re doing in their pictures? Do they have the six pictures? Do they give an adequate description of their project?”

**Student-Centered SAE Program**

Throughout the informal interviews, formal interviews, focus groups, and observations it was noted that student SAE programs were primarily determined based upon their particular interests. More specifically, it was noted that if students began their first SAE program based upon their personal resources that the SAE program topic became an interest for the students. If the topic did not become an interest of the students, the topic was typically changed by the students to a topic of their personal
interest. From the data, six subthemes were established by the researcher: career/student interest focus, school resources, specialized program for each student, student learning, and FFA influence.

**Career/Student Interest Focus**

A student’s personal and career interests were a focus of the development process by teachers, students, parents, and community members. The participants noted that students’ interests drive them to succeed and persevere. Teacher-1 stated,

A student whose doing an SAE that they’re not interested in, they’re not going to carry it out. They’re going to be miserable, they’re not going to do the best job that they could do, even the best student is just not going to be as motivated in that SAE.

It was noted that student interest did not have to be a career interest. The participants described SAE programs as a possible way for students to explore different careers before attending college. However, teachers described that they attempt to determine a student’s career interests before developing a SAE program. Teacher-1 reported during the development process “we also try to tie it (SAE topic) into a career by saying okay, what career could you now be better prepared for through your SAE.” Teacher-2 described the reasoning for students to develop career-based skills. “If I see them a year or two down the road and they’re actually pursuing a career or something that I taught them or a skill that they’re using that they learned in my class, it’s very rewarding.” Teacher-1 argued that by involving students in careers that may interest them in the future that the students may be able to develop a lasting relationship with industry representatives. Teacher-1 continued with “any sort of relationship that they can build with local industries so that’s why so many of our SAE’s match up pretty closely with the (local) industry.” While Teacher-3 primarily discussed that student
resources were a primary focus for the initial development of a SAE program, it was noted by the participant that many, if not all, of the SAE programs that were continued and built upon were developed through student interest.

Many of the students who participated in the focus groups expressed a sincere and developed interest in their SAE topic area. Throughout the focus groups and informal interviews, the students' expressions become more animated and they began to smile when they discussed their SAE topic. The student participants stated that many of them had a personal interest in their SAE prior to beginning an agricultural education course, while some stated that their interest in their SAE program was developed through their involvement in SBAE and their SAE program. Student-1 stated, “I've always worked with horses and around horses my whole life but I wanted an opportunity to further my equine training and be able to eventually train horses on my own which I'm starting right now.” While student-2 described that during their involvement in a SAE program, they “just woke up one morning and decided to get cows. That's how my current SAE started.” While making dinner one evening, student-17 explained that

We ran out of honey, so I went to the shed to grab more, because we just had boxes around from when my dad made it and it was like the last one and I had this panic attack, because I hate store-bought honey. When I went back in that was kind of where we started off from and he’s like, well, you can just raise bees. So that’s where I got the idea from, I guess.

Many of the students discussed that their interest came from their family's involvement in a SAE program. Student-16 described that the development of their SAE program “started out with interests of me and my brothers” in raising layer chickens. During the focus group discussion, student-5 discussed his/her father's occupation as the influencer for the SAE topic. “He works in construction, he always has
and now he owns his own home remodeling business. I’ve always been around woodworking and working with tools and everything. I thought it would be a good idea to start building things.” Student participants described that if their first SAE was developed based upon their personal resources and not interest, that they felt little connection to the SAE program. However, the students became more involved in their SAE program if it was redeveloped towards a personal interest. Student-10 stated,

My go with chickens was just being a freshman, I just wanted to get my 15 hours and I just wanted to get it all done with, well then I figured that I would change to goat production. With the goat production I had a goal of not given up on how to build a pen, because that was pretty horrible staying up long nights with mosquitoes trying to bite you … and then just trying to at least keep them alive for at least the four months till the fair. I think that accomplishing these goals have really been better.

The parents stated that their children chose their SAE programs because of their personal or family interests in their SAE topic areas. Since the students developed their SAE based upon their interests, the parents expressed that their sons and daughters were more interested in conducting a SAE program. Parent-1 stated, “I am guessing that the program was fully developed per their interests … He chose what he knows and now it’s been kind of fun.” Parent-13 said, “My son got involved with it as something he wanted to do on his own. He wanted some cows, so he talked it over with his dad and his dad got him set-up.” Further, when discussing the development of a student SAE parent-16 exclaimed, “well they have to have an interest. The interest has to be there in order to fulfill that … because if you’re not interested in what you’re doing you’re not going to give it your all.”

The community members noted that in some cases the students were influenced by their family’s interest or involvement in their SAE program. However, over time this also became a personal interest for the student. Community member-1 stated that the
student’s family involvement in production agriculture has developed the student’s interest in agriculture and the SAE program. “He's learned a lot about how to feed, and how to run tractors, and how to hook-up implements, and how to use the implement once he hooks it to the tractor … that is how his interested got started.” Further the community members expressed their beliefs that a SAE should allow students to explore potential career options. Community member-4 described that “not every student knows what they want to do and it is good for them to experience other things because something might just click and change their mind, you know, I like this better.” Community member-3 continued with “maybe they know they like A (specific SAE topic) but it’s probably better if we encouraged that experimentation in freshman, and sophomore and stuff in high school.”

School Resources

Once SAE programs were developed, the agriculture teachers, students, and parents discussed that in some cases school resources were necessary for students to adequately conduct their SAE programs. In some cases, the student would use one of the school laboratories to conduct one small component of the project. In other cases, the student conducted the entire SAE utilizing school resources. Each of the participant groups noted that this was not necessarily true for every student, but school resources were required for some students to engage in SAE. Therefore, the agriculture teachers provided instruction time to students for SAE record book updates.

Within the SBAE programs in this study, every agriculture student utilized a school computer to make record book entries and to complete various assignments for the agricultural education course. While some students completed their record keeping at home, it was found during observations and informal interviews that some of the
agriculture students did not own a computer or have access to the internet at home. In these cases, the school computer and internet were necessary for their records to be kept accurate and for their assignments to be completed.

The agriculture teachers recognized that students need to have access to the school resources in order for the students to be successful in conducting a SAE program. In reference to the utilization of school resources for student SAE programs, teacher-2 denoted that “if they need to come in and work on something in one of the ag shops, they can do that … If they need to use the greenhouse, they have access to all school facilities.” Teacher-1 added that a student who lacked resources at home could do “something with ag department resources, so working in the greenhouse, working with on the land-lab, working in my shop. Having those opportunities there are necessary.” Teacher-1 explained that the need for school resources changes each semester and year. Teacher-1 described that the agriculture teacher must determine if the resources are needed. “We have to kind of figure out, are they not doing this because they don’t have the materials or are they not doing it.” When the agriculture teachers discussed this concept, they were rather distraught and their voices began to become soft. The agriculture teachers’ physical body language became rather reserved, demonstrating that they were upset and wanted to do more to help students engage in SAE.

Students who utilized school resources were thankful for the opportunity to participate in a SAE program. During an informal interview with a student who utilized the school land-lab to conduct a SAE, the student continually mentioned that without the utilization of school resources it would have never been able to participate in SAE.
Further, student-11 noted that the agriculture teacher “knew that I had an interest in plants and asked me if I’d like to work with in the greenhouse and take care of it.”

The need for student use of school resources was also recognized by parents. Parent-12 explained that “we had an advisor here that was working this summer on getting their classroom ready and that kind of thing and [Student-5] was able to come up here and use the ag mech lab.” Parent-10 further described that without “the use of the greenhouse at the school” the student’s yearly garden would not have been a success due to the colder than normal winter.

**Specialized Program for Each Student**

Within the educational system, teachers and school districts recognize that every student has individual needs in order to facilitate learning. Those individual needs are not exempt from conducting a SAE program. The teachers in this study indicated that ensuring that every student has a SAE program that meets personal needs is one of the most difficult parts of developing and implementing SAE. Teacher-3 denoted that the students who have very limited resources were the hardest to assist in the development process.

Those ones that just literally don't have anything that are the biggest struggle. Those are the ones that are time consuming ones that we have to say, "You are not going to fall between the cracks, just because you don't have something right now. We are still going to find something for you.

Teacher-3 further discussed possible SAE programs for students with limited resources,

Now we got to start to find something for that person to do. It screams, do a research project online … Sometimes we end up with a research paper, and that just ends up happening unfortunately, but 99% of the time, we end up with some kind of a project where they can go home and at least say, 'I'm learning something.'
To ensure that every student can conduct a SAE program that is specialized to particular interests and needs, additional resources outside of the student’s personal items and the schools resources were needed. Some students were limited by financial resources to purchase items or animals for their SAE programs. In some cases, community members and community organizations have provided physical and financial resources to students who were conducting a SAE. Teacher-2 explained, “We have had some community members who have made resources available to students that might not have otherwise. Our local Kiwanis club actually awards animals to kids, they can apply and receive it and we’ve had students do that.” One student recognized the alumni’s assistance in the development of the SAE program. Student-17 explicated that “with my SAE I got $500 from our Alumni to help start my SAE. Starting my SAE would’ve been a lot harder without that money.”

**Student Learning**

Throughout the informal interviews, formal interviews, focus groups, and observations, it was evident that student learning was at the forefront of the purpose for utilizing SAE in the SBAE classroom. Regardless of the particular topic, teachers, students, parents, and community members recognized that for a SAE to be successful and impactful on a student’s life that learning must occur. Student learning within SAE could include but was not limited to: content knowledge, skill development, career knowledge, career skills, or personal life skills.

The agriculture teachers who participated in this study, avidly explained that student learning, career knowledge/skill development, and personal life skill development were the primary reasons for utilizing SAE programs in SBAE. Teacher-2 insisted that
For a kid to be successful, they must develop good work ethic skills and responsibility. Not everybody is going to get an application or win an award. It’s that kid’s ability to take those different work ethic, responsibility, and commitment skills that they learned through their SAE project, and apply them to everything else that they’re doing in life.

Teacher-2 further described that

I think every student can gain something from their SAE. The skills and responsibility and things that he learns in landscaping can be directly tied to whether he’s working in a small business or whether he’s working in the healthcare industry or anything else. It’s those skills, those soft skills or people skills that they learn that are going to go with them more than how to water a plant or properly plant a plant or things like that.

Teacher-1 indicated a belief that a student should be able to describe what was received from the SAE program. More specifically, teacher-1 expressed that a student should cultivate a personal desire to grow and develop. Teacher-1 articulated a description of student learning as a student’s ability to “recognize their own success and that they feel like it was something that can benefit them or that they can use in their future … to me that that kid sees some value to what they did.”

Teacher-3 explained SAE as a high school agriculture student’s internship. Similar to an internship conducted by a college student, teacher-3 believed that student learning was a key component to a student SAE program. Teacher-3 stated that at the end of a student’s SAE program that it is important for the student to walk away from the experience “at least saying, I'm learning something. It's not as big (in reference to the size of the program) as my next door neighbor that I know is in another class, and they have a big old project, but I'm learning something.” Teacher-3 further explained,

I wish every kid could make a ton of money, but it's not dollars that always students to achieve some goals. I have kids that have failed miserably in the livestock thing, but the things that they've learned by failing miserably will help them when they have to do it for real … when they have to do it in large scale.
The student participants recognized that the development of knowledge, skills, and competencies was an important component of a SAE program. The students noted through informal interviews and focus groups that their SAE programs assisted them in the development of career and life skills that will assist them achieving their life and career goals. Many of the students have developed SAE programs that have influenced their career choices. While not all students believe that they will begin a career within their SAE topic area, they did note that their experience has assisted them in identifying careers that they are interested in as well as those that they have little to no interest in specializing. Student-3 recognized the learning that has taken place during an equine production SAE program and noted that “being able to take a colt and training it and then show it in a sale a year or two later and seeing it sold and seeing your finished project is really a big thing.” Student-12 expressed that learning through their plant science research SAE program has been “interesting for me and that’s what makes me want to keep doing plant research, so I don’t know how motivating it is but it’s something I would like to do when I’m older as well.” Student-5 noted that the skills learned have assisted them in helping others.

Some of my coaches wanted to lock put on a refrigerator because somebody kept stealing food or something. They didn’t really know how to go about putting a lock on it. I came down here to the mechanic shop and I got a drill and they went out and bought a lock and I helped them put it on. The way now that I can now use tools efficiently and be able to do it on my own is really a big thing for me.

Student learning was also recognized by parents as a component of a SAE program. The parents believed that student learning assisted in motivating students to continue their participation in SAE. Further, parents reported that SAE programs assisted their students in identifying potential future careers. Parent-2 stated that
“[Student-15] likes to be well-rounded and knowledgeable, so any knowledge really, he likes to know about everything and he retains information very well and I think he is like oh I am smarter than you.” Parent-7 believed that being engaged in a SAE program was beneficial.

For her to learn a little bit about how hard it is to pull cash together for some of these ventures because that was something that she had never experienced before was the need to manage some funds and cash flow of businesses … attempting the cash flow of business is hare, a lot of us struggle with it anyway. It was a cool project for her.

Parent-10 further supported that student learning is important.

I think that’s a learning experience for them. To think, oh, we’re going to get into this and if I sell this for this, but thinking your time and what it really costs and maybe not being able to sell some things that you have money invested in is a very good learning experience, a very good reality check for them.

Community members agreed with parents, students, and teachers that SAE programs develop student career skills. Many of the community members believed that they could assist the students in the development of career skills and knowledge through their interactions throughout the student’s SAE program. Community members noted that they could provide students with specific opportunities to apply their knowledge to real-world settings and situations. Community member-2 mentioned the ability to motivate a student to develop welding skills. Therefore, community member-2 expressed that the student is presented with a multitude of opportunities to practice their welding skills because “he’s motivated in wanting to learn how to weld many different things. He just doesn’t want to strip the arch well, or wire feed weld. His ultimate goal is underwater pipe welder.” Community member-2 further described thoughts about student learning.
Kids learn in many different ways and most of the time they learn without even knowing that they are learning but the SAE can help quantify that. They will look at the last three month or six months. So what do you know now that you didn’t three months or six months ago and then the light bulb will go on? “Yeah, maybe I did learn that.”

Community member-4 further supported student learning by describing interactions with some of the students that currently work on the farm. At the end of the school-year the students were required to complete a written assignment describing their SAE program. Community member-4 explained that “because they’ve learned they go … hey, yeah … wow, I can write so much more than I did back then … and it does excite them. It does that they’ve realized that they have learned that much.”

**FFA Influence**

When describing their interest in participating in a SAE program, it was noted by the students that involvement in the FFA chapter was a motivating factor for them to engage in a SAE. However, it was noted by the agriculture teachers that not every student’s SAE will be successful in the FFA awards program. The teachers indicated that they spent little time discussing the FFA award and degree structure during their instruction of SAE. The teachers further stated that their requirements for the SAE program were not high enough to allow students to earn a state FFA degree if they only met the minimum requirements. This was to ensure that students would first become interested in their SAE and then the teacher could discuss the possibility of earning a FFA degree or award. Teacher-1 would tell a student “because you’re doing so many more hours, look, you can earn your State FFA Degree.” Further, teacher-2 described recognition through FFA as

Yes, it’s good for the kid to win the proficiency application and go on and get that recognition. But for the kid, in my mind, to have learned something and learned a skill, learned responsibility, something that they’ll remember
The student participants stated that the ability to earn their State FFA Degree was a motivating factor for them to go above and beyond the course requirements for their SAE programs. However, it was noted that throughout the students' discussion regarding FFA's influence on their SAE program that students did recognize that their SAE was important to helping them achieve their personal and career goals. Student-7 stated that FFA was

One of the reasons I actually chose my SAE, is because to get your State FFA Degree in [State] you have to have 300 hours in your SAE and I thought that agricultural education was something that I would enjoy spending a lot of time with, so that was one of the reasons … one goal that I wanted to meet in my SAE and another goal is like … the highest honor you can get for your SAE is a proficiency award and that's still my biggest goal and really my end goal. But I also just want to get a lot of work experience, because I do see agriculture education, being a potential future career.

Student-17 described a relationship between FFA and SAE involvement,

It seems like the kids that are going to stay in the in different CDEs, also have a better SAE, because they want to compete with their SAE for a proficiency and get the state degree and stuff, so I think the ones that are more involved in everything will have a better SAE.

Student-10 explained that FFA was a motivational factor “because I do want to get … put in for the proficiency application and get the state degree.”

While parents recognized that their son or daughter was involved in FFA, it was noted that some parents believe the SAE was a component of FFA. Parent-16 stated, “her SAE project I think that's what she is wanting to go towards, a competition type thing through FFA.” Meanwhile, the community members expressed that they believed that the success of others with their SAE programs through FFA was a potential motivator to other students within the SBAE program. Community Member-3 suggested
that FFA is a motivator for students “for lots of different reasons whether it’s awards or money or wanting to be on stage or I just think very much so.”

**Supportive Surrounding “Community”**

When ensuring that every student is involved in a SAE program, it is essential to begin to fully understand the factors that influence student involvement. Throughout the study, several factors emerged that influenced a student’s participation in the development and implementation phases of a SAE program. The data provide evidence that parents, community members, and other external factors influence a student’s desire and interest in SAE. The four factors that emerged from the data were: supportive parents, parental knowledge of SAE, program goals, and community member support.

**Supportive Parents**

When working with students involved in a SAE program, teachers must continue to address the needs of the students’ parents. In this study, the parents were found to be extremely supportive of their son or daughter’s SAE program. Parents noted that they believed their role was to be supportive and provide supervision to their student while they were engaged in their SAE program at home. Teachers agreed that having supportive parents assists in ensuring that students enrolled in agricultural education courses were engaged in a SAE program. The teachers noted that they spent time discussing a student’s SAE program whenever they were engaged in a conversation with the student’s parent. Teacher-1 described that “anytime I talked to a parent I talk to them about their student’s SAE, no matter what the conversation is about.” Further, Teacher-2 described that if parents are not involved in supporting their student, “the kids’ feet sometimes won’t be held to the fire and they won’t be as on top of things as
they should.” However, Teacher-3 indicated that they had experienced some parents that were not supportive of their students conducting a SAE program. In those cases, Teacher-3 stated a need to work with parents to view SAE “as a learning opportunity and follow through. Just like you think, if I can help you with your homework after school, I hope I can help you with your SAE and provide you with some additional support that way.” Teacher-3 explained that in most cases this approach works with parents who are skeptical about their students’ engagement in SAE.

The students in the study recognized that their parents and other family members were extremely supportive of their SAE program. Throughout the focus groups and informal interviews, the students mentioned that their parents assisted them in acquiring pertinent resources for their program and that they were always there to answer questions they may have. Further, they believed that the support of their parents and family members was a reason that they initially and continually remained involved in a SAE program. Student-3 affirmed that the SAE program and working with a supportive grandfather increased interest in a SAE. “As I got involved, I got more interested and I continued working with him and see if it’s something I would like to do in the future.” Student-14 added, “my parents were supportive of me and my older sisters …. they just wanted us to do well.”

The parents who participated in the study recognized that they were responsible for providing support to their sons or daughters throughout their SAE program. While discussing the support that they give their son, Parent-2 stated,

We support what he wants to do but we also encourage, like as a parent I may encourage him to take every opportunity that comes his way so if a teacher says you would be really good at this I could really use you to have to feel good about that and to take those opportunities when they are given,
because there is a reason why teachers are you know scouting certain kids to do that.

The parents felt as though they had an interest in seeing their students succeed and learn from their SAE. More specifically, the parents who had several students who had conducted a SAE noticed that they became progressively more involved with each student’s SAE program. The parent participants described that they enjoyed being able to work with their sons and daughters on their SAE programs. Parent-11 remarked, “My son was working with wood and me being a contractor, he’s been around it all his life and it was something that I could get involved with, with him.” Further, parent-13 discussed their involvement in their child’s SAE,

One of his cows that he purchased was a cow that was pregnant. It had a baby calf. I was out there trying to tend to the cow and it’s freezing cold weather. Most women won’t get out and do that, but I did help him a lot because when he was at school, I was home feeding the calf with a bottle. I was a lot involved.

The parents also explained that they found enjoyment from watching and supporting their child. Parent-16 exclaimed, “It’s amazing to watch her with these goats. She is full force, they are her babies.” When describing their daughter, parent-14 responded that “when she gets her mind set on something she’s really full throttle. She’s totally the opposite of me. She’s more like her daddy, and I’m proud of that.” Furthermore, some of the parents took an active role in assisting their sons or daughters in the development of their SAE program. Parent-4 described their role: “My son really doesn’t like to be in school so I talked to the teacher and tried to find something that would interest him. He did a stuffed duck last year and then this year he’s in small engines.”
Parental Knowledge of SAE

Throughout the study it became evident that a majority of the parents had a limited knowledge of SAE. The same question was asked in each focus group, “What does SAE mean?” Many times the parents were unable to answer the question. While agriculture teachers believe that parents have a conceptualization and knowledge of the concept of SAE, the data collected through this study provided a different view of parents’ knowledge of SAE. The teachers in the study indicated that they sent home a packet of information regarding the SAE program with the agriculture students. Furthermore, the teachers required the parents to sign a sheet stating that they understood the requirements and expectations of their student. Teacher-3 described their policy as

One of the things that they have to do to start it off, is that they do have to sign off on the course syllabus that has that grading spelled out. They all know on the first two days of the course, that their student is required to do it. They already are aware to what amount, depends on how much they actually look at the syllabus, but they are aware or given the opportunity to be aware of it.

Teacher-2 noted that they would provide electronic information as well through “teacher websites so there will be information on there and the parents are encouraged to visit that.”

However, many of the parents were unsure what role SAE played within the agricultural education course. Parents were confused as to if SAE was a separate course, a part of FFA, or if it was an assignment for the agriculture education course. Parent-1 stated, “I actually am not sure if this is a new class or what this is in general.” Further, Parent-12 explained their knowledge of the information packet that was given to students, “I don’t know when they were given it … I don’t know where it came to be.”
The lack of knowledge continued when Parent-6 said, “I did not know that it was called an SAE program, the assignment that she had to do. All I knew was that I had to take her to work sometimes.” In reference to the development of the SAE program, some parents were unsure how the student even developed the program topic. Parent-9 expressed confusion with the SAE development process. “I think, don’t they just gave it to them … figure it out yourself, whatever category you fall into?” The confusion continued when Parent-7 explained,

When SAE first came up, I don’t know how [Student-17] understood it, but when she first explained it to me I thought it was part of the class, I thought it was a class project. I really didn’t realize what we were on the front end of there when she first brought that up. What that turned into really became a shock to me after I found out what it was really about. Then it went well beyond the end of the class. I thought this was a project and when the class was over this was the last we’d hear of that. That’s not at all what that turned into.

Parent-7 added, “I really didn’t know what we were getting into. In some ways I’m not sure that wasn’t better because if I’d known what we were getting into I’m not sure I’d have gotten involved.” When explaining their daughter’s SAE, Parent-5 responded, “The poultry is a means … just something she does. I don’t know … if it’s … It’s different parts to this SAE, right? The poultry is just a part, a little part and then she works. She just keeps doing it. I don’t know why.” In an attempt to describe a SAE program, Parent-12 responded that SAE was “an unknown secret that we have here.”

**Program Goals**

During the development and implementation process, teachers and students work together to develop adequate and achievable goals for the student to work towards during the SAE program. The main purpose of the goals was to continually motivate the student to continue their involvement and to apply their knowledge to their
SAE. Teacher-2 explained that every student was expected to “identify three goals, two or three goals that they want to achieve.” Further, teacher-1 described that a student’s goals should be established to provide an achievable point within the program. “I think that that’s encouraging for that student to feel like they have met that success. Even if they were unable to reach all of their goals, to at least reach a goal is important.” When working with students on the development of SAE goals, teacher-3 asked the students, "What do you want to do in the next six months? What are your projects? What do you want to do in the next year to two years?” These questions assisted their students in the development of goals that have motivated them to continually participate in a SAE program. Teacher-3 explained that at the end of a SAE program that students need to be assisted in understanding what they achieved. Teacher-2 mentioned that “if a kid can say that they can see they’re learning through their SAE, that’s probably the easiest way” to help them realize that they have achieved their goals.

SAE goals were viewed as an essential component to guide student engagement in a SAE program. When working with their agriculture teacher, the students recognized that there were different types of goals that they could set for their SAE program. Student-9 remembered that the teacher “emphasize that you should have short and long-term goals.” Further, Student-9 mentioned that the agriculture teachers did not expect that all of the goals that were set would be directly related to the SAE program and that their agriculture teacher encouraged students “to think about the personal side of the goals and [My teacher] always told me let yourself grow.” Some of the students mentioned that they would develop goals with their teacher, but once they were engaged in their SAE that their goals changed because of their current
assessment of their SAE program. Student-6 stated that after involvement in SAE that “I really didn’t focus too much on what my SAE needed, more on what my horses needed. What they need to work on that week or next month or what their goals were rather than my project’s goals.” The students mentioned that they were particularly proud of the goals that they had set for themselves. While student-4 appreciated the support received from others, the student explained that “people have always given me advice about how to expand it and make it my own but I have set goals throughout the year. I set goals, I had it in my head.” When working with their agriculture teacher, the students recognized that there were different types of goals that they could set for their SAE program. Student-12 realized that a goal for the SAE program was more than learning, but that the student had to grow enough produce for the family to eat throughout the year because the developed “to feed us so we don’t have to spend money at the grocery stores to buy all our vegetables.”

The students’ learning goals were important to parents when they were involved in assisting and supporting their sons and daughters. The parents recognized that the goals that the student developed for themselves would assist the parent in guiding and supporting their child as they engaged in a SAE program. Parent-15 expressed that “they set goals and I know they have certain skills that they want to attain. I know that they go online and they post their goals and the skills that they want to attain through their SAE.” Parent-13 explained that the student’s SAE goals has assisted him in being more committed to his SAE program,

setting his own goals, he has to be committed in raising these cows, making sure they’re fed once he gets home from school. The very first time when we got into the program, when he started the cows and he had to do his fence, his daddy put him to work. He was so tired by the end of the day,
digging holes and putting them posts in, he swore he didn’t want to ever put a post down ever again, but he doesn’t mind it now. He enjoys it.

**Community Member Support**

When developing a SAE program for students, community members can play a large role in providing students with resources or assisting students in achieving their goals. Community members do not have to be directly linked with the agricultural industry. Some community members are local business entrepreneurs and could have little knowledge of the agricultural industry. Some community members could just provide supportive comments to students who are conducting SAE programs or hire a student to complete work around their home.

When developing SAE programs, agriculture teachers assist with connecting community members with students. In some cases, the agriculture teacher may assist the student in acquiring a job or may assist students in identifying a community member that may be able to assisting them in providing guidance for their SAE program.

Teacher-1 explained that the development of “SAE’s is based on the community’s needs and what the community has to offer.” Therefore, Teacher-1 explained that the local “agriculture industry has a big play in SAE’s because we don’t have an aquaculture industry, that’s not really something I’m going to push a kid to do.” Some community members have developed a strong relationship with the agriculture teacher. Community members who have developed this type of relationship will contact the agriculture teacher before they hire employees to see if they have a student who might be interested in a job. These community members also assist with ensuring that students are completing their record books. Teacher-3 described one relationship with a local community member. “I have a few that actually tell their employees when they
hire them to make sure to check in with me, when they get started, and make sure that they follow up with their records.” Teacher-3 further described another situation where a community member was reluctant to hire a high school student for an opening in a construction business. A year later, the community member contacted that agriculture teacher to say that the student “was the first person he's ever seen in high school that he would rather hire straight out of high school."

The agriculture students noted through informal interviews and focus groups that community members had been positive influencers on student SAE programs. Students who worked for different community members recognized that their knowledge and skill had been enhanced because of their opportunity to work with a local community member. Student-1 who’s SAE was focused in equine science stated, “My personal trainer, influenced me a great deal. I learned so much from her, more than I would have ever learned on my own. She’s the greatest influence on me.” When talking about a local community member who is his/her boss, Student-8 expressed that “he’s been a big influence just igniting that passion and going beyond just helping me and cushioning me. He’s really cracked the whip and made sure I did all the dirty stuff as well as the good stuff.”

Furthermore, community members have provided the agriculture students with considerable amounts of positive comments regarding their SAE programs. When starting a business, Student-16 mentioned that community members have “pushed us along saying we would definitely buy eggs from you. So they kind of supported us once we brought that idea to them.” Student-17 described an affiliation with a local
community member as a supportive relationship where “I can talk about my SAE and random stuff I don’t know or understand.”

Beyond providing supportive comments, community members assist students in expanding their SAE programs. Student-4 explained that

Community members always come up to me and they give me ideas for what’s new to do with my project. They give me unique things that they found on the internet or something. They send me a picture, can you do this for me.

Further, Student-6 expressed that community members had provided opportunities to expand skills by “coming up to me and asking me to come ride their horses and work with their horses rather than just at the local farm it helps me meet other people and get to work with new horses or new.”

**Joint Supervision**

Every participant group recognized that providing supervision to students during a SAE program was important. However, community members believed that the supervision that was being provided in the classroom was not adequate. Parents, teachers, and students believed that supervision that was provided in the classroom was adequate and in some cases that an on-site visit was necessary. The data that were collected through informal interviews, observations, and focus groups provided evidence that students believed that they were adequately supervised. Therefore, the two subthemes emerged from the data were: classroom supervision and on-site supervision.

**Classroom Supervision**

Within the classroom setting, the agriculture teachers provided students with classroom time to work on the development and implementation of their SAE program.
During this classroom instructional time the agriculture teacher spent the entire time talking with students and asking questions about the students’ SAE program. During the classroom SAE work-time the students would raise their hands and ask several SAE specific questions of the agriculture teacher. Teacher-2 described a philosophy of SAE supervision as

The student is directly responsible for completing the project. It’s the teacher’s job to evaluate the student and to encourage the student to make sure the problems are getting done correctly and fill out the paperwork and that kind of thing. Then the community member or the parent is there to offer support as well, with the teacher, in ensuring that the project gets done.

One issue was noted by the agriculture teachers: with the current structure of class offerings it is difficult to physically see and talk to every student in the program since almost half of the students enrolled in an agricultural education course are not enrolled in the course every semester. When asked by the researcher about difficulties in reference to student supervision, Teacher-3 described this concern,

The only thing that would be is, as I am tracking them through their online recording, and that’s what I do. I do have probably, outside of the class that I currently have, so the 4 classes I teach right now, it’s about 80 kids total. I probably have 70 more students that I am watching on AET. Just seeing how they are doing on their tracking of their records and everything else. The hard part is how do I pull them in to say, "I want to see you do more. I want to see you keep working with the balance of everything else," but I do get to see quite a few. I probably talk to 3 to 5 kids on a weekly basis about their SAE outside of the students that I see in class.

Teacher-1 recognized some issues with only classroom supervision but described that classroom can be effective if they

Know what their (students) steps are that they are following, what they’re doing in that project and that’s why there’s progress checks and doing the things during the semester. If there’s something really alarming that I can say okay, let’s talk about what’s going on here.
Teacher-2 described the typical classroom instructional practices when students are working on their SAE program. “We take time in class and in computer labs so they can enter records on AET and we do performance reviews with the kids or progress checks with the kids in class, and I evaluate those progress checks.” Further, teacher-2 explained that “I provide supervision here in the classroom when they bring in their stuff, their records and things like that, that need class supervision. And to make sure that their stuff is done correctly.”

Students recognized the benefits of classroom supervision and the role that their teacher played in the supervision of their SAE program. Further, students noted that their parents or community members provided a majority of the supervision that they received outside of the classroom. The students explained that when they are in class that they spend time working with the agriculture teacher to ensure that they are completing their assignments and SAE correctly. In turn, the students are then responsible to relay this information to their parents or community members that are assisting them with their SAE program. Student-12 responded that the agriculture teacher provided supervision for the SAE program through the classroom “specifically for plants, for my tomatoes he showed me websites that showed the best tips for amount of sunlight and watering that they needed and when to take them out of the greenhouse habitat.” Student-21 recalled one experience with classroom supervision, “Yeah, in class he would set days so we could work on our SAE’s and if we had questions about it, he would just answer them, so that always helped.”

The parents who participated in the study recognized that the teachers were providing some supervision in the classroom. In many cases, the parents denoted this
practice as providing the students guidance and encouragement to keep them on schedule and assist them in meeting their goals. Parent-10 described the teacher’s role in supervision "as keeping them (students) on track to make sure they’re meeting their goals. That’s what I would say would be their (agriculture teacher) involvement as far as not actually doing the project, but assisting in keeping that schedule and meeting those goals." Further, Parent-12 explained that the teacher provided supervision when conducting “weekly checks on the paperwork, you know, do you have pictures, and do you have a way to present this to the class at the end of the year.”

**On-Site Supervision**

While the teachers in this study recognized the importance of conducting on-site supervision, each of the teachers affirmed that due to time constraints and the number of students enrolled in the SBAE program that on-site checks were near impossible. Teacher-2 stated that the only time to see a student’s SAE in person was “if they bring it up here to school.” Teacher-2 further recognized that the lack of supervision could reduce the successfulness of some students. “You might not have the numbers of successful students because of lack of supervision, but you’ve still got students that are still successful.” The teachers did recognize that they need to be more actively engaged in providing on-site supervision. Teacher-1 set a goal to visit “probably 20 kids in a year.”

Teacher-2 mentioned that relying on the parents and community members “for supervision, for the most part. Their supervisor has to sign off on their project at the end, their hours, to make sure that they’ve actually completed those hours.” However, Teacher-1 argued that not every parent can provide adequate supervision unless “if their parent is in that industry then I think that they can handle the supervision.”
Teacher-3 supported Teacher-1 that all parents are not able to provide supervision of students engaged in a SAE program. Teacher-3 noted that if parents or community members provided supervision to a student that they were required to complete “some forms and they can say, this student is doing these things, this student has showed me how to do this specific task.” Teacher-3 expressed that there is a need to train community members to provide supervision to students. Teacher-3 also stated that providing that training would be difficult, but “if there were the opportunity to get out and explain to them all, yes, it could happen, but there is just so many students, especially the ones that don't know their employer.”

The students realized that if the SAE program was conducted on the school grounds utilizing school resources that the agriculture teacher provided more supervision to the student than if the SAE was conducted at home. Student-9 described the amount of on-site supervision that was received by a student was dependent upon where the program was housed. “If it’s at school then yes, they’re going to be with you and supervising you in everything you do, but if you’re kind of doing it at your house … they’re not really going to be there to supervise you.” Student-10 further explained that “my supervisors, they’ve always been my parents or your boss.”

Only one parent expressed they were the supervisor for the student’s SAE program. All of the other parents believed that the teacher was providing all of the necessary supervision for the SAE program and that their major role was to support the student throughout the SAE program. Parent-3, the one parent who recognized the parent’s role as the supervisor, stated that “the teacher is not part of my family
operations so [My teacher] will have no clue what is going on but I am the responsible party here.”

Community members were rather concerned with the amount of time that the agriculture teacher spent on-site with students. Being the supervisor of the student’s SAE program was recognized by the community members as one of their roles in assisting with a student SAE program. However, the community members suggested that if this was expected by the agriculture teacher that a training session should be conducted with every community member assisting with student SAE programs. This way every student was receiving a similar experience and adequate supervision throughout the entire program. Community member-3 recognized that teachers may not need to be the “direct supervisor but I think one thing they could do is make sure that the employer realizes that this is an education experience.” Further, community member-2 explained that the agriculture teacher needs to provide “clear expectations up front so the employer knows what is expected of him as the employer in terms of guidelines, rules, regulations, expectations.” Community member-1 added that “the student is trying to reach certain goals for his SAE and it is important for the employer to know that.”

**Shared Expectations**

The final theme established from the collected data was the theme of culture. Participants described a developed and now inherent culture for SAE development and implementation within the SBAE program. The described culture has ensured that students recognize that if they are enrolled in an agricultural education course that the expectation exists to engage in a SAE program. Furthermore, it was noted that it is essential for there to be buy-in by students, parents, community members, and school
administrators. From the data the following factors were established: supportive administration, prior sibling/family involvement in SAE, and development of a culture for SAE.

**Supportive Administration**

When working in a public school system, teachers must ensure that their local administration supports the work that is being done in their classrooms. The teachers and community members in this study recognized and discussed the supportiveness of the building administrators in both schools. While only an informal conversation to thank the building administrators for their support of this study was held, it was noted by the researcher that the administrators were proud of the SBAE programs that were housed in their schools. The agriculture teachers believed that they had supportive administrators in both schools who supported the work that they were doing through SAE both inside and outside of the classroom setting. Teacher-2 explained that the administration in our school is very supportive of what we do, especially with the way we conduct our SAE projects … The program has a long-standing history here at the school, so the facilities help, the administration helps. It all helps in the success of SAE.

One way that administrative support is increased is through involving them in different aspects of the SAE program. Teacher-1 explained one way that administrative support is increased in their school.

When we do our presentation expo at the end of the semester, we invite our faculty and administration to participate in that. We encourage them to come down because they hear a lot about the SAE project. They don’t necessarily know very much about it but they hear kids talking about it so we feel like if they can kind of get a bird’s eye view of what’s going on and kind of one on one that they will appreciate the project more.

Teacher-3 explained that having supportive administrators can assist in increasing student involvement in SAE.
They (administrators) see the connection between career development and the SAE portion of the AG program and my administration said that our AG programs needs to do more SAE and we need to find ways to make that available to them to do that, and that makes the students understand it even more that it has to be done.

Beyond just teacher recognizing the importance of administrative support, the community members noted that it is important to have support from both local and district administrators. The community members expressed that one way to ensure that administrators support a program was to ensure that the administrators can determine that student learning occurred within the program. Community member-3 stated, “The other thing I think that really is help to be supportive is having the support of school board and the school administration. Our administration is pretty supportive of FFA and SAE and that whole concept.” Community member-3 further explained that “unless you have them on board because they can through up roadblocks and challenges” for the agriculture teacher to face when developing and implementing student SAE programs.

Community member-2, who had served on the local school board, added that

Many administrators discover that a successful program will attract students to it. If there’s enrollment in the classes it must be doing pretty good but the administrator that has the correct vision about it sees if they are learning in the classroom and how they do that is by supervision, by interacting with the students and seeing the learning by end of the program. Good administrators have the big picture in mind and they can tell if the kids are learning or not.

Prior Sibling Involvement in SAE

When conducting a SAE program, students and their parents discussed that older siblings’ experience with SAE had an impact on the current student’s involvement in SAE. Further, the prior student’s involvement in SAE assisted in the development of a culture within the family that participation in SAE was an expectation. Parents noted
that they had a perceived better conceptualization of the concept of SAE and that they believed that they were better able to support their son or daughter.

The students who had an older sibling who took an agricultural education course and conducted a SAE program indicated that in many cases they had similar interests as their older sibling and conducted a similar SAE program. Student-20 discussed that older siblings had a large impact on involvement in SAE. “I have older brothers that were super involved in FFA, they were both presidents and I saw them succeed with their SAE, so I kind of felt like I should then.” Student-20 added that older siblings’ involvement in SAE was a supportive factor as well. “I wasn’t forced to I chose to (participate) and just seeing them be able to succeed, it motivated me to want to succeed also.”

In some cases, the older and younger brothers and sisters worked together to develop a single SAE program that met the needs of each student. When discussing the development of an SAE program, student-18 shared that a grandfather first had the idea to raise poultry and “brought the interest to me and then also to my sister, but I basically run the program.” Student-18 further stated that her sister will take over the project when she enters high school in two years. When discussing how the SAE program was established, student-16 shared that “about seven years ago my two brother and I decided we wanted to raise laying hens and broiler chickens, so we started off with about 20 layer hens and 8 broilers and it’s kind of grown from there.”

The parents who had multiple students complete a SAE program shared that having more than one child engaged in a SAE can be exciting. The parents added that it was especially exciting when they saw both children find their interest. It was noted
that some of the siblings developed a SAE program together and that the second sibling further developed the program when they entered the agricultural education course.

Parent-10 discussed the experience of having two students conduct a SAE program.

Since we had the 1st daughter that did it and then the 2nd daughter picked up on it and she did expand it to some other things that the 1st daughter didn’t. Then, we have a son coming in. He’s looking forward to it. He will be in high school next year. I think it just builds excitement.

Further, Parent-1 explained that the student was motivated to participate in SAE because “he knows his older sister did it.”

**Development of a Culture for SAE**

Participants described a culture for participation in SAE that had been developed at each of the participating schools. The students understood that they were expected to conduct a SAE program if they enrolled in an agricultural education course. Teacher-1 explained that “there are kids who will not take ag classes because of the SAE, because there’s extra work involved and they can go take another CTE class and not have extra work.” Teacher-3 explained that student perspectives regarding SAE change over time when a culture for SAE is developed. Teacher-3 explained the experience with developing a culture for SAE,

It makes the idea when you come into 9th grade and you take an AG class, and I was here about 4 years ago, that day of SAE class was, it might as well been a riot, because kids are going to argue, … why do I have to do this? Why do I have this? I think engines class. I didn’t take AG experience class. I took an engines class … You get that argument. I don’t get that argument anymore. The expectation is there and so the community expects it. Like if you take a class in art or whatever it might be, it’s expected that you might have to spend a little money on some clay and some art supplies, something like that.

The agriculture teachers expressed that they were proud of the culture that they had developed and that they were pleased that students recognized that involvement in
a SAE program was required of every agricultural education student. Teacher-2 explained how the culture for SAE had changed.

Before we got here five years ago, the SAEs were not a major component in the classroom, and we made it that major component. Throughout the course of those five years, we constantly raised the expectations. Five years in, we’ve had some success and the kids see that success and they start working to get to that point. We’ve seen that go from maybe one or two kids with quality projects to six, eight, ten, twelve kids with quality projects and some kids that if we just push them a little bit harder, they could be there, and we’ve identified kids that are coming in that could have really good projects as long as we stay with them.

Teacher-1 suggested that having a multi-teacher program could be beneficial when developing a culture for SAE.

I think that every school is different, every teacher’s philosophy is different so you’re going to always have some variations. Sometimes that’s what’s great about having that two teacher department or a multi teacher department is that you get two people or three peoples perspective on how you can develop a culture for success.

Also, teacher-3 described that once the culture has been developed that it develops “into a family culture. They prepare for that. They do hand down each other ideas of SAE’s and stuff like that, and that’s fine.”

One of the students made a comment regarding the development of a culture for SAE. Student-8 indicated that watching other students develop a SAE program led to better preparation to develop and implement an SAE. Student-8 stated that watching friends develop their SAE “helped me develop my SAE and I was just constantly reminding myself, I have people backing me up, I have resources and I can do this.”

The parents noticed that the students were assisting in the process of developing a culture for SAE. Many of the parents described that their son or daughter enjoyed being in an agricultural education course and they had made friends through FFA. Those friendships encouraged students to participate and engaged in the SAE
development and implementation process. Parent-5 expressed the student had “become part of this group of kids. They just want to continue to be with them, I think. They just keep going.” Parent-4 agreed “that the peer group is a big drive for these kids to staying in and being involved.” The other students who were enrolled in an agricultural education course supported and encouraged one another. Parent-10 explained that “it’s a great community … from the other students, the students they work with, also. They’re excited about the projects each of them is working on.” Parent-10 continued that because of the culture for SAE that had been developed that My children have just wanted to do it. It hasn’t been where we had to beg and prod like with some things that you have. They want to do it. I think they enjoy it. They would rather be doing that than just about anything else. You don’t find many things like that.

Summary

The findings of this study were presented in this chapter. The research questions that guided this study were: (1) What teacher factors are present in the development and implementation of exemplary SAE programs in rural schools? (2) What student factors are present in the development and implementation of exemplary SAE programs in rural schools? (3) What school factors are present in the development and implementation of exemplary SAE programs in rural schools? (4) What community factors are present in the development and implementation of exemplary SAE programs in rural schools? and (5) What family factors are present in the development and implementation of exemplary SAE programs in rural schools? The five themes that emerged from the data were: committed teachers, student-centered SAE programs, supportive surrounding “community,” joint supervision, and shared expectations. Within those themes, the following 20 development and implementation factors emerged:
involved teachers, concrete examples, early introduction of SAE, required SAE programs, team approach to development, SAE grade, career/student interest focus, school resources, specialized program for each student, student learning, FFA influence, supportive parents, parental knowledge of SAE, program goals, and community member support, classroom supervision, on-site supervision, supportive administration, prior sibling/family involvement in SAE, and development of a culture for SAE. The findings that were presented in this chapter are further discussed in the following chapter.
CHAPTER 5
SUMMARY, CONCLUSION, AND RECOMMENDATIONS

Introduction

Chapter 1 described the current educational system and the current concerns regarding the utilization of Supervised Agricultural Experience (SAE) programs in School-Based Agricultural Education (SBAE). Chapter 1 also presented the justification for examining SAE programs within rural SBAE. The primary purpose of this study was to identify factors that are present in the development and implementation of exemplary SAE programs in rural schools.

Chapter 2 described the conceptual framework that guided this study and presented a thorough review of recent and historical literature that was relevant to this study. The review of literature concentrated on empirical research in the following areas: student, teacher, parent, community, and school factors that influence the development and implementation of SAE programs.

Chapter 3 presented the research methodology that was utilized to guide this study. The chapter presented the ontological perspective, epistemological perspective, theoretical perspective, data collection procedures, data analysis techniques, and measures to ensure the trustworthiness and rigor of this study.

Chapter 4 presented the findings obtained through the data collection and analysis processes. The findings addressed the research questions of this study. Chapter 4 presented the five themes present in the data that were collected from students, teachers, parents and community members whom were engaged in SAE in a rural SBAE program.
This chapter will present the conclusions based upon the findings of this study. This chapter will also present recommendations for practitioners, teacher preparation, and future research. The following research questions guided this study.

**Research Questions**

1. What teacher factors are present in the development and implementation of exemplary SAE programs in rural schools?
2. What student factors are present in the development and implementation of exemplary SAE programs in rural schools?
3. What school factors are present in the development and implementation of exemplary SAE programs in rural schools?
4. What community factors are present in the development and implementation of exemplary SAE programs in rural schools?
5. What family factors are present in the development and implementation of exemplary SAE programs in rural schools?

**Methods**

This study utilized qualitative methodology to identify teacher, student, parent, school, and community factors that were present in the SAE development and implementation processes. The participants and states were purposefully selected based upon *a priori* criteria that were established by a panel of experts. Once the criteria were established and the states selected, the researcher contacted an agricultural education university faculty member and the state agricultural education supervisor. The agricultural education university faculty member and state agricultural education supervisor were asked to provide the names of three-to-five rural agricultural education programs that met the established criteria for exemplary SAE programs in rural schools. The established criteria were as follows:

1. SBAE programs that conduct exemplary student SAEs have, at minimum, 75% of students enrolled in agricultural education courses engaged in SAE programs,
where student SAEs consist of a multi-year program in which more than 100 hours of active participation have been recorded in their respective SAE programs.

2. Rural programs are SBAE programs where a majority of the student body lives in a community of less than 2,500 people (USDA, 2013). However, if a county school system is utilized, than the SBAE program should be located in counties of less than 49,999 people (Office of Management and Budgets, 2013).

The researcher then contacted each of the nominated schools to seek their willingness to participate and determine if the school met the selection protocol.

Data were collected over a two-day period utilizing formal interviews, focus groups, informal interviews, and observations. The focus groups contained four to six student, parent, or community member participants and lasted between 80 and 110 minutes. The formal interviews were conducted with each of the agriculture teachers and lasted between 50 and 90 minutes. The formal interviews and focus groups were audio recorded and transcribed for data analysis. The data were analyzed using Lincoln and Guba’s (1985) constant comparative method. Lincoln and Guba described a four-step analysis process that included:

1. Compare incidents applicable to each category
2. Integrate categories and their properties
3. Delimit the construction
4. Write the construction.

Finally, trustworthiness and rigor of the study were upheld according to Lincoln and Guba (1985) and Dooley (2007). To ensure the credibility of the research study, the researcher utilized the following methods:

1. Member checking,
2. Peer debriefing,
3. Persistent observations,
4. Referential adequacy materials, and
5. Triangulation.
To uphold the trustworthiness of the research, the researcher utilized thorough and thick descriptions of the context and data to ensure that the results of the study can be applied and fully understood by the reader. Furthermore, the researcher utilized a methodological journal to ensure the dependability and confirmability of the research was upheld.

**Summary**

The following themes emerged from the data during the data analysis process:

- Committed teachers,
- Student-centered SAE program,
- Supportive surrounding “community”,
- Joint supervision, and
- Shared expectations.

The participants in this study emphasized each of these themes in their responses during the classroom observations, informal interviews, formal interviews, and formal focus groups. Furthermore, 20 development and implementation factors emerged from the data (Figure 5-1).

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<thead>
<tr>
<th>Identified Factors</th>
<th>Field</th>
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<td>Career/Student Interest Focus</td>
<td>Prior Sibling/Family Involvement In SAE</td>
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<td>Classroom Supervision</td>
<td>Program Goals</td>
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<td>Community Member Support</td>
<td>Required SAE Programs</td>
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<tr>
<td>Concrete Examples</td>
<td>SAE Grade</td>
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<td>Development of a Culture for SAE</td>
<td>School Resources</td>
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<td>Early Introduction Of SAE</td>
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<td>On-site Supervision</td>
<td>Supportive Administration</td>
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<tr>
<td>Parental Knowledge of SAE</td>
<td>Team Approach to Development</td>
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Figure 5-1. Development and Implementation Factors

**Committed Teachers**

In this study, the agriculture teachers were dedicated to assisting their students in the development and implementation of a SAE program. In some cases, this
required the agriculture teachers to provide additional instruction and support following school. The additional support included: providing students access and supervision in the agricultural education laboratories, assisting students with their record books, and assisting students with taking pictures of their SAE program. The agriculture teachers were found to be supportive and encouraging towards student participation in SAE. Parents believed that the agriculture teacher was a major reason that students were involved and engaged in a SAE. The students in this study reported that the agriculture teacher was involved in assisting the students in developing their SAE topic and the resources needed to conduct their SAE.

The agriculture teachers reported that they began their instruction on SAE within the first 2-3 weeks of school. This instruction included multiple days of learning activities associated with assisting students in the development of a SAE topic. Throughout the instructional time, the agriculture teachers would provide concrete examples of various SAE programs that other students in the high-school had conducted. The students recognized that the utilization of these concrete examples assisted in the development of a SAE topic. Having peer students present their SAE assisted in increasing the other agriculture students’ interest in participating in a SAE program. The agriculture students indicated that they were excited or interested in conducting a SAE program because they witnessed their friends develop and implement a SAE program.

According to the agriculture teachers, parents, and community members, every student enrolled in an agricultural education program should be required to conduct a SAE program. The agriculture teachers stated that a predetermined number of student
hours was set for students to be engaged in their SAE program. The teachers reported that limited time influenced the teachers focus on SAE and their involvement in student SAE programs.

When developing SAE programs, the agriculture teachers, parents, and community members indicated that an adult should assist the students during the development and implementation processes. However, it was stated that the program partner who is most involved will vary based upon the student's need and interest. The parent and community member participants indicated that they could be considered the primary program partner. The students discussed that in many cases the agriculture teacher was the major program partner that assisted in the development and implementation process. However, some students did recognize that their parents and community members assisted in motivating a particular interest within their SAE program.

The agriculture teachers stated that their evaluations of SAE were both objective and subjective. Throughout the semester, the agriculture teachers required each student to complete different assignments which included answering a variety of questions related to their SAE, completing a program plan, establishing goals for the program, and record checks. According to the agriculture teachers, these assignments were graded in an objective manner, many times based upon completion and thoroughness. However, at the end of each SAE program students were evaluated upon their personal development throughout the SAE program. When evaluating a student's personal development, the agriculture teachers contended that subjective
grades were developed based upon the student’s knowledge and skill growth throughout the SAE program.

**Student-Centered SAE Programs**

Agriculture teachers, students, parents and community members contended that SAE programs should be developed based upon a student’s interests. The students in the study stated that the programs that were developed based upon student resources were not successful and that their interest in engaging in these programs was diminished. Following the first year of an SAE program, many of these students developed a new program, based on their personal interests, if they were engaged in agricultural education and SAE during a second year.

Conversely, the agriculture teachers stated that in some cases it was necessary to initially develop a SAE program for students based on resources to assist them in developing an agriculturally-based interest. The agriculture teachers agreed with the agriculture students, parents, and community members that once a student’s interest in agriculture was discovered that student interest was essential for the success of a SAE program. More specifically, the agriculture teachers noted that some students required the utilization of school resources to conduct a SAE program. Agriculture students who utilized school resources and their parents recognized that student participation would decrease if school resources were not utilized. One of the parents did note that the SAE-based resources provided by the agricultural education program were lacking quality. However, this parent noted that they were in contact with school administration to garner financial support to increase the quality of the agricultural education department’s resources.
During the student informal interviews, the agriculture students noted that they enjoyed making their own decisions and managing their own programs. All of the participants in this study described that individual student SAE programs should be conducted. The participants noted that student interest was enhanced when individual SAE programs were utilized. The agriculture teachers believed that individual student SAE programs were easier to manage than student group SAE programs.

The student data from formal and informal interviews and observations supported that students believed that their SAE involvement was beneficial and assisted them in eliminating and selecting a specific career choice. The agriculture students also noted that they believed that their involvement in a SAE program had influenced their career decision. Agriculture teachers believed that SAE programs should be utilized to assist agriculture students in exploring potential careers within the agriculture industry. Parents explained that involvement in a SAE program allowed for many of their children to eliminate possible career choices.

Beyond simply impacting a student's career choice, agriculture teachers, students, parents, and community members believed that SAE programs should be developed to further support and promote student learning. Agriculture teachers viewed a SAE as an extension of classroom instruction and believed that student knowledge gain was essential. The agriculture teachers reported that student learning supported the purpose of engaging agriculture students in a SAE. The agriculture students stated that a benefit of engagement in SAE was knowledge gain about a specific skill and the agriculture industry. Community members noted through the focus groups that student knowledge gain was an essential component of a SAE program and that teachers
should continue to promote student development. The community members further suggested that SAE provided some students with an instructional strategy that met their individual learning needs.

Many of the agriculture student participants saw FFA as a supporter of their SAE, not as a purpose for their SAE. Beyond supporting their involvement in SAE, the agriculture students noted that involvement in FFA was beneficial to their development and their achievement of personal and career goals. Some of the students who were most engaged in working on their SAE programs during class time were not FFA members. The researcher noted the most engaged students and verified with the agriculture teacher that the student was not active in the FFA chapter.

**Supportive Surrounding “Community”**

Parents noted that their involvement in SAE programs assisted in the development of a student’s interest in agriculture. The parent participants believed that in most SAE programs they were responsible for supporting the agriculture student. However, it was noted that the level and type of support varied based upon the needs of each student. In some cases, parents provided the necessary resources and supervision for the SAE program, while in other cases the parent simply provided motivational support and transportation to and from their SAE. The agriculture students and teachers both agreed that parental support was a necessary component to a SAE program. Agriculture students noted that parental support increased the agriculture student’s motivation to participate in a SAE program. The students explained that the support of their parents assisted in strengthening their interest in the SAE topic and reinforced their desire to conduct an exemplary SAE.
In each of the parent focus groups, the question of “what does SAE stand for” was asked of the researcher. Parents noted that they received a packet of information when their son or daughter enrolled in an agricultural education course. However, the parents expressed that they spent little time reading or examining the document. Some parents noted that they were relieved that more information was not provided at the beginning of the SAE program. One parent even went as far as stating that if they had all of the information they had currently, at the beginning of the SAE development process, that they would have felt overwhelmed and probably would not have encouraged the student to participate. The agriculture teachers in this study stated that they attempt to provide parents with information regarding the purpose of SAE and the parents role in the overall SAE program.

Even though parents lack knowledge regarding SAE, the findings supported that they have a firm belief that SAE is beneficial to student development. This study examined parental beliefs from parent responses to questions during a semi-structured focus group. The parents firmly believed that student development was essential to conducting an exemplary SAE program. This factor emerged from observations of the parent’s body language during the focus groups and their specific statements. When parents described their beliefs towards student knowledge development and growth, the parents would sit forward in their chair and their hand motions became more animated.

All participants expressed that agriculture students should generate program goals instead of a four-year plan when developing and implementing SAE programs. The agriculture teachers in the study expressed that students who took a freshman or first-year agricultural education course may not enroll in an additional agricultural
education course. Agriculture teachers denoted that student SAE topics may change as the student’s interests in agriculture evolves and develops. The agriculture students and parents believed that SAE program goals assisted students in making decisions and promoted student engagement in their SAE. Agriculture students, teachers, and parents noted that the student’s SAE goals could be skill/knowledge based or personal goals that would be enhanced through SAE involvement. In turn, the agriculture students and parents noted that SAE goals assisted the agriculture students in the development of career skills and knowledge regarding particular careers within the agriculture industry. In turn, this allowed agriculture students to select and eliminate potential future careers.

Agriculture students and teachers recognized that community member support and encouragement increased student engagement in SAE. The agriculture students expressed that when community members provided kind words or words of encouragement that their motivation to participate and conduct quality work increased. The agriculture students indicated that positive comments from community members promoted their self-esteem and gave them pride in their work and personal abilities. Students explained that community members often suggested ways for their SAE program to improve and provided opportunities for the student’s SAE program to expand.

**Joint Supervision**

The need for supervision was an emergent theme throughout the data. The agriculture teachers recognized that providing agriculture students with adequate supervision was an essential component of their role in a SAE. The agriculture teachers discussed two different forms of supervision that was provided to the
agriculture students engaged in SAE programs. These two forms of supervision were: (1) on-site and (2) classroom supervision.

Agriculture teachers recognized that on-site supervision was more beneficial to students engaged in SAE. However, the agriculture students recognized that on-site supervision could be conducted by someone other than the agriculture teacher. The parent and community member participants recognized that they could and do provide supervision to agriculture students during their SAE. Agriculture teachers noted that parents and community members could provide agriculture students with adequate on-site SAE supervision. While the agriculture teachers in this study believed that on-site supervision was beneficial, the agriculture teachers were found to primarily conduct classroom supervision practices. Classroom supervision included SAE work days, answering student questions regarding SAE, reviewing student SAE record books and providing feedback, and providing classroom instruction on SAE.

While community members agreed that they could and do provide supervision to student’s during a SAE, they stated that they had never received any formal training regarding SAE supervision practices. Therefore, the community members suggested that specific SAE supervision training sessions should be conducted. The community members suggested that the SAE supervision training sessions include pertinent techniques for providing students with adequate supervision during a SAE. However, it was noted that even if adequate training was conducted that agriculture teachers should still increase the number of on-site supervisory visits that they conduct. One community member noted that they believed the agriculture teacher should conduct one on-site supervisory visit per student per month.
Shared Expectations

The participants in this study described that a culture for SAE participation fostered student participation. More specifically, the students noted that once the culture was established, that students within the school were aware that enrollment in an agricultural education course required the completion of a SAE program. Agriculture teachers were adamant that the development of a culture for SAE took several years to develop. The agriculture teachers noted that there were many difficult moments during the development of a culture for SAE. However, if the agriculture teacher continued to promote student engagement in SAE by every student then the agriculture teachers in this study believed that a culture for SAE would be developed.

The programs in this study had strong administrative support for student involvement in SAE programs. The teachers noted that administrators were invited to attend instructional lessons on SAE. Furthermore, administrators were invited to participate in the SAE showcase, where agriculture students presented their SAE programs to the other students in the agricultural education course.

The students who had siblings who were agricultural education students had an established SAE prior to entering the SBAE program. Parents and teachers both described that the students had a better conceptualization of the SAE expectations if they had a prior sibling who was involved in agricultural education courses and had conducted a SAE program. Many of the students stated that they worked with their siblings to develop a SAE program that met both of their interests. The student participants who had a sibling conduct the same SAE described how they utilized their own ideas to assist in the evolution and development of their SAE program. The parent participants noted that they believed that if they had two children conduct the same SAE
program that each student made their own mark on the development of the SAE. Each student was able to make their mark on the SAE program because they had seen the success and failures of their sibling.

Conclusions

Based upon the findings of this study, the following conclusions were drawn. In rural schools with exemplary SAE programs as a component of the SBAE program:

1. The agriculture teacher is the most important program partner in the development and implementation of exemplary SAE programs.

2. Every student in an agricultural education course develops a SAE that is evaluated by the agriculture teacher based on record keeping practices taught within the first month of school.

3. Multiple program partners are central to the SAE development process.

4. Students’ career and personal interests drive SAE program development.

5. Involvement in an SAE program influences an agriculture student’s career decision.

6. SAE programs are beneficial to student development.

7. The FFA awards and degree structure serves as an extrinsic motivator for student participation in SAE programs.

8. Parents and/or community members support student SAE programs.

9. Parents lack general knowledge of SAE programs.

10. SAE programs are guided by goals instead of a 4-year plan.

11. Teachers supervise SAE programs during agriculture classes.

12. On-site supervision leads to higher quality SAE programs.

13. Parents and community members supervise students’ SAE programs in addition to the teacher.

14. Student participation in SAE programs encourages friends to also engage in a SAE programs.

15. School administrators support SAE programs.
16. Prior sibling or family involvement in SAE programs increases student participation in SAE and assists in the development of a culture for SAE.

Implications

Each participant in the study agreed that the utilization of SAE programs was vital to the success of SBAE within the United States Public School System. This overarching finding supported the works of Barrick et al. (1991), Rayfield & Croom (2010), Retallick (2010), Retallick and Martin (2008), Roberts and Harlin (2007), and Wilson and Moore (2007).

Conclusion: In rural schools with exemplary SAE programs as a component of the SBAE program, the agriculture teacher is the most important program partner in the development and implementation of exemplary SAE programs.

The agriculture teacher is the most important influencer in engaging students in a SAE program. This supports the work of Osborne (1988) and Swortzel (1996) who reported similar findings that the agriculture teacher has the most influence over the utilization of SAE programs within SBAE. Therefore, teacher preparation programs must continue to prepare preservice teachers to develop, implement, and supervise SAE programs. This includes teaching students the why, what, and how of creating exemplary SAE programs. Furthermore, teacher educators should provide inservice teachers with professional development regarding SAE program development, implementation, and supervision.

Conclusion: In rural schools with exemplary SAE programs as a component of the SBAE program, every student in an agricultural education course develops a SAE that is evaluated by the agriculture teacher based on record keeping practices taught within the first month of school.

In SBAE programs where exemplary SAE programs exist, every agriculture student was required to conduct a SAE program. This conclusion was supported by the work of Roberts and Dyer (2004) and Terry and Briers (2010) who postulated that
teachers were expected to utilize SAE and to encourage students to participate in a SAE program. However, this study found that SAE was one of the most difficult components of agricultural education to teach and implement with students, further supporting the work of Dyer and Osborne (1995) and Robinson and Haynes (2011). The findings of this study supported the work of Dyer and Osborne (1995) and Osborne (1988) who postulated that agriculture teachers should require students to engage in SAE and complete proper records.

Similar to the work of Leising and Zilbert (1985), this study found that during the development process of a student SAE program, the agriculture teacher should provide clear evaluation expectations for the student. By providing clear expectations, agriculture students were more prepared for conducting a SAE program. This finding of providing clear expectations to students was supported by the work of Phipps et al. (2008) and Barrick et al. (2011).

It was also concluded that all students are evaluated during their SAE program. This finding was supported by Leising and Zilbert (1985) who concluded that student SAE programs should be evaluated by the agriculture teacher. It is suggested that each teacher determine a grading method that is most appropriate for their students and SBAE program.

Conclusion: In rural schools with exemplary SAE programs as a component of the SBAE program, multiple program partners are central to the SAE development process.

All program partners should be utilized in the SAE development and implementation processes. The findings indicated that the agriculture teacher should recognize when a student may benefit from the involvement of a parent or community member in the development and implementation processes. Once this need is
recognized, the agriculture teacher should identify the most appropriate program partner and begin to foster a positive relationship between the two parties, therefore promoting student engagement in their SAE program.

**Conclusion: In rural schools with exemplary SAE programs as a component of the SBAE program, students’ career and personal interests drive SAE program development.**

Student interest drives the SAE development and implementation processes. This finding was supported by Phipps et al. (2008) who described that student SAE programs could be developed based on student interest. The agriculture teachers found that during the first year of agricultural education some agriculture student’s SAE program were developed based upon resources. However, it was noted by the agriculture teacher and student participants that a SAE program should be developed based upon student interests instead of resources, if a student enrolled in an additional agricultural education course. This finding was supported by Bird et al. (2013) who reported that students who complete more than one year of a SAE were motivated by internal motivators, such as interest in their SAE program topic.

By providing school resources to agriculture students that agriculture teachers can garner parental and community support for the agricultural education program. Therefore, if agriculture teachers assist students in securing the necessary resources to carry out a SAE program, student participation in SAE may increase. Supporting the recommendation of Lewis et al. (2012), the agriculture teachers described that school resources were often utilized by agriculture students in order for all students to be engaged in SAE. Similarly to Franklin (2008), the most commonly utilized school resource in this study was the school greenhouse.
Conclusion: In rural schools with exemplary SAE programs as a component of the SBAE program, involvement in an SAE program influences an agriculture student’s career decision.

All participants believed that involvement in a SAE program influences an agriculture student’s career decisions. This finding was supported by Rubenstein and Thoron (2014) who found that American FFA Degree Star Finalists believed that involvement in a successful SAE program influenced their career decisions. Supporting the work of Roberts and Harlin (2007), the agriculture teachers in this study believed that SAE programs should be utilized to assist student in exploring potential careers within the agriculture industry. Conversely to the findings of Pals (1989), the parents in this study believed that agriculture student involvement in a SAE program did influence a student career choice.

Conclusion: In rural schools with exemplary SAE programs as a component of the SBAE program, SAE programs are beneficial to student development.

Beyond simply impacting a student’s career choice, agriculture teachers, students, parents, and community members believed that SAE programs should be developed to further support and promote student learning. The work of Barrick et al. (2011) and Phipps et al. (2008) supported the finding that student learning and development should be an essential component of a SAE program. Further, Rubenstein and Thoron (2014) found that a benefit of engagement in a successful SAE was knowledge gain about a specific skill and the agriculture industry. Therefore, it was concluded that student development and growth is an essential component in an exemplary SAE and should be considered during the development and implementation processes.
Conclusion: In rural schools with exemplary SAE programs as a component of the SBAE program, the FFA awards and degree structure serves as an extrinsic motivator for student participation in SAE programs.

FFA awards and degrees are an extrinsic motivator for student participation in SAE. This finding was supported by Bird et al. (2013) that found that the extrinsic motivator of the FFA award and degree system initially motivated agriculture students to engage in a SAE program. Bird et al. further stated that after the first year intrinsic motivators had a larger influence on student participation than extrinsic motivators, such as the National FFA Organization. In this study, many of the agriculture student participants saw FFA as a supporter of their SAE, not as a purpose for their SAE. This finding differed from Leising and Zilbert (1985) and Williams (1979), who found that student participation was due to the influence of the FFA award and degree structure.

Conclusion: In rural schools with exemplary SAE programs as a component of the SBAE program, parents and/or community members support the student's SAE programs.

In order for the student to be fully engaged in SAE, parents and community members must assisted in the development of a student’s interest in their SAE topic and the agriculture industry and reinforced their desire to conduct an exemplary SAE. Williams (1980) supported this finding in his study of high school students' perceptions of the assistance that they received from their parents. The findings from this study suggest that community members have a similar impact on the development of student interest in agriculture and their SAE topic. Therefore, it would be beneficial for agriculture teachers to garner community member and parental support for the agricultural education program and SAE.
Conclusion: In rural schools with exemplary SAE programs as a component of the SBAE program, parents lack general knowledge of SAE programs.

While parents were extremely supportive of student participation in SAE, it was found that parents lack general knowledge of SAE concepts. Phipps et al. (2008) supported this finding and further stated that agriculture teachers should provide parents with information regarding the purpose and benefit of student engagement in a SAE program. However, in this study it was found that even with a lack of parental knowledge of SAE that parents were still supportive of student participation. Therefore, it was concluded that parents needed limited information regarding SAE to be supportive and encourage student participation in their SAE program. It is important for agriculture teachers to purposefully select the information that they share with parents during the development and implementation process. This information should include the expectations that teachers have for student SAE programs and their expectations for parent involvement in SAE.

Conclusion: In rural schools with exemplary SAE programs as a component of the SBAE program, SAE programs are guided by goals instead of a 4-year plan.

SAE program goals were utilized by students instead of a 4-year plan. In this study, agriculture teachers believed that it was more beneficial for the agriculture students to develop reasonable and attainable goals for their SAEs. Further, it was found that student SAE goals included both skill/career-based and personal development goals. The agriculture students suggested that their agriculture teacher provided support in the development of their SAE goals, further supporting the work of Williams (1980).
Conclusion: In rural schools with exemplary SAE programs as a component of the SBAE program, teachers supervise SAE programs during agriculture classes.

Agriculture students, teachers, and parents in this study believed that classroom supervision was an adequate form of supervision for SAE programs. The agriculture teachers noted that classroom instructional time was dedicated to classroom SAE supervision and that this was a choice they made to ensure that all students were successful in their SAE. However, community members believed that more on-site supervision should be conducted by the agriculture teacher during a student SAE program. One community member noted that they believed the agriculture teacher should conduct one on-site supervisory visit per student per month.

Conclusion: In rural schools with exemplary SAE programs as a component of the SBAE program, on-site supervision leads to higher quality SAE programs.

The findings of this study supported the work of Dyer and Williams (1997) and Roberts and Dyer (2004) that stated agriculture teachers recognized that providing agriculture students with adequate supervision is an essential component of their role in a SAE. Similar to previous research by Dyer and Williams (1997) the agriculture teachers denoted that due to a lack of resources and time that the number of on-site supervisory visits was limited. However, the agriculture teachers in this study believed that on-site supervision was beneficial to student success in their SAE. The agriculture teachers in this study believed that student SAE programs would be of higher quality based upon the amount supervision that students received. This finding was supported by Anyadoh and Barrick (1990), Harris and Newcomb (1985), Gibson (1988), and Dyer and Williams (1997) that examined agriculture teacher supervision practices of SAE.
Conclusion: In rural schools with exemplary SAE programs as a component of the SBAE program, parents and community members supervise students’ SAE programs in addition to the teacher.

All of the participants believed that an adult other than the agriculture teacher could supervise a student SAE program. This finding supported the work of Lewis et al. (2012b) that reported that supervision practices be shared between the agriculture teacher, parent and community member. Therefore, agriculture teachers should work to identify capable parents and community members to serve as SAE supervisors.

The community members in this study stated that they had never received any formal training regarding supervision practices for a student SAE and felt unprepared to properly supervise student SAE programs. Therefore, it was concluded that community members need specific training sessions. More specifically, the training sessions need to include pertinent techniques for providing students with adequate supervision during a SAE. However, it was noted that even if adequate training was conducted that agriculture teachers still need to increase the number of on-site supervisory visits that they conduct.

Conclusion: In rural schools with exemplary SAE programs as a component of the SBAE program, student participation in SAE programs encourages friends to also engage in a SAE programs.

Students were more engaged in their SAE programs if their peers were involved in a SAE as well. The agriculture teachers and students discussed that prior student experience assisted in the development of a culture for SAE within the SBAE program. It was further noted by the agriculture teachers that the development of a culture for SAE assisted in engaging other students in agricultural education courses and SAE programs. While little research has been conducted to examine the development of a culture of student participation in SAE, the participants in this study described that a
culture for SAE participation fostered student participation. Therefore, it was concluded that agriculture teachers need to develop a culture for SAE within the SBAE program.

Conclusion: In rural schools with exemplary SAE programs as a component of the SBAE program, school administrators support SAE programs.

The findings of this study supported the need for garnering administrative support for student SAE involvement. This finding was supported by the work of Rayfield and Wilson (2009) who investigated school principals’ perceptions of SAE. Rayfield and Wilson found that school principals perceived SAE as an important component of agricultural education. The recommendations for garnering administrator support that were posited by Phipps et al. (2008) were supported by the agriculture teacher in this study. The agriculture teachers invited administrators to SAE instructional class periods and involved administrators in the SAE showcase at the end of each course. Therefore, it was concluded that involving administrators in SAE activities may elicit administrative support for SAE.

Conclusion: In rural schools with exemplary SAE programs as a component of the SBAE program, prior sibling or family involvement in SAE programs increases student participation in SAE and assists in the development of a culture for SAE.

Prior sibling and/or family involvement in SAE and agricultural education may increase student participation in SAE. It was reported by agriculture students and parents that siblings worked together to develop SAE program topics. Therefore, younger siblings are provided an opportunity to begin learning through SAE before the SAE program begins.

The participants in this study reported that prior sibling and/or family involvement assisted in the development of a culture for SAE. It was reported that agriculture students who had a sibling involved in a SAE program had a positive perception of SAE.
and were encouraged to participate. As more siblings enter agricultural education courses and engage in SAE that this will strengthen a culture for SAE participation.

**Discussion**

The findings presented from this study indicated that exemplary SAE programs exist in rural SBAE programs. While previous studies indicated that participation in SAE has decreased (Barrick, Hughes, Baker, 1991; Dyer & Osborne, 1995; Leising & Zilbert, 1985; Miller, 1980; Newcomb et al., 2004; Phipps et al., 2008; Retallick, 2010; Retallick & Martin, 2008; Roberts & Harlin, 2007; Steele, 1997; Talbert et al., 2007; Wilson & Moore, 2007), the schools examined in this study have increased student participation. This study presented findings that differ from previous research: 1) the identification and role of a SAE culture in SBAE program, 2) FFA is an extrinsic motivator that is not the sole purpose for student SAE participation, and 3) development of program goals to guide SAE programs, and 4) the development of a model to guide the development and implementation of SAE programs in rural programs.

First, the teachers in this study developed a common belief in the school and community that every student in an agricultural education course would be engaged in a SAE program. This common belief was referred to as a culture for SAE involvement within the agricultural education program, school, and community. The concept of SAE culture that was discussed took multiple years to develop. The teachers endured several challenges throughout the development process, such as: student rebellion, lack of parental support, lack of administrative support, and limited resources/time. However, the teachers continued to thrive on their passion and determination to ensure that SAE was an essential component to their SBAE program. That passion and determination were the two factors identified by teachers as the main determinates that
kept them from giving up on ensuring that every agriculture student was engaged in an exemplary SAE program. The culture that was described had been infused in students’ decision making process when deciding to take an agricultural education course. Further, community members and parents accepted and believed in the need for student involvement in SAE. These factors strengthened the role of SAE in the SBAE program and have increased the influence that SAE has made on student learning in agriculture. The examination and utilization of a culture for SAE will lead to higher participation rates in SAE and lead to the strengthening of SBAE nationally.

A culture for SAE aids in student participation in SAE programs and increased the learning that students gained from agricultural education courses. Students engaged in SAE programs are provided with the ability to apply and transfer knowledge gained through classroom instruction to real-world situations and environments. Moreover, SAE has the ability to assist in increasing the student’s utilization of various concepts taught throughout the school system, beyond the agricultural education classroom. Therefore, agriculture teachers have a unique opportunity to mentor and supervise students in the development of life, career, and college skills that will be utilized throughout their future. The development and utilization of a SAE culture is essential to the future of SAE within SBAE programs.

Next, the role of FFA as an extrinsic influencer differed from the results of previous studies. This study presents that FFA was not the sole purpose for student engagement in SAE programs. The students and teachers purported that SAE would be more positively accepted if more students were provided an opportunity to be involved in SAE programs, not if it was linked more closely with the National FFA award.
and degree structure. The role of the National FFA award and degree structure, in the programs that were studied, was to reward students for their achievement in SAE, not as a sole purpose for conducting SAE programs. The teachers believed that SAE was a means for extending their classroom instruction and that if students only conducted the minimum required hours that they were not going to be eligible for a FFA degree or award. However, if students thrived in SAE and went above and beyond the minimum required components, than the FFA award and degree structure was utilized as a reward for that student’s accomplishments.

Third, the results of this study indicate that program goals should be utilized when developing and implementing SAE programs. Teachers and students alike believed that program goals provided a more fluid and adaptive approach to the development and implementation processes. SAE programs provide students with an opportunity to explore a variety of aspects to the agriculture industry. The students’ interests in agriculture and careers may change over a four-year period. The utilization of program goals allows for students to alter their SAE program focus to include their agriculture and career interests, while still focusing on the student’s personal and career goals. The goals developed by students were both short and long-term goals that were influenced by the student’s personal, career, and agriculture aspirations. The program goals that were utilized by students in this study, assisted in the student’s knowledge gain from their SAE program. This exercise is important to the future success of SAE programs.

Finally, a model was developed to assist inservice and preservice teachers in the development and implementation of exemplary SAE programs (Figure 5-2). The
Development and Implementation of Exemplary Supervised Agricultural Experience Programs model depicts that the program partner groups (agriculture teachers, student, parents, school personnel (administrators and other teachers), and community members) must all be involved in the development and implementation of exemplary SAEs. During the development and implementation processes each of the program partner groups must examine and utilize the identified themes and factors to ensure that all students are engaged in exemplary SAE programs. The developed model assists inservice and preservice teachers in the development of a SAE culture within their SBAE programs. The model was developed to graphically represent the data collected and summarize the components that contribute to exemplary SAE programs in SBAE in the United States of America.

**Recommendations for Practitioners**

Based upon the findings of this study, the following recommendations for practice have been drawn:

1. The agriculture teacher should support and encourage student participation in SAE.
2. When instructing students about SAE, the agriculture teacher should utilize concrete examples of student SAE programs.
3. Instruction in SAE and SAE record keeping should occur in the first month of classroom instruction.
4. The agriculture teacher should evaluate the SAE based upon the students’ development during their engagement in their SAE.
5. Agriculture teachers should continue to utilize SAE in a total SBAE program.
6. Agriculture teachers should integrate student SAE programs into classroom instruction.
7. Agriculture teachers should conduct a SAE showcase at the end of a semester for students to showcase their work.
8. Students should receive a grade for their SAE programs.
9. SAE participation should be required of all students.

10. Agriculture teachers should assist students in the development of SAE programs that incorporate the student’s interests.

11. Agriculture teachers should assist student in ensuring that learning is present in a SAE.

12. Agriculture teachers should identify school resources that can be utilized by students when conducting a SAE.

13. Parents should receive information through presentations and printed materials to increase their knowledge of SAE.

14. Agriculture teachers should identify capable parents and community members to serve as SAE supervisors.

15. Community members should receive training when assisting in the supervision of a student SAE.

16. Agriculture teachers should have students develop goals for their SAE programs.

17. Agriculture teachers should engage in the development of a culture for SAE.

18. Agriculture teachers should invite school administration to observe SAE-based lessons and activities.

19. Agriculture teachers should utilize both on-site and classroom supervision.

20. To further engage parents in SAE, The Agricultural Experience Tracker should develop a parent log in. This would allow parents to gain access to student’s records and further assist in student participation in SAE.

**Recommendations for Teacher Preparation and Professional Development**

Based upon the findings of this study, the following recommendations for teacher preparation programs have been drawn:

1. Teacher educators should prepare preservice teachers to utilize both on-site and classroom supervision techniques.

2. Teacher educators should engage preservice teachers in SAE programs to ensure that all agriculture teachers have personal experience with SAE.

3. Teacher educators should continue to include SAE instruction in a teacher preparation program.
4. Teacher educators should provide inservice teachers with professional development to assist agriculture teachers with preparing volunteers, parents, and employers to assist with and supervise SAE development and implementation.

**Recommendations for Future Research**

Based upon the findings of this study, the following recommendations for future research have been drawn:

1. The development of a model of the SAE development and implementation processes is warranted.

2. Further research should examine the factors utilized during the development and implementation process through experimental studies.

3. Continued examination of similar qualitative studies that examine urban and suburban SBAE programs with exemplary SAE.

4. This study found that a culture for SAE had been established. Further research should examine the development of a culture for SAE.

5. A quantitative examination of teacher utilization of the identified factors should be conducted.

6. A longitudinal examination of the influence that SAE has on student career choices is warranted.

7. Further investigation is warranted that examines the effects of a developed SAE curriculum that includes the identified factors.

8. A quasi-experimental study should be conducted to investigate the utilization of student goals versus a four-year plan.

**Summary**

This chapter presented a summary of the five themes that emerged from the data. This chapter presented conclusions and implication of the findings of the study and provided recommendations for practitioners, teacher educators, and future research. The summary was presented based upon the five themes that emerged from the data. The five themes that emerged from the data were: committed teachers, student-centered SAE programs, supportive surrounding “community”, joint supervision,
and shared expectations. More specifically, the study presented a summary of the 20 factors that were present in the development and implementation process. From the data, the following 20 development and implementation factors emerged: involved teachers, concrete examples, early introduction of SAE, required SAE programs, team approach to development, SAE grade, career/student interest focus, school resources, specialized program for each student, student learning, FFA influence, supportive parents, parental knowledge of SAE, program goals, and community member support, classroom supervision, on-site supervision, supportive administration, prior sibling/family involvement in SAE, and development of a culture for SAE.

The findings of this study indicated that SAE was still an integral component of SBAE programs in which agriculture teachers should require every student to participate. The findings also indicated that during the SAE development and implementation processes that students should develop career/skill and personal development goals that assist in the facilitation of student learning through SAE involvement. Further, it was suggested that agriculture teachers develop a culture for SAE in their SAE programs. The chapter then presented recommendations for practitioners, teacher educators, and future research.
Figure 5-2. Model for the Development and Implementation of Exemplary Supervised Agricultural Experience Programs
Interviewer reads: Hello and welcome to our session today. Thank you for taking the time to join our discussion about Supervised Agricultural Experiences in school-based agriscience classrooms. My name is Eric Rubenstein and I am a graduate student at the University of Florida studying agriculture teacher education.

Before we begin, let me share some things that will make our discussion easier. There are no right or wrong answers. Please feel free to share your point of view. Please speak up and clearly. We are audio recording the session because we do not want to miss any of your comments. The tape will not be heard by anybody other than myself and the other members of the research team. Once the tapes have been transcribed, the audio recordings will be destroyed. We will be on a first-name basis, and in our later reports your name will not be attached to the reported comments. You may be assured of confidentiality.

My role here is to ask questions and listen. I will be asking around 9 questions. Our session will last about one hour. Please turn off your cell phone. Let’s begin.

Introductory Information

Interviewer reads: Let’s find out some more about you. Tell share your name, highest educational degree, how you were certified, and your involvement in school-based agricultural education during your high school experience.

SAE Programs

Interviewer reads: One of the projects we’re working on in the Agricultural Education and Communication Department is centered on Supervised Agricultural Experience (SAE) programs. Since you have worked with students to complete an SAE program, I would like to ask you a few questions about your experiences with SAE programs.

- Some people believe that an SAE program is a student’s program alone, while others believe that the student, parent, community member, and teacher all have ownership to the program. What is your belief on this topic?
- Please describe how you ensure that every student in your agricultural education program has a SAE program?
  - Probe: How does a student select an SAE program?
• Probe: How does the community (business & industry, advisory councils, extension agents, local farmers, agricultural issues, etc.) influence the development of SAE programs?
  o Probe: How do parents influence the development process?
• Please describe the role that SAE programs play within the school-based agricultural education program at [high school].
  o Probe: Are the students awarded a grade? If yes, what criteria are used in determining the grade?
  o Probe: Is class time utilized for management of SAE programs?
  o Probe: Are students allowed to work on their SAE program (updating records, actual involvement, etc.) during course instructional time?
• Describe the record-keeping process that students must maintain/complete when conducting an SAE program.
  o Probe –What are the students required to keep records of during an SAE program?
• Describe the instructional practices you utilize when instructing students about SAE.
  o Probe: How do students develop their SAE programs?
  o Probe: What is your role in the development process?
• What motivates you to continue to develop and implement student SAE programs?
  o Probe: Is it an intrinsic motivator?
  o Probe: Are their extrinsic factors that motivate you?
• How do you ensure that every student has the materials necessary to implement the selected SAE program?
  o Probe: Do community members assist in this process?
  o Probe: Are students permitted to utilize school resources?
• Describe your supervision practices of SAE programs.
  o Probe: How often do you visit an individual SAE program?
  o Probe: Do you complete all of the SAE supervisory visits?
• Describe your definition of a successful SAE program.
  o Probe: What role does scope and sequence play in the success of SAE programs?
  o Probe: What role does FFA play in the success of SAE programs?
  o Probe: What role do parents and community members play in the success of SAE programs?
  o Probe: What role does the school infrastructure play in the success of SAE programs?
  o Probe: What role does culture play in the success of SAE programs?
Concluding Discussion

We've talked today about your experiences completing a Supervised Agricultural Experience:

- What challenges have you faced in implementing SAE programs into a school-based agricultural education program?

- Do you have any thoughts or comments regarding SAE program development, implementation, and management that we have not discussed?

I am now going to try to summarize the main points from today's discussion. *(Interviewer lists the key messages and broad ideas that developed from the discussion.)*

- Is this an adequate summary?

**Interviewer reads:** As was explained at the beginning of the session, the purpose of this focus group was to gather information related to your Supervised Agricultural Experience. Your comments today will aid in future studies involving Supervised Agricultural Experience programs. Also, teachers and teacher educators will be able to learn from your perceptions and experiences related to the development and implementation of Supervised Agricultural Experience programs.

- Have we missed anything or are there any other comments?

**Interviewer reads:** Thank you for taking time out of your day to share your opinions. Your participation is greatly appreciated and has provided valuable information.
APPENDIX B
STUDENT FOCUS GROUP MODERATORS GUIDE

Moderator Guide and Questioning Route (Student Focus Groups)
SAE Program Development and Implementation in School-based Agricultural Education

Moderator reads: Hello and welcome to our session today. Thank you for taking the time to join our discussion about Supervised Agricultural Experiences in school-based agricultural education classrooms. My name is Eric Rubenstein and I am a Ph.D. Candidate at the University of Florida.

Before we begin, let me share some things that will make our discussion easier. There are no right or wrong answers, but rather differing points of view. Please feel free to share your point of view even if it differs from what others have said. Please speak up and only one person should talk at a time. We are audio recording the session because we do not want to miss any of your comments. The tape will not be heard by anyone other than myself and the other members of the research team. We will be on a first-name basis, and in our later reports your names will not be attached to the reported comments. You may be assured of confidentiality.

My role here is to ask questions and listen. I will be asking around nine questions, and I will be moving the discussion from one question to the next. I will not be participating in the conversation, but I want you to feel free to talk with one another. It is important to hear everyone’s ideas and so from time to time, I might encourage those who appear to be more reserved in sharing their responses.

Our session will last about one and a half hours. Please turn off your cell phone. If you need to leave your cell phone on, please leave the room when you get a call and return as quickly as possible. Let’s begin. We have placed name cards on the table in front of you to help us remember each other’s names. Please state your name each time you begin to respond to a question and if you are addressing someone’s previous comments please use the name that they have on the card in front of them. This will assist the research team in portraying an accurate representation of your responses.

Introductory Information

Moderator reads: Let’s find out some more about each other by going around the room one at a time. Tell us your name, SAE program focus area (beef production, landscaping, veterinary assisting, etc.), SAE type (entrepreneurship, placement, research or exploratory), and the Ag Teacher’s name that works with you on your SAE program (if applicable).

SAE Programs
Moderator reads: One of the projects we are working on in the Agricultural Education and Communication Department at the University of Florida is centered on Supervised Agricultural Experience programs. Since each of you has completed an SAE program, I would like to ask you a few questions about your experiences with SAE programs and the instruction/assistance you received.

- Please describe how your overall Supervised Agricultural Experience (SAE) program was developed?
  - Probe: How were you involved in the development of your SAE program?
  - Probe: How did you plan for the development of the program? Was a plan created or was it developed each year?
    - When was the plan developed?
  - Probe: Did the community influence (business & industry, advisory councils, extension agents, local farmers, agricultural issues, etc.) your SAE program?
    - If so, how did they influence your SAE?
    - If not, do you think that your SAE would be different if community members had influenced your program?
- Describe the role your agriscience teacher played in the development of your SAE program?
  - Probe: How did your teacher introduce the concept of SAE each year?
  - Probe: What kinds of supervision were you provided by your teacher during your SAE program? Were you supervised at school or on site (home or business)?
- Describe what motivated you to continue your SAE program each year?
  - Probe: Did other individuals influence your continued involvement in SAE?
  - Probe: Did FFA influence your involvement in SAE?
- What factors have influenced the development or implementation of your SAE program?
- What was the most engaging aspect of your SAE program? Explain
- What is the most successful segment of your SAE program? Why?
- Has your SAE program influenced your career aspirations or goals, specifically in your SAE focus area?
  - If yes, describe how your SAE program has influenced your career aspirations, in your SAE focus area.
  - If no, are there skills, abilities, or competencies you have learned from your SAE that will apply to your future?
    - Describe how those skills, abilities, or competencies will apply to your future.
- Do you have a record book that you have utilized during your SAE program? (Describe the role it played in your overall program.)
If so, is it electronic or paper-based?
  - How did you use it?
If not, how did you record your financial expenditures and gains

Concluding Discussion

We have talked today about your experiences completing a Supervised Agricultural Experience:

- What challenges did you face when completing your Supervised Agricultural Experience program?
- Do you have any suggestions or comments we have not discussed?

I am now going to try to summarize the main points from today’s discussion. (Moderator lists the key messages and broad ideas that developed from the discussion.)

- Is this an adequate summary?

Moderator reads: As was explained at the beginning of the session, the purpose of this focus group was to gather information related to your Supervised Agricultural Experience program. Your comments today will aid in future studies involving Supervised Agricultural Experience programs. Also, teachers and teacher educators will be able to learn from your experiences related to the development and implementation of Supervised Agricultural Experience programs.

- Have we missed anything or are there any other comments?

Moderator reads: Thank you for taking time out of your day to share your opinions. Your participation is greatly appreciated and has provided valuable information.
Moderator reads: Hello and welcome to our session today. Thank you for taking the time to join our discussion about Supervised Agricultural Experiences in school-based agricultural education classrooms. My name is Eric Rubenstein and I am a Ph.D. Candidate at the University of Florida.

Before we begin, let me share some things that will make our discussion easier. There are no right or wrong answers, but rather differing points of view. Please feel free to share your point of view even if it differs from what others have said. Please speak up and only one person should talk at a time. We are audio recording the session because we do not want to miss any of your comments. The tape will not be heard by anyone other than myself and the other members of the research team. We will be on a first-name basis, and in our later reports your names will not be attached to the reported comments. You may be assured of confidentiality.

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Introductory Information

Moderator reads: Let’s find out some more about each other by going around the room one at a time. Tell us your name, current occupation, level of involvement in the SAE program, and your role in the SAE program that is being discussed.

SAE Programs

Moderator reads: One of the projects we are working on in the Agricultural Education and Communication Department at the University of Florida is centered on Supervised Agricultural Experience programs. Since each of you has a son or daughter whom has
completed an SAE program, I would like to ask you a few questions about your experiences with SAE programs and the instruction/assistance you provided.

- Please describe how your child’s overall Supervised Agricultural Experience (SAE) program was developed?
  - Probe: To what extent were you involved in the development of your son/daughter’s SAE program? What exactly did you do? What exactly did you contribute to the development of your student’s SAE program?
  - Probe: How did you plan for the development of your son/daughter’s SAE program? Was a four year plan created at the beginning of your son/daughter’s SAE program or were individual projects developed each year?
  - Probe: Did the community influence (business & industry, advisory councils, extension agents, local farmers, agricultural issues, etc.) the SAE program?
    - If so, how did they influence your child’s SAE?
    - If not, do you think that your child’s SAE would be different if community members had influenced his/her program?

- Describe the role your child’s agriculture teacher played in the development of your son/daughter’s SAE program?
  - Probe: Did anyone else play a role in the development of the program?
  - Probe: How did the teacher introduce the concept of SAE each year?
  - Probe: Did your child’s agriculture teacher provide supervision for the SAE program? Did the teacher’s supervision of the SAE program take place at school or on site (home or business)?

- Describe what motivated your son/daughter to continue their SAE program each year?
  - Probe: Did other individuals influence your child’s continued involvement in SAE?
  - Probe: Did FFA influence your child’s involvement in SAE?
  - Probe: Did money influence your child’s involvement in SAE?
  - Probe: Did the student’s personal goals influence your child’s involvement in SAE?

- What factors have influenced the development or implementation of your son/daughter’s SAE program?
- What is the most successful segment of your child’s SAE program? Why?
- Has your son/daughter’s SAE program influenced his/her career aspirations or goals, specifically in his/her SAE focus area?
  - If yes, describe how your child’s SAE program has influenced his/her career aspirations, in his/her SAE focus area?
If no, are there skills, abilities, or competencies that you believe that your son/daughter has learned from his/her SAE that apply to his/her future?

- Describe how those skills, abilities, or competencies will apply to his/her future.

- Does your son/daughter have a record book they utilize during his/her SAE program?
  - Describe the role it played in your child’s overall program.
    - If so, is it electronic or paper-based?
      - How did you use it?
    - If not, how did your child record his/her financial expenditures and gains?

- If you had the opportunity to make a suggestion to the agriculture teacher to address a specific issue about your child’s SAE program what would that be and why?

**Concluding Discussion**

We have talked today about your experiences working with your son/daughter completing a Supervised Agricultural Experience:

- What challenges did you face when assisting your son/daughter with his/her Supervised Agricultural Experience program?

- Do you have any suggestions or comments we have not discussed?

I am now going to try to summarize the main points from today’s discussion. (*Moderator lists the key messages and broad ideas that developed from the discussion.*)

- Is this an adequate summary?

**Moderator reads:** As was explained at the beginning of the session, the purpose of this focus group was to gather information related to your role in the development and implementation of your son/daughter’s Supervised Agricultural Experience program. Your comments today will aid in future studies involving Supervised Agricultural Experience programs. Also, teachers and teacher educators will be able to learn from your experiences related to the development and implementation of Supervised Agricultural Experience programs.

- Have we missed anything or are there any other comments?

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  - Probe: How did you plan for the development of your son/daughter’s SAE program? Was a four year plan created at the beginning of your son/daughter’s SAE program or were individual projects developed each year?
  - Probe: Did the community influence (business & industry, advisory councils, extension agents, local farmers, agricultural issues, etc.) the SAE program?
    - If so, how did they influence your child’s SAE?
    - If not, do you think that your child’s SAE would be different if community members had influenced his/her program?
- Describe the role your child’s agriculture teacher played in the development of your son/daughter’s SAE program?
  - Probe: Did anyone else play a role in the development of the program?
  - Probe: How did the teacher introduce the concept of SAE each year?
  - Probe: Did your child’s agriculture teacher provide supervision for the SAE program? Did the teacher’s supervision of the SAE program take place at school or on site (home or business)?
- Describe what motivated your son/daughter to continue their SAE program each year?
  - Probe: Did other individuals influence your child’s continued involvement in SAE?
  - Probe: Did FFA influence your child’s involvement in SAE?
  - Probe: Did money influence your child’s involvement in SAE?
  - Probe: Did the student’s personal goals influence your child’s involvement in SAE?
- What factors have influenced the development or implementation of your son/daughter’s SAE program?
- What is the most successful segment of your child’s SAE program? Why?
- Has your son/daughter’s SAE program influenced his/her career aspirations or goals, specifically in his/her SAE focus area?
  - If yes, describe how your child’s SAE program has influenced his/her career aspirations, in his/her SAE focus area?
If no, are there skills, abilities, or competencies that you believe that your son/daughter has learned from his/her SAE that apply to his/her future?

- Describe how those skills, abilities, or competencies will apply to his/her future.

- Does your son/daughter have a record book they utilize during his/her SAE program?
  - Describe the role it played in your child’s overall program.
    - If so, is it electronic or paper-based?
      - How did you use it?
    - If not, how did your child record his/her financial expenditures and gains?

- If you had the opportunity to make a suggestion to the agriculture teacher to address a specific issue about your child’s SAE program what would that be and why?

Concluding Discussion

We have talked today about your experiences working with your son/daughter completing a Supervised Agricultural Experience:

- What challenges did you face when assisting your son/daughter with his/her Supervised Agricultural Experience program?

- Do you have any suggestions or comments we have not discussed?

I am now going to try to summarize the main points from today’s discussion. (Moderator lists the key messages and broad ideas that developed from the discussion.)

- Is this an adequate summary?

Moderator reads: As was explained at the beginning of the session, the purpose of this focus group was to gather information related to your role in the development and implementation of your son/daughter’s Supervised Agricultural Experience program. Your comments today will aid in future studies involving Supervised Agricultural Experience programs. Also, teachers and teacher educators will be able to learn from your experiences related to the development and implementation of Supervised Agricultural Experience programs.

- Have we missed anything or are there any other comments?

Moderator reads: Thank you for taking time out of your day to share your opinions. Your participation is greatly appreciated and has provided valuable information.
APPENDIX E
SAE OBSERVATION SHEET

School Name: _______________________

SAE Observation Sheet

Facilities
☐ Greenhouse
☐ Field Crops
☐ Large Animal Facilities
☐ Small Animal Facilities
☐ Agriculture Mechanics Laboratory
☐ Aquaculture Laboratory
☐ Landscape Laboratory
☐ Computer Laboratory
☐ Nursery/Orchard/Grove
☐ Garden Plots
☐ Biotechnology Laboratory
☐ Forestry Laboratory
☐ Food Science Laboratory/Meats Laboratory
☐ Turfgrass Laboratory

Facilities used for SAE programs (found during informal interviews)
☐ Greenhouse
☐ Field Crops
☐ Large Animal Facilities
☐ Small Animal Facilities
☐ Agriculture Mechanics Laboratory
☐ Aquaculture Laboratory
☐ Landscape Laboratory
☐ Computer Laboratory
☐ Nursery/Orchard/Grove
☐ Garden Plots
☐ Biotechnology Laboratory
☐ Forestry Laboratory
☐ Food Science Laboratory/Meats Laboratory
☐ Turfgrass Laboratory

Classroom Resources
☐ Windows Computers
☐ Macintosh (Apple) Computers
☐ Ag Ed Net
☐ TV-PC
☐ GPS Device
☐ Internet
☐ LCD Panel/Projector
☐ Laptop
☐ DVD player
☐ Smart Board
☐ Computerized Grading
☐ Lab-aids Materials
☐ CASE Curriculum

Classroom Resources used for SAE programs (found during informal interviews)
☐ Windows Computers
☐ Macintosh (Apple) Computers
☐ Ag Ed Net
☐ TV-PC
☐ GPS Device
☐ Internet
☐ LCD Panel/Projector
☐ Laptop
☐ DVD player
☐ Smart Board
☐ Computerized Grading
☐ Lab-aids Materials
☐ CASE Curriculum

Agricultural Industries in the Community
☐ Environmental Science
☐ Agricultural Business
☐ Agricultural Biotechnology
☐ Veterinary Science  ☐ Greenhouse/Nursery/Ornamental Production  ☐ Sheep/Goat Production
☐ Forestry  ☐ Aquaculture  ☐ Swine Production
☐ Crop Production  ☐ Beef Production  ☐ Poultry Production
☐ Vegetable Production  ☐ Dairy Production  ☐ Landscape Construction

Teaching Strategies Utilized when Instructing on SAE Programs

☐ Lecture  ☐ Cooperative Learning  ☐ Individualized Application
☐ Questioning  ☐ Experiential Learning
☐ Inquiry-based Instruction  ☐ Demonstration
                      ☐ Discussion

Teacher Clarity when Instructing on SAE Programs

☐ Provides Examples  ☐ Provides Clear Explanations and Directions
☐ Teaches at an Appropriate Pace  ☐ Stresses Important Concepts or Components
☐ Repeats important items  ☐ Provides Time for Students to Contemplate Concepts
LIST OF REFERENCES


applications. *Proceedings of the 2012 Southern Agricultural Education AAAE Research Conference, Birmingham, AL.*


BIOGRAPHICAL SKETCH

Eric D. Rubenstein was born and raised in Danville, Pennsylvania where he attended Danville Area Senior High School. During Eric’s high school career he was an agricultural education student and an active FFA member and officer. Following high school graduation, Mr. Rubenstein served as the Pennsylvania State FFA President.

Following the end of his state office term, Eric enrolled as an undergraduate student at The Pennsylvania State University (PSU). While at PSU, Mr. Rubenstein was an active member of the collegiate FFA chapter and was inducted into the PSU Alpha Tau Alpha honorary fraternity chapter. In 2007, Eric began his student teaching experience at Penn Manor High School in Lancaster, Pennsylvania under the supervision of Ms. Carol Fay. In May of 2007, Mr. Rubenstein graduated with his Bachelor of Science Degree from PSU and was awarded a teaching certificate by the Pennsylvania Department of Education in agricultural education, general science, and environmental education.

Following his graduation from PSU, Mr. Rubenstein completed three years of high school agricultural education at West Perry High School, Bellefonte High School, and Forbes Road High School. During his teaching tenure, Eric taught 15 different courses and supervised over 250 student SAE programs. Mr. Rubenstein served as a vice-president for the Pennsylvania Association for Agricultural Education. Outside of the agricultural education program, Eric served as a sports coach, drama club advisor and director, and as the enviro-thon advisor.

After three years of teaching, Mr. Rubenstein accepted an assistantship with the Department of Agricultural Education and Communication Department at the University of Florida. In 2010, Eric began his work on a Master of Science degree focused in
agricultural education under the instruction of Dr. Brian Myers. During his Master of Science program, Eric was a lead instructor for AEC 3033: Business and Technical Writing in the Agriculture Industry and served as a teaching assistant for the undergraduate History and Philosophy of Agricultural Education course. In May of 2012, Mr. Rubenstein graduated with his Master of Science and began his Doctor of Philosophy studies in agricultural education under the tutelage of Dr. Andrew Thoron. During his Ph.D. program, Mr. Rubenstein served as the teaching assistant for various undergraduate agricultural education programs and assisted in the redevelopment of 2 undergraduate and one graduate level agricultural education courses. Further, Eric assisted in providing professional development programs for the agriscience teachers of the State of Florida.