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SUPERVISED AGRICULTURAL EXPERIENCE IN KENTUCKY: CONDITION AND PERCEPTIONS

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ABSTRACT OF THESIS

SUPERVISED AGRICULTURAL EXPERIENCE IN KENTUCKY: CONDITION AND PERCEPTIONS

Agricultural education consists of three components: classroom instruction, FFA, and supervised agricultural experience (SAE). SAE is the experiential learning component in which students apply agricultural principles and concepts. The purpose of this study was to identify the perceptions of Kentucky high school agriculture teachers toward the value of SAE, the quality components of SAE, and teacher satisfaction with SAE. A secondary purpose was to determine the status of SAE participation in Kentucky. This study concluded that Kentucky agriculture teachers perceive SAE as a valuable component of agricultural education. Moreover, teachers were in agreement with accepted quality standards for SAE programs, but the findings implied that other quality indicators may be valid. Furthermore, teachers were not satisfied with their SAE programs. A slight majority of students in Kentucky agricultural education programs have a SAE with the bulk of those SAEs categorized as either placement or entrepreneurship SAEs. Based on the conclusions, the author recommended that a SAE task force be created to address concerns related to SAE participation, student and teacher motivation to conduct SAE, state rewards for SAEs, and assessing the quality of SAE programs in Kentucky.

KEYWORDS: Agricultural Education, Supervised Agricultural Experience, Experiential Learning, SAE Participation, Agriculture Teacher Perceptions

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April, 24 2008

SUPERVISED AGRICULTURAL EXPERIENCE IN KENTUCKY:
CONDITION AND PERCEPTIONS

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THESIS

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The Graduate School

University of Kentucky

2008

SUPERVISED AGRICULTURAL EXPERIENCE IN KENTUCKY:
CONDITION AND PERCEPTIONS

THESIS

A thesis submitted in partial fulfillment of the
requirements for the degree of Master of Science in the
College of Agriculture
at the University of Kentucky

By

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Lexington, Kentucky

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Lexington, Kentucky

2008

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To all of the individuals who have guided me through my educational experiences at Lyon County and at the University of Kentucky, thank you. To my parents, thank you for your love and encouragement throughout my life. To my sister, thanks for always being there and helping me out when I got stuck. You three are my foundation, and I love you all very much.

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CHAPTER 1: INTRODUCTION

Background and Setting

Agricultural education was funded and regulated in public high schools in 1917 with the passage of the Smith-Hughes Act (NVEA, 2006). Section ten of the act required that experiential farm projects be a part of all high school programs, stating that all secondary high school agricultural education programs “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” (NVEA, 2006, sec. 10). This project, known today as supervised agricultural experience (SAE), continues to be an integral part of agricultural education programs. The National FFA Organization lists three components of an agricultural education program: 1) classroom/laboratory instruction, 2) FFA, and 3) SAE (FFA Student Handbook, 2000). The general agricultural instruction component is represented by classroom instruction. FFA represents the leadership component and SAE represents the experiential learning component. Experiential learning is recognized as a valuable component of agricultural education and is included in the FFA motto with the line, “doing to learn” (FFA Student Handbook, 2000, p. 27). The agricultural education model can be represented by three interlocking circles of equal size to demonstrate the equal importance of each component. Figure 1.1 is an illustration of the complete agricultural education program.

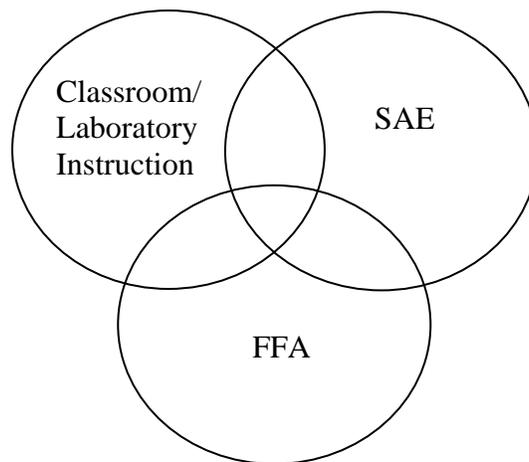


Figure 1.1. Illustration of the complete agricultural education program.

In Kentucky, the purpose of agricultural education is “to provide career exploration, orientation, and preparation for those students who have an interest in some aspect of agriculture” (*Overview*, 2006, p. 3). The Kentucky agriculture program of studies stresses student participation in cooperative education and work-based learning experiences, which may include a student’s SAE program. The need for work-based learning experiences, such as SAE, are further stressed by the School-to-Work program which is used statewide in Kentucky to create an easy transition from secondary or post secondary education to work (*Work based learning guide*, 2006). The Kentucky Legislature (2006) identified SAE supervision as a priority for agriculture teachers. KRS 157.360 section 11 provides 12-month employment for agriculture teachers and states that the added funds are to be used for the “supervision and instruction of students in agriculture experience programs.”

SAE has undergone many changes within agricultural education. Though its national presence occurred with the Smith-Hughes Act in 1917 (NVEA, 2006), the project method of teaching was developed by Rufus Stimson, a pioneer agricultural educator, years before the act (Moore, 1988). The project method of teaching served as an inspiration for the experiential learning project the act required. The projects mandated by the Smith-Hughes Act were farm activities only (NVEA, 2006). At the time, almost 20% of the United States population lived on farms. However, the makeup of United States farmland changed so that by the 1980s only 2.2% of Americans lived on farms (Camp et al., 2000). In 1963, the Vocational Education Act was passed containing wording which was meant to expand SAE to include off-farm activities; however, the act is often interpreted that SAE is no longer a required activity of agriculture students (Dyer & Osborne, 1995).

The name and definition of SAE have changed significantly through the years. Initially, it was referred to as the Farm Project Program (Camp et al., 2000). It was described more recently in 1988 as Supervised Occupational Experience (SOEP) (Phipps & Osborne, 1988). Phipps and Osborne (1988) defined SOEP as “all the practical agricultural activities of educational value conducted by students outside of class and laboratory instruction or on school-released time for which systematic instruction and

supervision are provided by their teachers, parents, employers, or others” (313). In 1992, a handbook titled, *SAE: Experiencing Agriculture*, was written by Barrick, Arrington, Heffernan, Hughes, Moody, Ogline, and Whaley (1992) to assist agricultural educators in planning and conducting SAE programs. The handbook signified the name change from SOEP to SAE. It also provided a new definition for SAE that cited specifically that SAE programs should be planned experiences that apply principles introduced in the classroom. According to Barrick et al. (1992), SAE could be described as “the actual, planned application of concepts and principles learned in agricultural education” (p.1). The definition continued to name individuals who should be involved with the supervision of a SAE including agriculture teachers, parents, and employers. This definition is widely accepted within the agricultural education community (Camp et al., 2000) and is similar to the definition recognized by the National FFA Organization (2006a; 2006b).

SOEPs were intended to prepare students for eventual employment in the agricultural industry. In response to increased diversity in agriculture student enrollment, the program was expanded to include exploratory experiences that did not necessarily prepare students for employment but gave students a chance to inquire into agricultural fields. Barrick et al. (1992) described three types of SAEs: exploratory, entrepreneurship, and placement. Exploratory SAEs were designed for students interested in agriculture, but who did not plan to pursue a career within the agricultural industry. The purpose of the entrepreneurship SAE was to help students develop the ability “to own and manage production agriculture or agribusiness enterprises” (p. 5). The purpose of the placement SAE was to provide students with a placement on farms or in an agricultural business (Barrick et al., 1992). Today, the National FFA Organization recognizes all three SAE types described by Barrick et al. and has expanded to include two additional types: research/experimentation and analysis (National FFA Organization, 2006b) and service learning (*The Official FFA Student Handbook*, 2006). Students who “conduct carefully planned, curriculum-based and long-term investigations of applied or basic areas related to agricultural and environmental science” (National FFA Organization, 2006b, p. 2-2) are considered to have a research SAE. The purpose of the service learning SAE is to

connect community service and school activities in a supervised learning experience (*The Official FFA Student Handbook*, 2006).

Studies identify a variety of benefits to students involved in SAE, as well as community and agricultural education program benefits. Students receive real-world experience through SAE (Barrick et al., 1992; Camp et al., 2000; National FFA Organization, 2006a, 2006b). According to Dyer and Williams (1997a) SAE also prepares students for jobs related to agriculture. In addition, SAE has a positive influence on work attitudes and behaviors of students and increases students' general knowledge and awareness of agriculture. SAE has been shown to have a significant and positive economic impact on communities (Retallick & Martin, 2005; West & Iverson, 1999).

Since the passage of the Vocational Education Act in 1963, SAE has been in decline (Dyer & Osborne, 1995). The act has been interpreted to mean that SAE is no longer required for all agriculture students. In addition, most agriculture teachers recognize the value of SAE and believe it to be beneficial to students (Barrick, Hughes, & Baker, 1991), but many fail to implement SAE in their classrooms (Dyer & Osborne, 1995). Despite a report by the National Research Council in 1988 which recommended that students participate in SAE programs, little change has occurred in student participation (Dyer & Osborne, 1995). Wilson and Moore (2006) reported similar findings regarding SAE participation over the last thirty years. Some states have experienced an overall decline in SAE participation (Steele, 1997), while others have experienced slow growth in comparison to overall agricultural education programs (Retallick & Martin, 2005). Wilson and Moore (2006) further reported that the SAE component of agricultural education remains weak.

Conceptual Framework

Dewey (1938) recognized a relationship between experience and education. Much of the research related to SAE is based on this theoretical framework. Dewey hypothesized that learning takes place as experiences build; each experience should lead to another experience. He believed that every experience will influence one's tendency to seek out further experience and one's interpretation of that experience. Bandura (1977) expanded upon this initial hypothesis using social learning theory. He proposed that an

individual may learn not only through direct experiences, but also through vicarious experiences. Social learning theory explains that each experience, whether direct or vicarious, will influence one's attitude and perception of that experience and other experiences. He indicated that the interaction between attitude and experience was reciprocal. In other words, one's attitude will influence the experience and the experience will influence one's attitude. However, this theory alone is not adequate to warrant study regarding agriculture teachers' perceptions toward the value of SAE, the quality components of SAE, and satisfaction with SAE.

In addition to the theoretical underpinnings of Dewey and Bandura, a conceptual framework was employed for this study based on a model for conducting research on SAE developed by Dyer and Osborne (1996). The model was derived from a synthesis of research regarding SAE and it provides a graphical depiction of the relationships between SAE-related variables. A variety of state implemented programs, student characteristics, teacher characteristics, university policies and curriculum standards, community characteristics, high school policies and characteristics, and FFA program characteristics influence the implementation of SAE in an agricultural education program and numerous other aspects of student SAEs. These characteristics in turn influence the initial SAE involvement level of students. A variety of other influences during students' initial involvement in SAE will influence students' continued involvement in SAE and eventually the outcomes of students' SAE programs. Figure 1.2 is a graphical depiction of the model developed by Dyer and Osborne.

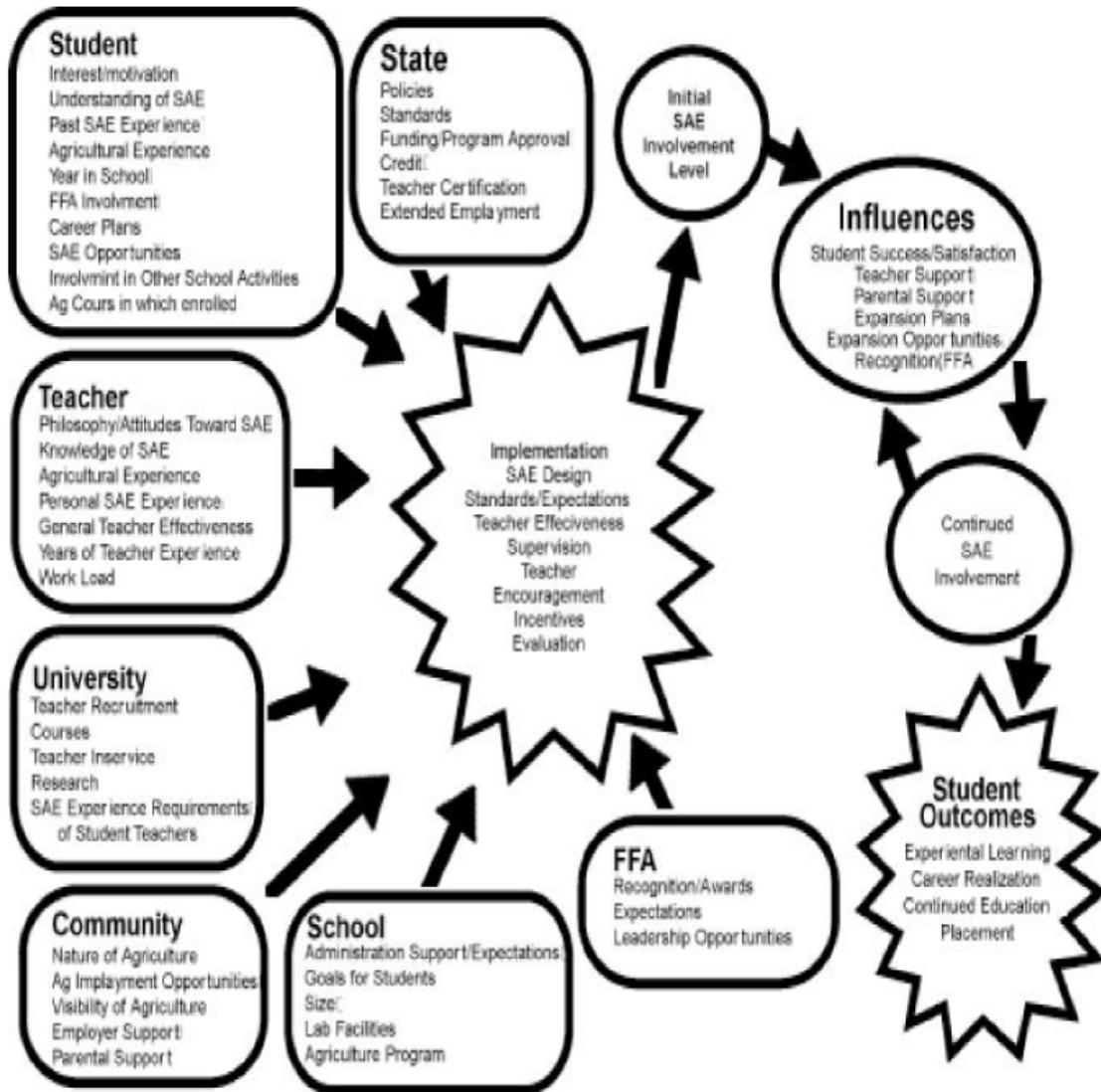


Figure 1.2. Conceptual model for conducting SAE research.

This study focused on a cross-section of the model that included teacher characteristics, the implementation of SAE, and the initial SAE involvement level of students (Figure 1.3). Numerous teacher characteristics including one's philosophy and attitude toward SAE affect how SAE is implemented in an agricultural education program. The implementation procedures will ultimately determine the amount of initial involvement of students in SAE programs.

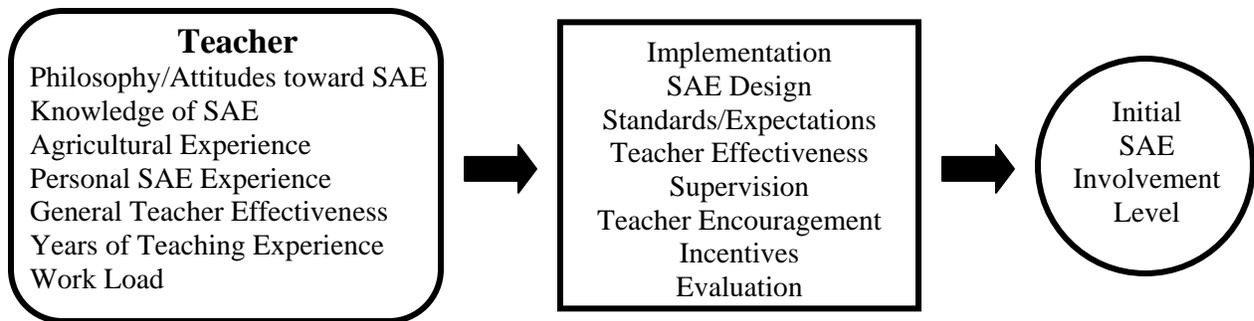


Figure 1.3. Cross-section of conceptual model for conducting SAE research.

Statement of the Problem

Dyer and Osborne (1995) cited a need for determining factors that contribute to varying SAE participation by state. Dyer and Osborne (1996) identified a need to define SAE program quality, and distinguish the key determinants. Retallick and Martin (2004) cited a need to identify and evaluate enrollment trends in state SAE programs for which this study may provide a foundation in Kentucky.

Career and technical education in Kentucky recognizes work-based learning as a vital component to a student's education (*Overview/program of studies for agriculture*, 2006). The SAE component of the agricultural education model fulfills the criteria for work-based learning in Kentucky. In addition, the first provision for KRS 157.360 section 11, the state law that provides extended contracts for agriculture teachers in Kentucky, is the "supervision and instruction of students in agriculture experience programs" (Kentucky Legislature, 2006). This idea raises the question: Do agricultural education teachers in Kentucky value SAE? If so, what practices of teachers are contributing to the condition of SAE in Kentucky? What are the perceptions of teachers regarding the quality indicators of SAE as identified by the National Council for Agricultural Education (2007)? Additionally, what is the satisfaction level of Kentucky high school agriculture teachers regarding the current status of SAE in their individual programs?

Purpose of the Study

The purpose of this study was to describe teachers' perceptions regarding SAE and selected characteristics (gender, age, number of years teaching, department size,

number of students in the agricultural education program, level of education, and regional location) of Kentucky high school agricultural educators included in the study. A secondary purpose of this study was to describe the current status of SAE in Kentucky.

Objectives

The specific objectives for this study were to describe:

1. Selected characteristics (gender, age, Kentucky teacher rank certification, number of years teaching, department size, number of students in the agricultural education program, level of education, and regional location) of Kentucky high school agricultural educators in the study.
2. The current status of SAE in Kentucky (number of students participating, percent of agriculture students participating, and student participation in SAE types).
3. The perceptions of Kentucky high school agricultural educators regarding the value of SAE.
4. The perceptions of Kentucky high school agricultural educators regarding SAE quality.
5. The satisfaction of Kentucky high school agricultural educators regarding SAE in their individual programs.
6. The differences among teachers' perceptions regarding SAE by selected characteristics (number of years teaching, department size, level of education, and rank certification level).

Definition of Terms

Terms relevant to this study were identified and defined as follows:

Agricultural Education Student: a student enrolled in a high school agricultural education program.

Agricultural Educator: a licensed teacher educating students in a high school agricultural education program.

Quality:

Constitutive definition - degree of excellence.

Operational definition - the degree to which an agricultural education program meets criteria for a quality program.

Satisfaction:

Constitutive definition - the quality or state of being satisfied.

Operational definition - the degree to which a teacher is satisfied or content with SAE programs in his or her agricultural education program as defined by the National Council for Agricultural Education (2007).

Supervised Agricultural Experience Program (SAE): “the actual, planned application of concepts and principles learned in agricultural education” (Barrick et al., 1992, p. 1).

Value:

Constitutive definition - relative worth, utility, or importance.

Operational definition - relative worth, utility, or importance of SAE to the total agricultural education program and agriculture students.

Limitations of the Study

1. The results are limited to agricultural educators in the state of Kentucky.
2. Time and money restrictions do not allow for a census of Kentucky agricultural educators.
3. The study will only deal with responses of secondary agricultural educators in the state of Kentucky.

Basic Assumptions

For the purpose of this study, the following basic assumptions were determined:

1. Teachers will provide truthful responses to the questionnaire.
2. Teachers will provide accurate data regarding the agricultural education program enrollment and SAE participation.
3. Teachers in the study are certified high school educators.
4. Teachers in the study utilize SAE in their agricultural education programs.

Significance of the Problem

Findings of this study will benefit agricultural educators, agriculture teacher educators, and state agricultural education staff in Kentucky. This study will contribute to the research base regarding the value of experiential learning, specifically SAE, in agricultural education, the perceptions of quality indicators of SAE programs, as well as the current status of SAE. Findings of this study may be useful in identifying areas to improve SAE programs in states with similar SAE program conditions.

Barrick et al. (1991) found that agriculture teachers value SAE as a component in agricultural education; however, in 1995, Dyer and Osborne reported that SAE is not being fully implemented in many classrooms. This finding indicates a possible disconnect between agriculture teachers' philosophies and practices. The findings of this study will be valuable to teacher educators in the state of Kentucky. If the findings of this study are consistent with Dyer and Osborne (1995) and a disconnect between agriculture teachers' philosophies and practices is identified, teacher educators may be instrumental in alleviating this issue by designing curriculum that includes a focus on the value of SAE and the implementation of SAE. If the findings of the study reflect that SAE in Kentucky has strong support from agriculture teachers and is in good condition, states that have weaker SAE programs may find the practices of Kentucky agriculture teachers and teacher educators helpful in revitalizing their own programs. Conversely, if the study reveals that teachers in Kentucky do not value SAE as a necessary component of an agricultural education program, reasons for this perception must be identified.

State agricultural education staff may also benefit from the findings of this study. The study will provide specific information regarding SAE participation in each of the Kentucky regions as well as the perceptions of agriculture teachers regarding SAE value and quality indicators. State staff may use this information to identify focus areas for SAE improvement in specific regions in Kentucky.

The satisfaction of agriculture teachers with their SAE programs is related to the quantity of students who participate in their SAE programs (White & Pals, 2004). Research also supports that teacher attitude has the strongest influence on student participation in SAE (Dyer & Osborne, 1995). These findings may indicate a cyclical pattern in which low student participation negatively influences the perceptions and

attitudes of teachers regarding SAE, which in turn negatively influences student participation. This study will add to the research base regarding the correlation between student participation and teacher attitude.

CHAPTER 2: REVIEW OF LITERATURE

Purpose of the Study

The purpose of this study was to describe teachers' perceptions regarding SAE and selected characteristics (gender, age, number of years teaching, department size, number of students in the agricultural education program, level of education, and regional location) of Kentucky high school agricultural educators included in the study. A secondary purpose of this study was to describe the current status of SAE in Kentucky.

Participation in Supervised Agricultural Experience

Wilson and Moore (2006) stated that "during the first 50 years of agricultural education federal law mandated that all students have a supervised experience program" (p. 2). Since the passing of the Vocational Education Act in 1963, SAE participation has been in decline (Dyer & Osborne, 1995). In 1988, the National Research Council recommended that students should participate in a SAE program, but little change has occurred in SAE participation since that time. Dyer and Osborne (1995) stated that the majority of agriculture teachers claimed to support the idea of SAE, but failed to implement it in their classroom, which resulted in decreased SAE participation. They explained that "teachers are perceived to be the major reason for SAE program success or failure" (p. 10). However, a deficiency in research exists regarding strategies that may be implemented to improve the quality of SAE programs and student participation (White & Pals, 2004).

Status of Participation

SAE has been in decline since 1963 (Dyer & Osborne, 1995). The SAE component of agricultural education remains weak in comparison to the total program (Moore, Kirby, & Becton, 1997; Wilson & Moore, 2006). Despite the initiatives to revitalize SAE in recent years, there is very little difference between the number of students involved in SAE than thirty years ago (Wilson & Moore, 2006). Some states have experienced an overall decline in SAE participation (Steele, 1997). Other states are experiencing growth in SAE programs but at a slower rate than the growth of agricultural

education programs. Iowa experienced tremendous growth from 1991 to 2001 in Business Ownership and Agriscience Project SAEs, but the overall percentage of agriculture students involved in SAE has decreased (Retallick & Martin, 2005). Despite recent SAE trends, little research exists which identifies ways to increase student participation.

Factors that Affect Participation

Literature describes a variety of factors that influence student participation in SAE. The success of SAE depends heavily on the agricultural education teacher (Barrick et al., 1992). Dyer and Osborne (1995) stated that the most influential factor that affects student participation is the teacher's attitude toward SAE. Agriculture teachers who have written SAE policies and conduct parent-student orientations for SAE report higher SAE participation (White & Pals, 2004). Also, agricultural education programs that require all students to have a SAE and base a portion of students grades on participation report higher participation (Dyer & Osborne, 1995; White & Pals, 2004). Factors that affect a teacher's ability to supervise students' SAEs, such as lack of extended contracts, lack of assistance with transportation costs, and scheduling difficulties with other school activities have a negative influence on student participation (Steele, 1997). Studies have also shown that agriculture teachers who have achieved a M.S. degree or higher report higher SAE participation than teachers who have only a B.S. (White & Pals, 2004).

Studies found a positive correlation between SAE and FFA participation (White & Pals, 2004). Retallick and Martin (2004) also stated that in Iowa, SAE and FFA participation are highly correlated. However, no studies have demonstrated a cause-effect relationship where FFA participation influences SAE participation or vice versa.

Other variables that influence SAE participation include demographic variables. SAE participation is higher in rural areas with white males (Dyer & Osborne, 1995). Retallick and Martin (2004) explained that class sizes in Iowa have increased, but fewer students participate in SAE and FFA. They hypothesized that the problem "may be because these two programs have not been modified to meet the new needs of today's diverse students" (p. 183).

Value of Supervised Agricultural Experience

Many studies have been completed that disclose numerous benefits of SAE. Barrick et al. (1992) listed a multitude of benefits for all partners involved in SAE, including students, teachers, employers, the community, the local agricultural education program, and the agricultural industry as a whole.

The *Work Based Learning Guide* (2006) stated that three-fourths of secondary high school graduates in Kentucky begin without a baccalaureate degree and many lack the skills and experiences necessary for success in a career. Students who participate in SAE develop these skills and gain valuable experience. The pillars of experiential learning manifested in agricultural education through SAE fall directly in line with the psychological principles that bring about “significant and meaningful” learning experiences for students (Knobloch, 2003, p. 31). Knobloch’s notions are further supported by Barrick et al. (1992), who stated that SAEs “provide effective and meaningful ways of developing competencies in agriculture” (p. 2). Students receive real-world experience through SAE that may ease the transition from school to career (Barrick et al., 1992; National FFA Organization, 2006a, 2006b). Camp et al. (2000) provided further support for this claim stating that “SAE enhances classroom learning by providing real-life experience for students” (p. 16). Dyer and Williams (1997) also stated that SAEs help students prepare for jobs and careers related to agriculture.

Literature purports that SAE provides students with motivation to learn more both in and out of the classroom (Barrick et al., 1992; Camp et al., 2000; National FFA Organization, 2006a, 2006b). Research has identified a moderate correlation between SAE and student achievement in agricultural education (Cheek, Arrington, Carter, & Randell, 1994); however, no experimental studies have been conducted that demonstrate a cause-effect relationship between SAE and student achievement (Dyer & Osborne, 1995). Cheek et al. (1994) raised the question: does SAE participation improve student achievement or do high achievers tend to participate more in SAE? Other benefits for students participating in SAE include a positive influence on work attitudes and behaviors and a general increase in knowledge of agriculture (Dyer & Williams, 1997a). Deficiencies in research related to benefits of participation in SAE for students include

the influence of SAE participation on improving communication skills and problem-solving skills (Dyer & Williams, 1997a).

SAE also benefits the local agricultural education program. SAE improves school and community relations by creating links between the agricultural education program and supporters from business, industry, and the community (National FFA Organization, 2006a, 2006b). Barrick et al. (1992) stated that SAE “provides basis for year-round instruction” (p. 8). Research concerning SAE quality provides further support for this assertion. Agricultural education programs with summer employment contracts have higher quality SAEs than those programs without extended employment (Dyer & Osborne, 1996; Dyer & Williams, 1997b). The Kentucky Legislature (2006) requires that agriculture teachers supervise students’ SAEs as part of the rationale for providing extended summer contracts through KRS 157.360 section 11. SAE also provides programs with a source of income to help further establish SAE and finance educational experiences for students beyond high school (Retallick & Martin, 2005).

Barrick et al. (1992) listed four SAE benefits for communities:

1. Provides the community with a competent and educated labor force
2. Develops wage-earning capabilities in youth
3. Provides the community with a citizenry that is better informed on agricultural-related issues
4. Provides leadership to carry out community activities (p. 8)

Quality SAE programs have been shown to have significant economic impact on communities and industry. Retallick and Martin (2005) reported that school districts receive a positive return on their investment in the local agricultural education program. They stated that “students earn more money through SAE programs than school districts invest in salaries and travel for agricultural education programs” (p. 52). The authors continued, “If an economic value were placed on the intangible benefits [of SAE], the return would be even higher” (p. 52). These findings are supported by previous research by West and Iverson (1999) who found that the economic value of SAE programs in Georgia totaled over \$12 million per year, as well as Graham and Birkenholz (1999), who reported that SAE programs in Missouri totaled over \$31 million in 1997.

Perceptions of the value of SAE are generally positive. Barrick et al. (1991) reported that school administrators, teachers, and employers all had very positive feelings toward supervised experiences. They continued that parents and students also have positive feelings toward these experiences, but they tend to value SAEs less than teachers, employers, and school administrators. The perceived value of SAE differs among the various partners involved.

High school agriculture teachers agree that SAE is a valuable and important component of agricultural education (Wilson & Moore, 2006). Additionally, many agriculture teachers believe that SAE should be required of every FFA member in an agricultural education program. Whaley and Lucero (1993) recommended that SAE program participation be mandatory for all students enrolled in agricultural education, but overall the profession is split on whether a SAE should be required of all agriculture students (White & Pals, 2004). These reports indicate that some teachers do not believe SAE is valuable.

Though teachers value SAE, classroom instruction and FFA have first priority (Wilson & Moore, 2006). In 1997, Steele reported that agriculture teachers in New York were not unified in the belief that a quality agricultural education program must have all three components of a quality program listed in the *FFA Student Handbook*. Because SAE has least priority for most agriculture teachers, it may be overlooked in some programs. Steele also cited a lack of free time in the teacher's schedule for SAE as a factor contributing to the decline of SAE in New York. Camp et al. (2000) found that the most significant problem facing SAE was that many teachers do not feel that it is appropriate for their student population and therefore do not promote it. As agricultural education continues to move to a more science-based curriculum, some teacher educators fear that new agriculture teachers "may not fully understand and value Supervised Agricultural Experiences (SAE) and FFA enough to promote them and integrate them into their education programs" (Shelley-Tolbert et al., 2000, p. 57). Significant changes in SAE have occurred in order to account for the move to science-based agricultural curriculum, but in order to ensure that SAE remains relevant a variety of project options must be available to students (Whaley & Lucero, 1993).

Research indicates that agriculture teachers in a multi-teacher program tend to have more positive perceptions toward supervising students' SAEs than teachers in a single teacher department (Swortzel, 1996). This difference may be due to the ability of teachers in multi-teacher departments to distribute SAE responsibilities among the other teachers in the department. Swortzel also found that agriculture teachers in Tennessee who were not involved in an agricultural education program as high school students had more positive perceptions toward the supervision of SAEs than teachers who were involved in agricultural education in high school. Swortzel was unsure of the difference in these two types of teachers, but one may speculate that the teachers in this study who had SAEs in high school may have had poor experiences with their advisors. Agriculture teachers who did not have SAEs in high school may see more value in SAEs than teachers who had SAEs.

Dyer and Osborne (1995) suggested that educators shift their focus away from the record keeping aspect of SAE and recognize their SAE programs as a valuable experiential learning tool. Whaley and Lucero (1993) supported this suggestion, stating that SAE success should be measured by the activities within each individual project instead of the tangible products of the projects. Shelley-Tolbert et al. (2000) concluded that "the unique experiential learning and leadership components of agricultural education are viewed as being valuable enough to retain, regardless of any program focus" (p. 59). Research supports a more holistic view of SAE that recognizes student progress and growth rather than the end product.

Supervised Agricultural Experience Quality

Dyer and Osborne (1996) listed a variety of factors that are positively related to SAE quality and size. These factors include: length of teacher contract, support from parents, teacher assistance with SAE, number of years of high school agriculture completed by the agriculture teacher, number of years that students have participated in the agricultural education program, and teacher priority of SAE. As the number of supervised visits increases, SAE quality increases, which demonstrates the need for extended teacher contracts (Dyer & Williams, 1997b). White and Pals (2004) concluded that the most important factors that influence SAE quality are "parent support, interest to

the students, flexibility, and complete records” (p. 113). Findings indicated that students with quality SAEs have parent and teacher support as well as high interest and extended experience in agriculture.

The *Agriculture Teacher’s Manual* (National FFA Organization, 2006a) listed five factors which define SAE quality. According to the manual, quality SAEs are: teacher supervised, documented, curriculum based, student managed, and planned and comprehensive. The manual also noted that students should receive recognition for SAEs. The factors named by the National FFA Organization reflect previous research and serve to provide a consistent framework by which to measure SAE quality in agricultural education programs. The National FFA Organization (2006b) identified three levels of quality for each of the five factors. Agriculture teachers may rate students SAEs as initial, commendable, or superior according to each factor.

The National Council for Agricultural Education (2007) included experiential learning as a quality program standard for secondary agricultural education. The Council identified seven quality indicators for SAE in agricultural education programs:

1. All students have experiential learning (SAE) programs based on career pathways/clusters/interests and agricultural curriculum standards.
2. Experiential learning (SAE) programs are planned, developed and managed by the student with instruction and support by the agriculture teacher, parents and/or employer.
3. The agriculture teacher maintains accurate records of all experiential learning (SAE) supervision.
4. Continuous instruction and supervision of student experiential learning (SAE) programs are provided by the agriculture teachers throughout the calendar year.
5. Each agriculture student maintains up-to-date and accurate experiential learning (SAE) records.
6. An annual summary of students’ experiential learning (SAE) programs is completed and submitted to appropriate entities.
7. Students have comprehensive experiential learning (SAE) programs that show evidence of growth in size and/or scope. (p. 29)

SAE programs may be rated and ranked on each quality indicator as exemplary (4), promising (3), improving (2), struggling (1), or non-existent (0). The scores from each quality indicator may be added to determine the quality of a SAE program.

Jenkins and Kitchel (2008) utilized the Delphi technique to determine the quality components of high school agricultural education programs according to experts in the field. Forty statements related to SAE quality were either rejected or did not reach consensus, while only six quality indicators were agreed on in the study. The accepted components were related to supervision of SAEs and SAE diversity. The authors concluded that there is disagreement within the profession regarding the quality indicators of SAEs and reasons for this disagreement should be identified and addressed.

Teacher Satisfaction with Supervised Agricultural Experience

Literature regarding agricultural education teacher satisfaction focuses primarily on overall job satisfaction. Little research exists which analyzes agriculture teachers' satisfaction with their SAE programs specifically. Barrick et al. (1991) conducted a synthesis of research on supervised experience programs. The authors identified three studies before 1991 which focused on the satisfaction of agriculture teachers with the SAE component of their programs. Barrick et al. stated that there was a decline in agriculture teachers' job satisfaction with SAEs from 1950 to 1982. Dyer and Osborne (1995) cited Barrick et al., stating that "teachers may be growing dissatisfied with conducting SAE programs" (p. 8).

More recently, White and Pals (2004) identified a possible correlation between agriculture teacher satisfaction with SAE and student participation with SAE. Teachers included in their study were generally unsatisfied with SAE participation when participation levels were low and vice versa. Other studies include teacher satisfaction with SAE as an indicator of overall agriculture teacher job satisfaction (Walker, Garton, & Kitchel, 2004).

Summary of Review of Literature

Agriculture production projects were required by law of all agriculture students until the passage of the Vocational Education Act in 1963 (Dyer & Osborne, 1995). Since

that time, SAE has declined (Dyer & Osborne, 1995) despite initiatives to promote and strengthen the component of agricultural education (Wilson & Moore, 2006). Though agricultural educators recognize the benefits of SAE and value it as a component of agricultural education, many have difficulty implementing SAE in their programs (Dyer & Osborne, 1995). Kentucky requires a work-based learning component of all career and technical education programs (CTE, 2001) which may be fulfilled through SAE in agricultural education (*Overview*, 2006). Quality SAEs have been shown to benefit communities and schools economically (Retallick & Martin, 2005; West & Iverson, 1999) and students (Dyer & Williams, 1997). Findings in this study will help agricultural educators and teacher educators in Kentucky improve the condition of SAE.

CHAPTER 3: METHODOLOGY

Purpose of the Study

The purpose of this study was to describe teachers' perceptions regarding SAE and selected characteristics (gender, age, number of years teaching, department size, number of students in the agricultural education program, level of education, and regional location) of Kentucky high school agricultural educators included in the study. A secondary purpose of this study was to describe the current status of SAE in Kentucky.

Objectives

The specific objectives for this study were to describe:

1. Selected characteristics (gender, age, Kentucky teacher rank certification, number of years teaching, department size, number of students, collegiate training, and regional location) of Kentucky high school agricultural educators in the study.
2. The current status of SAE in Kentucky (number of students participating, percent of agriculture students participating, and student participation in SAE types).
3. The perceptions of Kentucky high school agricultural educators regarding the value of SAE.
4. The perceptions of Kentucky high school agricultural educators regarding SAE quality.
5. The satisfaction of Kentucky high school agricultural educators regarding SAE in their individual programs.
6. The differences among teachers' perceptions regarding SAE by selected characteristics (number of years teaching, department size, level of education, and rank certification level).

Research Design

The design of this study was descriptive. Descriptive research seeks only to describe data and does not identify any correlations among data. The study used a cross-

sectional survey to collect data regarding the population of agriculture teachers in Kentucky. A cross-sectional survey is a survey that is taken at a single point in time (Ary, Jacobs, & Razavieh, 2002).

Populations and Sample

Population

The target population of this study was all Kentucky secondary high school agricultural educators ($N = 245$). The accessible population was also all Kentucky secondary high school agricultural educators.

Sample

This study used a random sample ($n = 152$) of the population ($N = 245$) to ensure that the sample would be representative of the population. The findings of this study may be generalized to the entire state as well as specific regions of the state which will make the study more useful to individual programs, as well as state agricultural education staff who may design general and region specific strategies to bolster SAE in Kentucky.

Frame Error

Frame error results from a difference between the target population and the population from which the sample is drawn (McCracken, 1998). Frame error was minimized by using the most current, up-to-date list of agriculture teachers in Kentucky from state agricultural education staff.

Sampling Error

Ary et al. (2002) stated that “sampling error is an inverse function of sample size” (p. 172). The sample size of this study ($n = 152$) was recommended by Krejcie and Morgan (1960). Sampling error was also minimized by using a random sampling technique so that the findings of the study may be generalized to the population.

Selection Error

Selection error occurs when some sampling units have a greater chance of being included in the sample than other units (McCracken, 1998). The frame was purged of duplicates before creating the sample in order to allow each member of the population an equal and independent chance of inclusion in the sample.

Instrumentation

The instrument used in this study was a questionnaire designed by the researcher to fulfill the purpose and objectives of the study. The questionnaire measured the current status of SAE in Kentucky, perceptions of agriculture teachers regarding the value of SAE, perceptions of agriculture teachers regarding the definition of SAE quality, and the satisfaction of agriculture teachers with their SAE programs. The researcher drew from questionnaires used in previous studies (Steele, 1997; White & Pals, 2004; Wilson & Moore, 2006) to improve both validity and reliability. The questionnaire was composed of five sections which used a combination of 6-point Likert-type questions and other close-ended questions. The Likert-type questions were scaled to 6 points in order to increase reliability. Both an electronic form (Appendix A) and a hard copy version (Appendix B) of the questionnaire were produced.

The first section consisted of forty-three 6-point Likert-type questions designed to satisfy objective three. Participants were asked to respond by clicking or circling the number that best described their opinions regarding each statement on a scale from 1 to 6 where 1 = Strongly Disagree and 6 = Strongly Agree. The questions determined the degree to which agriculture teachers believe SAEs are a valuable component of agricultural education and should be required of students. Questions in the section addressed the relative worth, utility, and importance of SAE in each program. For example, the statements “Quality SAEs provide real-life experiences for students” and “The local agricultural education program benefits from offering SAE” address the worth and utility of SAE to both students and the total agricultural education program. In addition, the statement “I require every FFA member to have a SAE” demonstrates how much agriculture teachers stress SAE as an important component of agricultural education.

The second section dealt with SAE quality and corresponded with objective four. The section consisted of twenty two 6-point Likert-type questions which determined the degree to which agriculture teachers agree with the SAE quality indicators outlined by the National Council for Agricultural Education (2007) and the degree to which they use quality SAE practices. Participants were asked to respond by clicking or circling the number that best described their opinions regarding each statement on a scale from 1 to 6 where 1 = Strongly Disagree and 6 = Strongly Agree. “SAE program should be based on the career pathways of students” is an example quality statement from section two.

Section 3 consisted of ten 6-point Likert-type questions that corresponded to the satisfaction of agriculture teachers with SAE in their agricultural education programs and objective five. Participants were asked to respond by clicking or circling the number that best described their opinions regarding each statement on a scale from 1 to 6 where 1 = Strongly Disagree and 6 = Strongly Agree. An example statement from section 3 is “I am satisfied with the number of students in my program enrolled in SAE.”

The fourth section consisted of three questions. The questions determined the number of students in each agricultural education program, the number of students who participate in SAE within each program, and the number of students participating in each SAE category as described in the *Local Program Success Guide* (National FFA Organization, 2006b) which corresponded to objective two. Because students may have multiple SAEs that fall in two or more categories, participants were asked to only count a student once for his/her primary SAE.

The final section determined general agriculture teacher characteristics in order to satisfy objective 1. Questions were designed to identify gender, age, level of education, and number of years teaching, as well as the department size and regional location of the agricultural education program of each agriculture teacher. Participants were also asked to identify their current teacher rank certification, the number of extended days they receive on their contract, and whether or not they had a block designated for SAE supervision.

Validity Procedures

Validity is defined as the ability of an instrument to measure the items it is purported to measure (Ary et al., 2002). The two types of validity addressed by the researcher were face and content validity. Face validity is the extent to which an instrument appears to measure what it claims to measure and content validity is the extent to which the questions in an instrument relate to and fulfill the purpose and objectives of the study. In order to address validity, an expert panel ($n = 8$) of individuals involved in agricultural education was used. The panel consisted of three university faculty members in agricultural education, two members of state agricultural education staff, one high school agricultural educator outside the state of Kentucky, and two staff members of the National Association of Agricultural Educators. The panel assessed both face and content validity.

Reliability Procedures

Reliability is the extent to which the measurements of an instrument are consistent (Ary et al., 2002). To assess reliability, Cronbach's alpha coefficient was calculated based on a field study of 35 Tennessee agriculture teachers not included in the study sample. Cronbach's alpha coefficient is a reliability coefficient used to determine whether a series of questions measures the same construct and is often used when items have no right or wrong answer (Ary et al. 2002), such as the Likert attitude scales employed in this study. Field testing is used "to identify ambiguities, misunderstandings, or other inadequacies" (Ary et al., 2002, p. 402) in the instrument.

The field study was conducted in early fall 2007. The same data collection procedures were used as the actual study. An updated list of Tennessee agriculture teachers was retrieved from university staff in Tennessee and used as the frame for the pilot study. A random sample of 35 teachers was drawn from the frame using the Research Randomizer (2007). The questionnaire was mailed out in a six-step process as outlined by Dillman (2000). A postcard was mailed to the sample on August 30, 2007 informing them of their selection for participation in the study. The first mailing of the questionnaire was sent via e-mail on September 13, 2007. The e-mail included a letter explaining the importance of the study and thanked them for their participation. A link to

the online questionnaire was included in the letter, as well as a questionnaire identification number which the participants were asked to input when filling out the questionnaire. On September 20, 2007, a reminder e-mail was sent to non-respondents to remind them of the study. A second questionnaire was sent to non-respondents via e-mail on September 28, 2007. Participants were again reminded of the importance of the study and given a link to the questionnaire and their questionnaire identification number. On October 8, 2007, a final reminder e-mail was sent to additional non-respondents. In order to obtain the greatest response possible, a paper version of the questionnaire was sent to non-respondents on October 17, 2007. A pre-addressed stamped envelope was included for the participants to return the questionnaire to the researcher. A final reminder letter was sent to non-respondents on October 31, 2007 stressing the importance of the participants' responses and thanking them for their participation in the study. The pilot study resulted in 22 responses giving a response rate of approximately 62.9%.

Data for the pilot study were analyzed using SPSS/PC Plus 14.0. Appropriate questionnaire items were reverse coded before performing reliability tests. Cronbach's alpha coefficients were calculated for the value, quality, and satisfaction sections of the questionnaire. For the value section consisting of forty three, a reliability coefficient of 0.95 was determined. For the quality section consisting of twenty two questions, a reliability coefficient of 0.85 was calculated. For the satisfaction section consisting of twenty one questions, a reliability coefficient of 0.75 was established. Eleven items in the satisfaction section were identified as either ambiguous or unrelated to the construct and were removed from the final version of the questionnaire. The reliability coefficient was recalculated for the satisfaction section consisting of ten questions to be 0.86.

Data Collection

Data were collected using an internet and mailed questionnaire. One of the most important limitations of the mailed questionnaire is a low rate of return (Ary et al., 2002). Low return rate represents a source of data collection error. To assure the highest return rate possible, the questionnaire was mailed out in a six-step process using a modified version of the process outlined by Dillman (2000). A postcard (Appendix C) was mailed

on November 6, 2007 to individuals included in the sample to inform them of their selection for participation in the study and the importance of the study to the profession.

The first mailing of the questionnaire was sent on November 19, 2007 via e-mail. An e-mail (Appendix D) was sent to participants in the study describing the purpose and importance of the study and thanking them for their responses. The link for the online questionnaire was included in the e-mail with an identification number which participants were asked to provide when completing the questionnaire. Participants were also informed of a drawing for one of two \$30 FFA Unlimited Gift Certificates as an incentive for completing the questionnaire. Dillman (2000) stated that including an incentive as a gesture of goodwill may produce “a sense of reciprocal obligation” (p. 153). On November 28, 2007, a reminder e-mail (Appendix E) was sent to non-respondents to remind the participants of the study and thank them for their responses.

A second mailing of the questionnaire was sent on December 5, 2007 via e-mail that included a cover letter (Appendix F) to remind the non-respondents of the importance of the study and thank them again for their responses. Participants were reminded of their identification number and provided the link to the questionnaire. A second reminder (Appendix G) was sent via e-mail on December 17, 2007 to remind non-respondents of the importance of the study and the incentive for their participation.

A final mailing of the questionnaire was sent via postal mail on January 2, 2008 that included a cover letter (Appendix H), the questionnaire, and an addressed, stamped envelope in which to return the questionnaire. The cover letter outlined the purpose of the study and the importance of their response to agricultural education in Kentucky and reminded them of the incentive drawing for one of two \$30 FFA Unlimited Gift Certificates. A final letter (Appendix I) was sent to non-respondents on January 10, 2008 to remind them of the study and stress the importance of their response. Individuals who did not respond by January 28, 2008 were considered non-respondents and a source of error in the study. On January 28, 2008, two individuals were randomly drawn from the pool of respondents to receive one \$30 FFA Unlimited Gift Certificate each.

According to Miller and Smith (1983) “research has shown that late respondents are often similar to nonrespondents” (p. 48). To reduce non-response error, the responses of early and late respondents were compared using an independent samples t-test

According to Ary et al. (2002), the independent samples t-test may be used to determine if a significant difference exists between two sample means. For this study, early respondents were defined as the individuals who responded before the second mailing of the questionnaire was sent to the sample. The individuals who responded any time after the second questionnaire were considered late respondents. According to these definitions, respondents were grouped into early and late respondents and compared. A significant level was *a priori* at .05. Table 3.1 summarizes the data. Data revealed no significant differences between early and late respondents.

Table 3.1

Comparison of Early to Late Respondents for SAE Constructs

Construct	Early Respondents		Late Respondents		<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Value	4.69	0.716	4.65	0.564	0.771
Quality	4.94	0.773	5.03	0.584	0.537
Satisfaction	3.21	0.558	3.14	0.786	0.578

Data Analysis

Data were analyzed using SPSS/PC+ 14.0. Negatively phrased items were reverse coded. Frequencies and percentages, as well as measures of central tendency, including means, medians, and modes, and measures of variance, including variance and standard deviation, were reported.

Objective 1 sought to identify the demographic characteristics of Kentucky agricultural education teachers. Teachers were asked to report their age, gender, number of years teaching, agriculture department size, level of education, number of extended days, whether or not teachers had a block designated for SAE supervision, and regional location. Age, number of years teaching, and number of extended days were collected as interval data. Interval data are data which can be placed in rank order and have equal intervals between measurement units (Ary et al., 2002). These data were analyzed and

reported in terms of means and standard deviations. Data for gender, agriculture department size, level of education, whether or not teachers had a designated block for SAE supervision and regional location were nominal data. Nominal data are data which may be categorized but do not imply rank order. Additionally, interval data were transformed into ordinal categories for analysis with the nominal data. These data were analyzed and reported in terms of frequencies and percentages.

Objective 2 sought to determine the participation levels of students in Kentucky agricultural education programs and in SAE categories. Teachers were asked to report student participation levels numerically which resulted in interval data. These data were analyzed and reported in terms of means and standard deviations. Due to the high variance in participation levels, ranges and skewness scores were reported. Skewed data result in value distributions that are not symmetrical which may indicate the presence of extreme scores (Ary et al., 2002). Histograms were also reported for objective 2 to show the distribution of each participation category.

Objective 3 sought to determine the perceived value of SAE as reported by Kentucky agriculture teachers while objective 4 purposed to determine the key components of SAE quality. Additionally, objective 5 sought to determine the level of satisfaction among Kentucky agricultural education teachers. These objectives employed a 6-point Likert scale (1 = Strongly Disagree to 6 = Strongly Agree) resulting in interval data. Data were reported in terms of means and standard deviations. In addition, an overall mean score was calculated for the value, quality, and satisfaction constructs.

The purpose of objective 6 was to determine if any differences existed between the demographic data and the value, quality, and satisfaction constructs. When responses were grouped according to the degree earned by the teacher, the cells did not achieve at least a 1:3 ratio. Therefore, data for degree earned were regrouped into a dichotomous variable; namely, the data were grouped into agriculture teachers who have a bachelor's degree and agriculture teachers who have a master's degree or higher. A *t*-test was computed to identify differences between the SAE constructs by the degree earned by the teacher. *T*-tests are often used to compare data from two groups (Ary et al., 2002). The use of *t*-tests implies multiple assumptions (Shavelson, 1996). Levene's test of equality of variance was used to address the assumption of homogeneity of variance (Appendix J).

Results for Levene's test of equality of variance showed that the assumption that variance is equal among the satisfaction construct by gender of the teacher is not valid, so equal variance was not assumed for the satisfaction construct in this *t*-test. A significance level was set *a priori* at .05. Means, standard deviations, and *p*-values for each group were reported.

The remaining demographic data (number of years teaching, certification rank, and agriculture department size) had multiple response possibilities so an analysis of variance (ANOVA) was performed to identify differences between the SAE constructs. In order to achieve at least a 1:3 ratio within the data cells, data for number of years teaching and department size were regrouped. Data for number of years teaching were regrouped into four categories (1-5 years, 6-10 years, 11-20 years, and 21 or more years). Data for department size were regrouped into three categories (1 teacher department, 2 teacher department, and 3 or more teacher department. Unlike *t*-tests, "ANOVA can test the difference between *two or more* means" (Ary et al., 2002, p. 193). The use of ANOVA implies several assumptions (Shavelson, 1996). To address the assumption regarding homogeneity of variance, Levene's test of equality of variance was used (Appendix K). For the assumption of normality of distribution, box plots were examined to identify outliers. An ANOVA was not performed for the SAE constructs by agriculture teacher age because age and number of years teaching are highly correlated among agriculture teachers. Additionally, an ANOVA was not performed for the SAE constructs by the number extended days teachers have due to a lack of variance among the categories. *F*-values and *p*-values were reported for each construct by each demographic characteristic. Additionally, hypotheses were formed in order to assess differences that may result from the ANOVA.

Hypotheses

Dewey (1938) postulated a connection between learning and experience. He believed that one experience will modify an individual's interpretation of both past and future experiences. Bandura (1977) used social learning theory to expand Dewey's initial hypothesis to include not only direct experience, but also vicarious experiences. He explained that a person's psychological functioning, which may include perceptions and

attitudes toward a specific experience, is a result of “a continuous reciprocal interaction of personal and environmental determinants” (p. 11-12). In the context of agricultural education, advisors’ experiences range from supervising SAEs to teaching classroom content. Considering this theory, one may reasonably hypothesize that as a teacher experiences the everyday demands of an agricultural education advisor, his or her perceptions toward the value and quality components of SAEs and overall satisfaction with SAE may be altered. Drawing on the insights of Dyer and Osborne (1996), the conceptual framework for this study (see Figure 2) identifies a variety of teacher characteristics which influence the implementation of SAEs in their programs, including knowledge of SAE, teacher experience, and their own attitudes toward SAE. In the context of social learning theory, the interaction of these characteristics may influence the perceptions of teachers regarding the value of SAE, the quality components of SAE, and teacher satisfaction with SAE. The following hypotheses were developed to assess differences that may exist among the SAE constructs (value, quality, and satisfaction) by selected characteristics of teachers.

H₁: There are statistically significant differences in the SAE constructs (value, quality, and satisfaction) by the degree earned by the agriculture teacher.

The degree earned by the agriculture teacher is a representation of his or her educational level. A master’s degree will signify a different range of experiences from a bachelor’s degree. Teachers are exposed to different perspectives and learning theories that relate to all components of agricultural education programs through college courses. The added knowledge from graduate classes may influence how teachers perceive their SAE programs. Teachers’ perceptions regarding the value of SAE and the quality components of SAE may be more positive as a result of graduate education which stresses SAE as an important component of agricultural education.

A higher education level also indicates that the individual may have had more opportunities for interaction with professors and other teachers. These interactions may allow teachers to experience other teacher’s programs. These vicarious experiences may cause teachers to identify deficiencies in their own SAE programs or strengths of their

programs which may influence their level of satisfaction with their students' SAE programs.

H₂: There are statistically significant differences in the SAE constructs (value, quality, and satisfaction) by the number of years a teacher has taught.

The conceptual framework used in this study includes years of teaching experience as a characteristic of the teacher which will eventually influence the implementation of SAE and a variety of other SAE program characteristics. Based on the theories of Dewey (1938) and Bandura (1977), the teacher's experience in the profession will have an effect on his or her attitude toward different aspects of the profession, including SAE. More experienced teachers have worked with SAEs for longer periods of time and have more refined opinions about the value of SAEs, the quality components of SAEs, and their satisfaction with SAEs. More experienced teachers also have had more chances to interact with other teachers. Teachers may incorporate the ideas and experiences of other teachers to develop their perceptions regarding the SAE constructs (value, quality, and satisfaction).

H₃: There are statistically significant differences in the SAE constructs (value, quality, and satisfaction) by teacher certification rank.

Teacher certification rank is an indicator of an agriculture teacher's educational level. A Rank I Certification signifies a different range of experiences than a Rank III Certification. Though similar, teacher certification rank and degree earned are distinct demographic variables. Specifically, a teacher who has a master's degree will have at least Rank II Certification but not necessarily Rank I Certification. Rank I Certification indicates that a teacher has received at least 30 hours of graduate level credit beyond a master's degree. A higher education level may influence a teacher's perceptions regarding the value of SAE, the quality components of SAE, and the satisfaction of teachers with their SAE programs because agriculture teachers will have higher levels of interactions with other agriculture teachers and professors.

H₄: There are statistically significant differences in the SAE constructs (value, quality, and satisfaction) by the agriculture program department size.

Dewey (1938) believed that each experience an individual has will influence how he or she perceives future experiences. Teachers in multi-teacher departments have a different experience as advisors than those in single teacher departments. As the number of teachers in the agriculture program increases so does the ability of teachers to distribute responsibilities among one another, which includes SAE supervision. Teachers in multi-teacher programs may have less difficulty with time management and therefore value SAE more and be more satisfied with their respective programs.

According to social learning theory, individuals can learn through interaction with others, both by observation and through the use of verbal symbols (Bandura, 1977). Moreover, social learning theory Agriculture teachers in multi-teacher departments have multiple chances to interact with one another. Agriculture teachers in these departments may receive support from each other, exchange and discuss ideas with each other, and receive constructive criticism from each other. These kinds of experiences are available to teachers in single teacher departments only through teachers in other disciplines. Though some of these teachers may have responsibilities similar to the agriculture teacher, the experience will be different. The camaraderie available to teachers in multi-teacher departments is not as accessible to teachers in single teacher programs.

CHAPTER 4: RESULTS AND FINDINGS

Purpose of the Study

The purpose of this study was to describe teachers' perceptions regarding SAE and selected characteristics (gender, age, number of years teaching, department size, number of students in the agricultural education program, level of education, and regional location) of Kentucky high school agricultural educators included in the study. A secondary purpose of this study was to describe the current status of SAE in Kentucky.

Objectives

The specific objectives for this study were to describe:

1. Selected characteristics (gender, age, Kentucky teacher rank certification, number of years teaching, department size, number of students in the agricultural education program, level of education, and regional location) of Kentucky high school agricultural educators in the study.
2. The current status of SAE in Kentucky (number of students participating, percent of agriculture students participating, and student participation in SAE types).
3. The perceptions of Kentucky high school agricultural educators regarding the value of SAE.
4. The perceptions of Kentucky high school agricultural educators regarding SAE quality.
5. The satisfaction of Kentucky high school agricultural educators regarding SAE in their individual programs.
6. The differences among teachers' perceptions regarding SAE by selected characteristics (number of years teaching, department size, level of education, and rank certification level).

Objective 1

Objective 1 sought to determine the selected demographic characteristics (gender, age, Kentucky teacher rank certification, number of years teaching, department size,

number of students in the agricultural education program, level of education, and regional location) of Kentucky high school agriculture teachers included in the study. Data collected for age, number of years teaching, and number of extended days resulted in interval data and were reported using means and standard deviations. This data is presented in Table 4.1. Additionally, interval data collected for age, number of years teaching, and number of extended days were also categorized into ordinal data. Nominal and ordinal data for this objective are summarized using frequencies and percentages in Table 4.2.

Table 4.1

Interval Demographic Characteristics of Kentucky Agriculture Teachers (n = 109)

Variable	<i>M</i>	<i>SD</i>
Age (<i>n</i> = 105)	37.1	10.46
Years Teaching (<i>n</i> = 105)	13.0	9.98
Extended Days (<i>n</i> = 106)	52.5	8.62

Table 4.2

Nominal and Ordinal Demographic Characteristics of Kentucky Agriculture Teachers (n = 109)

Variable	<i>f</i>	%
Gender (<i>n</i> = 108)		
Male	81	75.00
Female	27	25.00
Kentucky Teacher Rank Certification (<i>n</i> = 104)		
Rank I	51	49.0
Rank II	38	36.50
Rank III	15	14.40
SAE Supervision Period (<i>n</i> = 105)		
Yes	5	4.80
No	100	95.20

Table 4.2 (continued)

Nominal and Ordinal Demographic Characteristics of Kentucky Agriculture Teachers (n = 109)

Variable	F	%
Age (n = 105)		
20-24 years	8	7.60
25-29 years	24	22.90
30-34 years	24	22.90
35-39 years	8	7.60
40-44 years	12	11.40
45-49 years	5	4.80
50-54 years	20	19.00
55-59 years	4	3.80
60 years and over	0	0.00
Years Teaching (n = 105)		
1-5	29	27.60
6-10	27	25.70
11-15	16	15.20
16-20	8	7.60
21-25	6	5.70
26-30	13	12.40
31 and over	6	5.70
Department Size (n = 106)		
1 Teacher	24	22.60
2 Teachers	59	55.70
3 Teachers	20	18.90
4+ Teachers	3	2.80
# of Extended Days (n = 106)		
0-20	3	2.80
21-40	1	0.90
41-60	102	96.20

Table 4.2 (continued)

Nominal and Ordinal Demographic Characteristics of Kentucky Agriculture Teachers (n = 109)

Variable	<i>F</i>	%
Education (<i>n</i> = 100)		
Bachelor's Degree	24	24.00
Master's Degree	70	70.00
Doctorate Degree	0	0.00
Other Degree	6	6.00
Region (<i>n</i> = 109)		
Barren River	14	12.80
Big Sandy River	6	5.50
Bluegrass	19	17.40
Green River	5	4.60
Kentucky River	7	6.40
Lake Cumberland	11	10.10
Licking River	7	6.40
Lincoln Trail	11	10.10
Northern Kentucky	15	13.80
Pennyryle	10	9.20
Purchase	4	3.70

Of the respondents, 81 (75.00%) teachers were male while only 27 (25.00%) were female. In terms of age, 8 (7.60%) teachers were between the age of 20 and 24. The most frequent age for responding agriculture teachers was 25-29 years and 30-34 years with 24 (22.90%) teachers each. Additionally, 8 (7.60%) teachers were 35-39 years of age, 12 (11.40%) were between the ages of 40-44 years, 5 (4.80%) were 45-49 years of age, 20 (19.00%) were 50-54 years of age, 4 (3.80%) were between the ages of 55-59 years, and 0 (0.00%) were 60 or more years of age. The mean age for agriculture teachers in this study was 37.1 years ($SD = 10.46$) ranging from 22 years to 59 years.

In terms of teaching experience, 29 (27.60%) respondents taught 1-5 years, 27 (25.70%) agriculture teachers had taught 6-10 years, 16 (15.20%) teachers had taught 11-15 years, 8 (7.60%) teachers had taught 16-20 years, 6 (5.70%) respondents had taught 21-25 years, 13 (12.40%) teachers had taught 26-30 years, and 6 (5.70%) had taught 31 years or more. On average, agriculture teachers in Kentucky had taught for 13.0 years ($SD = 9.98$). In terms of Kentucky teaching rank certification, 51 (49.00%) agriculture teachers had achieved Rank I Certification level, 39 (36.50%) teachers had Rank II Certification level, and 15 (14.40%) had achieved Rank III Certification level. Additionally, 24 (24.00%) agriculture teachers had only a Bachelor's degree, 70 (70.00%) teachers had a Master's degree, 0 (0.00%) had doctorate degree, and 6 (6.00%) were categorized as having an "other" degree. The teachers categorized as "other" identified themselves in 4 other categories. Two (1.80%) teachers were categorized as "2 masters," two (1.80%) teachers received national board certification from the National Board for Professional Teaching Standards (NBPTS), and 1 (0.90%) teacher had a degree in secondary administration.

In terms of department size, 24 (22.60%) teachers worked in a 1 teacher agricultural education department, 59 (55.70%) teachers worked in a 2 teacher department, 20 (18.90%) teachers worked in a 3 teacher department, and 3 (2.80%) teachers worked in a department of 4 teachers or more. Regarding the number of extended days, 3 (2.80%) agriculture teachers had 0-20 extended days, 1 (0.90%) teacher had 21-40 extended days, and 102 (96.20%) teachers had 40 or more extended days. The mean score for extended days was 52.5 ($SD = 8.62$). In addition, 5 (4.80%) agriculture teachers identified that they had a block specifically designated for SAE supervision, while 100 (95.20%) teachers did not have a SAE supervision block.

Regional location for respondents varied. Fourteen (12.80%) agricultural education teachers were in the Barren River region, 6 (5.50%) were in the Big Sandy River region, 19 (17.40%) were in the Bluegrass Region, 5 (4.60%) were in the Green River region, 7 (6.40%) were in the Kentucky River region, 11 (10.10%) were in the Lake Cumberland region, 7 (6.40%) were in the Licking River region, 11 (10.10%) were in the Lincoln Trail region, 15 (13.80%) were in the Northern Kentucky region, 10 (9.20%) were in the Pennyryle region, and 4 (3.70%) were in the Purchase region.

Objective 2

Objective 2 sought to describe the current status of SAE in Kentucky in terms of total participation by students in SAE, the percentage of agriculture students participating in SAE, and the number of students participating in each of the five major SAE types. These findings are interval data and are presented in Table 4.3 using measures of central tendency, specifically: range, mean, standard deviation, and skewness.

Table 4.3

Student Participation in SAE as Reported by Kentucky Agriculture Teachers (n = 109)

Area of Participation	Min.	Max.	<i>M</i>	<i>SD</i>	Skew
Agricultural Education Program (<i>n</i> = 98)	7	800	198	122.17	2.20
Students with SAEs (<i>n</i> = 100)	0	800	126	112.91	2.65
Exploratory (<i>n</i> = 91)	0	200	23	35.80	3.05
Research/Experimentation (<i>n</i> = 88)	0	50	5	9.40	3.01
Ownership/Entrepreneurship (<i>n</i> = 95)	0	200	39	39.30	1.98
Placement (<i>n</i> = 95)	0	400	53	58.73	3.08
Service Learning (<i>n</i> = 92)	0	105	12	20.45	2.97

The size of agricultural education programs in Kentucky ranged from 7 to 800 students. The mean size for agriculture programs was approximately 198 (*SD* = 122.17) students. Of the students in agriculture programs, on average 126 (60%, *SD* = 112.91) students in the program had a SAE. Student participation in SAEs ranged from 0 students to 800 students. In the typical Kentucky agricultural education program, of the students with SAEs 23 (16%, *SD* = 35.80) students had exploratory SAEs, 5 (4%, *SD* = 9.40) students had research/experimentation SAEs, 39 (33%, *SD* = 39.30) students had ownership/entrepreneurship SAEs, 53 (38%, *SD* = 58.73) students had placement SAEs, and 12 (9%, *SD* = 20.45) students had service learning SAEs.

The results for SAE participation were positively skewed. Skewness scores ranged from 1.98 to 3.08. For clarity, data for student participation in SAE were organized into histograms (See Appendix L) to view the distribution of student participation.

One respondent was identified as an outlier in the distribution. This respondent reported that his or her agricultural education program had 800 total students participating. Each student in this program had a SAE. This respondent indicated that 200 students had exploratory SAEs, 20 students had research/experimentation SAEs, 80 students had ownership/entrepreneurship SAEs, 400 students had placement SAEs, and 100 students had service learning SAEs.

Objective 3

Objective 3 sought to determine the perceived value of SAE as reported by Kentucky agriculture teachers. Data were collected using a researcher designed questionnaire. Teachers were asked to rate their perceptions of 43 value related statements on a 6-point Likert type scale which resulted in interval data. A total of 109 responses were received from participants. Table 4.4 summarizes the data for objective 3 in terms of means and standard deviations. In addition, frequencies and percentages were calculated in relation to the 6-point Likert scale (Appendix M).

Table 4.4

Value of SAE as Reported by Kentucky Agriculture Teachers (n = 109)

Statement	<i>M^a</i>	<i>SD</i>
I am familiar with the role of SAEs within the 3-circle model.	5.58	0.98
Quality SAEs provide real-life experiences for students.	5.55	0.89
I encourage all of my students to have a SAE.	5.50	0.94
Students gain knowledge through entrepreneurship SAEs.	5.49	0.92
Students gain knowledge through placement SAEs.	5.46	0.88
Students gain valuable hands-on experience through placement SAEs.	5.45	0.90
Students gain knowledge through service learning SAEs.	5.28	0.99
SAE participation positively affects students' work attitudes.	5.27	1.15
Students gain valuable hands-on experience through service learning SAEs.	5.25	0.99
I encourage some of my students to have a placement SAE.	5.21	0.98

Table 4.4 (continued)

Value of SAE as Reported by Kentucky Agriculture Teachers (n = 109)

Statement	<i>M^a</i>	<i>SD</i>
Students gain knowledge through research/experimentation SAEs.	5.19	1.00
Students gain valuable hands-on experience through research/experimentation SAEs.	5.19	0.95
All chapter officers should have a SAE.	5.17	1.24
Students gain valuable hands-on experience through entrepreneurship SAEs.	5.17	1.51
Students gain knowledge through exploratory SAEs.	5.15	1.23
I encourage some of my students to have an entrepreneurship SAE.	5.15	1.05
In order to have a quality agricultural education program, SAE, FFA, and in-class instruction are required.	5.14	1.22
The local agricultural education program benefits from offering SAE.	5.11	1.07
Students gain valuable hands-on experience through exploratory SAEs.	5.09	1.09
Quality SAEs get students started in an agricultural career.	5.03	1.11
Quality SAEs improve student mastery of course objectives.	5.02	1.08
A quality SAE should be a requirement for FFA degree advancement.	4.88	1.37
SAE should be required of every FFA member.	4.74	1.43
I encourage my students to conduct SAE because of the proficiency award recognition.	4.71	1.17
I encourage some of my students to have a service learning SAE.	4.68	1.33
As agriculture continues to change, SAE opportunities will remain relevant to students.	4.67	1.29
A quality SAE should be required for FFA scholarships.	4.59	1.40

Table 4.4 (continued)

Value of SAE as Reported by Kentucky Agriculture Teachers (n = 109)

Statement	<i>M^a</i>	<i>SD</i>
SAE should be required of every student in an agricultural class.	4.58	1.51
Pre-service agricultural education programs should teach that every student should have a SAE.	4.46	1.46
SAE is beneficial to some students.	4.46	1.53
I encourage some of my students to have an exploratory SAE.	4.38	1.37
I encourage some of my students to have a research/experimentation SAE.	4.33	1.41
A successful agriculture program cannot be achieved without SAE.	4.17	1.50
I require every FFA member to have a SAE.	4.10	1.66
Part of a student's grade in class should be based on SAE.	4.08	1.59
SAE can be required of every student.	3.86	1.72
Teachers should spend as much time working with SAE as with FFA activities.	3.83	1.27
SAE activities are as important as FFA activities.	3.80	1.29
SAEs are as relevant to urban settings as rural settings.	3.79	1.70
I require every student enrolled in an agriculture class to have a SAE.	3.79	1.80
Only SAEs that change in some way each year provide students with quality agricultural experiences.	3.57	1.38
I have as much time for SAE activities as FFA activities.	3.33	1.49
Students receive recognition for their SAEs on the local level in my program.	2.25	1.70
Overall Value Construct	4.68	0.66

^a *Scale from 1 = Strongly Disagree to 6 = Strongly Agree*

As Table 4.4 outlines, agriculture teacher's agreement with the value statements included in the study varied significantly. Teachers most strongly agreed that they were

familiar with SAEs ($M = 5.58, SD = 0.98$), that SAEs give students real-life experiences ($M = 5.55, SD = 0.89$), and that they encourage all of their students to have SAEs ($M = 5.50, SD = 0.94$).

Among the least agreed with statements, agriculture teachers disagreed that they had as much time for SAE activities as FFA activities ($M = 3.33, SD = 1.49$) and that students receive recognition for SAEs in their local programs ($M = 2.25, SD = 1.70$).

In addition to the individual value statement analysis, data were analyzed to determine an overall score for the value construct for SAE. Data analysis revealed a mean score of 4.68 ($SD = 0.66$) for overall value of SAE.

Objective 4

The purpose of this objective was to determine what Kentucky agricultural education teachers believed constituted a quality SAE. Twenty two quality statements were developed which aligned with the SAE quality indicators outlined by the National Council for Agricultural Education (2007). Teachers rated statements based on a 6-point Likert scale (1 = Strongly Disagree to 6 = Strongly Agree) and 109 responses were collected. Interval data for this objective are summarized in Table 4.5 in terms of means and standard deviations. Additionally, frequencies and percentages were calculated in relation to the 6-point Likert scale (Appendix M).

Table 4.5

Kentucky Agriculture Teacher Perceptions Regarding SAE Quality Components (n = 109)

Statement	M^a	SD
Placement SAEs are beneficial to students.	5.53	0.86
Rewards should be provided for students with outstanding SAEs at the state level.	5.50	0.96
Entrepreneurship SAEs are beneficial to students.	5.48	0.92
The role of the agriculture teacher in a SAE program is to provide support for students.	5.31	0.92
Recognition for SAEs should be provided at the local level.	5.30	1.44

Table 4.5 (continued)

Kentucky Agriculture Teacher Perceptions Regarding SAE Quality Components (n = 109)

Statement	<i>M^a</i>	<i>SD</i>
The teacher should provide continuous supervision for students' SAEs throughout the year.	5.26	0.97
Service learning SAEs are beneficial to students.	5.26	1.03
Students should be required to keep up-to-date records of their SAE programs.	5.24	1.30
The teacher should keep written records of SAE supervisory visits.	5.18	1.29
Students' SAEs should show evidence of growth in size and scope.	5.10	1.01
The teacher should provide continuous instruction for students' SAEs throughout the year.	5.05	1.12
Exploratory SAEs are beneficial to students.	5.02	1.11
Research/experimentation SAEs are beneficial to students.	4.96	1.35
Requiring SAE of each FFA member benefits the local FFA program.	4.95	1.19
The role of the agriculture teacher in a SAE program is to provide instruction.	4.91	1.14
Requiring SAE of each FFA member improves the quality of the total SAE program.	4.84	1.32
The student should be the primary planner of the SAE program.	4.67	1.39
Requiring SAE of each student enrolled in an agriculture class improves the quality of the total SAE program.	4.64	1.44
SAE programs should be based on the career pathways of students.	4.56	1.30
SAE programs should be aligned with Kentucky's skills standards.	4.37	1.35

Table 4.5 (continued)

Kentucky Agriculture Teacher Perceptions Regarding SAE Quality Components (n = 109)

Statement	<i>M^a</i>	<i>SD</i>
The teacher should create a summary of all students' SAE programs at the end of the calendar year.	4.22	1.51
SAE programs should be based on the national agricultural curriculum standards.	4.12	1.39
Overall Quality Construct	4.98	0.70

^a *Scale from 1 = Strongly Disagree to 6 = Strongly Agree*

As Table 4.5 summarizes, all statements were agreed with by Kentucky agriculture teachers. Agriculture teachers most strongly agreed that placement SAEs are beneficial to students ($M = 5.53, SD = 0.86$), that outstanding SAEs should be rewarded at the state level ($M = 5.50, SD = 0.96$), and that entrepreneurship SAEs are beneficial to students ($M = 5.48, SD = 0.92$).

Kentucky agriculture teachers least agreed that SAE programs should be aligned with Kentucky's skills standards ($M = 4.37, SD = 1.35$), that SAE programs should be based on national agricultural curriculum standards ($M = 4.12, SD = 1.39$), and that teachers should create a summary of students' SAEs at the end of each calendar year ($M = 4.22, SD = 1.51$).

In addition to data analysis on individual statements, an overall quality score was calculated through summated means. This quality score demonstrated agreement with the SAE quality indicators outlined by the National Council for Agricultural Education (2007). A mean score of 4.98 ($SD = 0.70$) was computed.

Objective 5

Objective 5 sought to determine the level of satisfaction of Kentucky agriculture teachers with SAEs in their individual programs. Data were collected using ten statements included on the researcher constructed questionnaire. Respondents were asked to rate their level of agreement with the statements on a 6-point Likert scale (1 = Strongly

Disagree to 6 = Strongly Agree). Means and standard deviations were reported on this interval data and summarized in Table 4.6. In addition, frequencies and percentages were calculated in relation to the 6-point Likert scale (Appendix M).

Table 4.6

Satisfaction of Kentucky Agriculture Teachers Regarding SAE (n = 109)

Statement	<i>M^a</i>	<i>SD</i>
Overall, I am satisfied with the scope of students' SAEs in my program.	3.67	1.45
I am satisfied with the number of students in my program enrolled in SAE.	3.49	1.67
I am satisfied with SAE participation in my program when compared to FFA participation and classroom enrollment.	3.37	1.44
I am satisfied with the number of proficiencies my program submits to the regional level.	3.33	1.65
I am satisfied with the quality of the SAEs in my program.	3.28	1.49
I am satisfied with the overall diversity of SAEs in my program.	3.18	1.43
I am satisfied with my students' motivation to participate in SAE.	3.16	1.43
I am satisfied with my students' level of record keeping for their SAEs.	2.89	1.40
I am satisfied with my ability to integrate SAE, FFA, and in-class instruction into my agricultural education program.	2.74	1.55
I am satisfied with the level of rewards provided at the state level for outstanding SAEs.	2.70	1.43
Overall Satisfaction Construct	3.17	0.66

^a *Scale from 1 = Strongly Disagree to 6 = Strongly Agree*

Kentucky agriculture teachers slightly agreed that they were satisfied with the scope of students' SAEs ($M = 3.67$, $SD = 1.45$). Respondents most disagreed that they

were satisfied with their students' motivation to participate in SAEs ($M = 3.16$, $SD = 1.43$), their students' level of record keeping for their SAEs ($M = 2.89$, $SD = 1.40$). Additionally, respondents most disagreed that they were satisfied with rewards provided at the state level for outstanding SAEs ($M = 2.70$, $SD = 1.43$).

To complement the data analysis for individual statements, an overall satisfaction score was computed in the form of summated means. The mean satisfaction score was 3.17 ($SD = 0.66$).

Objective 6

This objective sought to assess any differences in the SAE constructs by the demographic characteristics of Kentucky agricultural education teachers. Hypotheses were developed to assess these differences.

Null hypothesis one, stating that there are no statistically significant differences in the SAE constructs (value, quality, and satisfaction) by degree earned by the teacher, was tested using a *t*-test. A significance level was set *a priori* at .05. *T*-test results are presented in Table 4.7. *P*-values for quality and satisfaction were not significant at the .05 level. The null hypothesis was not rejected for the quality and satisfaction constructs; that is, there are no differences in the quality and satisfaction constructs by degree earned by the agriculture teacher. The *p*-value for the value construct was significant at the .05 level, so the null hypothesis was rejected. In other words, there are statistically significant differences in the value construct by degree earned by the agriculture teacher.

Table 4.7

T-test Results for Differences in SAE Constructs by Degree Earned by the Agriculture Teacher

Construct	Bachelor's ($n = 76$)		Master's or Higher ($n = 24$)		<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Value	4.80	0.57	4.46	0.71	0.02
Quality	5.03	0.62	4.83	0.92	0.23
Satisfaction	3.22	0.67	2.97	0.67	0.12

Null hypothesis two, which stated that there are no statistically significant differences in the SAE constructs (value, quality, and satisfaction) by the number of years the teacher had taught, was tested using an analysis of variance (ANOVA). An alpha level was set *a priori* at .05. Results for each construct are presented in Table 4.8, Table 4.9, and Table 4.10. Levene's test of equality of variance was used to test the assumption of equal variance. The *F*-values for the value construct ($F_{1,103} = 1.16, p = 0.28$), quality construct ($F_{1,102} = 0.14, p = 0.71$), and satisfaction construct ($F_{1,100} = 0.21, p = 0.65$) were not significant so the assumption of equal variance was valid.

Table 4.8

Analysis of Variance of Value Construct by Teaching Experience

Source	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Between Groups	0.71	3	0.24	0.61	0.61
Within Groups	39.12	101	0.39		
Total	39.83	104			

Table 4.9

Analysis of Variance of Quality Construct by Teaching Experience

Source	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Between Groups	0.27	3	0.09	0.18	0.91
Within Groups	51.49	100	0.52		
Total	51.77	103			

Table 4.10

Analysis of Variance of Satisfaction Construct by Teaching Experience

Source	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Between Groups	0.68	3	0.23	0.51	0.68
Within Groups	43.39	98	0.44		
Total	44.07	101			

The results in Table 4.8, Table 4.9, and Table 4.10 indicated that the F -values for the value construct ($F_{1,103} = 0.61, p = 0.61$), quality construct ($F_{1,102} = 0.18, p = 0.91$), and satisfaction construct ($F_{1,100} = 0.51, p = 0.68$) were not significant at the .05 level. The researcher failed to reject the null hypothesis; that is, there are no statistically significant differences in the SAE constructs by the number of years the agriculture teacher has taught.

Null hypothesis three, stating that there are no differences in the SAE constructs by teacher certification rank, was tested using an ANOVA. An alpha level was set *a priori* at .05. Results for each construct are summarized in Table 4.11, Table 4.12, and Table 4.13. To test the assumption of equal variance, Levene's test of equality of variance was used. The F -values for the value construct ($F_{2,101} = 1.35, p = 0.26$), quality construct ($F_{2,101} = 0.88, p = 0.42$), and satisfaction construct ($F_{2,98} = 1.69, p = 0.19$) were not significant so the assumption of equality of variance was valid.

Table 4.11

Analysis of Variance of Value Construct by Teacher Certification Rank

Source	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Between Groups	1.38	2	0.67	1.83	0.17
Within Groups	38.08	101	0.38		
Total	39.46	103			

Table 4.12

Analysis of Variance of Quality Construct by Teacher Certification Rank

Source	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Between Groups	0.40	2	0.20	0.40	0.67
Within Groups	50.47	101	0.50		
Total	50.87	103			

Table 4.13

Analysis of Variance of Satisfaction Construct by Teacher Certification Rank

Source	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Between Groups	1.76	2	0.88	2.04	0.14
Within Groups	42.35	98	0.43		
Total	44.11	100			

For the ANOVA, the *F*-values for the value construct ($F_{2,101} = 1.83, p = 0.17$), quality construct ($F_{2,101} = 0.40, p = 0.67$), and satisfaction construct ($F_{2,98} = 2.04, p = 0.14$) were not significant at the .05 level. The null hypothesis was not rejected. In other words, there are no statistically significant differences in the SAE constructs by teacher certification rank.

Null hypothesis four, stating that there are no statistically significant differences in the SAE constructs by department size, was tested using an ANOVA. An alpha level was set *a priori* at .05. Data are presented in Table 4.14, Table 4.15, and Table 4.16. Levene's test of equality of variance was used to test the assumption of homogeneity of variance. The *F*-values for the value construct ($F_{2,103} = 0.2.16, p = 0.12$), quality construct ($F_{2,102} = 0.71, p = 0.49$), and satisfaction construct ($F_{2,100} = 1.26, p = 0.29$) were not significant at the .05 level so the assumption of homogeneity of variance was valid.

Table 4.14

Analysis of Variance of Value Construct by Department Size

Source	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Between Groups	0.84	2	0.42	1.10	0.34
Within Groups	39.14	103	0.38		
Total	39.98	105			

Table 4.15

Analysis of Variance of Quality Construct by Department Size

Source	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Between Groups	0.68	2	0.34	0.68	0.51
Within Groups	51.15	102	0.50		
Total	51.83	104			

Table 4.16

Analysis of Variance of Satisfaction Construct by Department Size

Source	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Between Groups	2.15	2	1.08	2.55	0.08
Within Groups	42.20	100	0.42		
Total	44.35	102			

As shown in Table 4.14, Table 4.15, and Table 4.16, the *F*-values for the value construct ($F_{2,103} = 1.10$, $p = 0.34$), quality construct ($F_{2,102} = 0.68$, $p = 0.51$), and satisfaction construct ($F_{2,100} = 2.55$, $p = 0.08$) were not significant at the .05 level; therefore the researcher failed to reject the null hypothesis. In other words, there are no statistically significant differences in the SAE constructs by department size.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

Purpose of the Study

The purpose of this study was to describe teachers' perceptions regarding SAE and selected characteristics (gender, age, number of years teaching, department size, number of students in the agricultural education program, level of education, and regional location) of Kentucky high school agricultural educators included in the study. A secondary purpose of this study was to describe the current status of SAE in Kentucky.

Objectives

The specific objectives for this study were to describe:

1. Selected characteristics (gender, age, Kentucky teacher rank certification, number of years teaching, department size, number of students in the agricultural education program, level of education, and regional location) of Kentucky high school agricultural educators in the study.
2. The current status of SAE in Kentucky (number of students participating, percent of agriculture students participating, and student participation in SAE types).
3. The perceptions of Kentucky high school agricultural educators regarding the value of SAE.
4. The perceptions of Kentucky high school agricultural educators regarding SAE quality.
5. The satisfaction of Kentucky high school agricultural educators regarding SAE in their individual programs.
6. The differences among teachers' perceptions regarding SAE by selected characteristics (number of years teaching, department size, level of education, and rank certification level).

Conclusions and Implications

Objective 1

The typical Kentucky agricultural education teacher is 37 years old with 13 years of teaching experience. The majority of agriculture teachers in Kentucky are male. The overwhelming majority of agriculture teachers have a master's degree and Rank I Certification. Only a small percentage of agriculture teachers are at the Rank III Certification level. This finding indicates that Kentucky agriculture teachers continue to seek credit beyond a bachelor's degree to increase their certification rank and pay scale. Most agriculture teachers have taught from one to fifteen years indicating that some agriculture teachers achieve Rank I Certification early in their tenure.

In terms of individual programs, the majority of agriculture programs employ two teachers. A very low percentage of programs employ four or more teachers. Agriculture teachers in smaller one or two teacher programs may have more negative perceptions of SAEs than teachers in larger departments (Swortzel, 1996). An overwhelming majority of agriculture teachers have 41-60 extended days indicating that the concerns expressed by Steele (1997) are not shared in Kentucky. However, most Kentucky agriculture teachers do not have a SAE supervision period which may decrease time available for SAE implementation. This lack of time for SAEs may contribute to negative perceptions of SAE in Kentucky.

In terms of regional location, data were varied. The region with the highest number of agriculture teachers was the Bluegrass Region while the lowest was the Purchase region. Data from objectives 2, 3, 4, and 5 may vary between regions due to cultural, social, or economic differences. These differences should be analyzed to determine ways to improve the condition and perception of SAE within regions.

Objective 2

The typical program in Kentucky has 198 students enrolled in agriculture classes with 126 students with SAEs; however, the size of agriculture programs and SAE participation vary significantly. A slight majority of students in Kentucky agricultural education programs have SAEs. Of students that have SAEs, the majority of those SAEs

are placement SAEs followed by ownership/entrepreneurship SAEs. Very few SAEs fall into the categories of research/experimentation or service learning. The discrepancy between participation in these SAE types may be due to student and/or agriculture teacher knowledge or acceptance of research/experimentation and service learning SAEs which are relatively new areas.

The majority of students SAEs are categorized as placement or entrepreneurship SAEs. This conclusion implies that research/experimentation SAEs, service learning SAEs, and exploratory SAEs are underrepresented in the typical Kentucky agriculture program.

An outlier was identified in the data. This respondent had significantly higher student participation in SAEs than other respondents and was a member of at least a four teacher program. This finding indicates that teachers in multi-teacher programs may be able to distribute responsibilities to better accommodate for high student participation. However, data collected in this study does not describe the activities that teachers count as a SAE. It may be that teachers in this program are more lax in their definition of SAE.

Objective 3

As an overall mean score, Kentucky agriculture teachers value SAE. Agriculture teachers are familiar with the SAE component of agricultural education. They believe that SAEs provide real-life experiences for students consistent with Barrick et al (1992) and the National FFA Organization (2006a, 2006b). More specifically, they believe that each major SAE category can provide valuable hands-on experience for students and increase students' knowledge. Consistent with Camp et al. (2000), Kentucky agriculture teachers feel that SAE participation can positively influence student's work attitudes. They feel that quality SAEs can get students started on a career path and improve students' understand of class material which is consistent with the findings of Cheek et al. (1994). These teachers also believe that the overall local program benefits from offering SAEs. These conclusions imply that SAE is a valuable component of agricultural education.

Kentucky agricultural education teachers believe that all three components of agricultural education are required in order to have a quality program and that a quality

program cannot be achieved without the SAE component which is not consistent with the perceptions of teachers in other states (Steele, 1997). Agriculture teachers believe that chapter officers should have SAEs and they believe to a lesser degree that all FFA members and students enrolled in agriculture classes should have a SAE consistent with the recommendations of Whaley and Lucero (1993). Additionally, they believe that SAEs should be included as a requirement for FFA degree advancement and FFA scholarships. To a lesser degree, agriculture teachers believe that SAE activities are as important as FFA activities and agriculture teachers should spend as much time working with SAE activities as with FFA activities. Due to the high variance in Kentucky agriculture teacher's opinions on these factors, a significant number of teachers may feel that FFA activities have a higher priority than SAE activities which is consistent with the findings of Wilson and Moore (2006). Similar findings indicate that agriculture teachers are mixed regarding their opinions of the relevance of SAE to urban settings as well as whether SAEs should change somehow each year to provide quality experiences for students.

Regarding the actual implementation of SAEs in programs, Kentucky agriculture teachers vary. Kentucky agricultural education teachers encourage every student to have a SAE, especially placement and entrepreneurship SAEs. Service learning SAEs are also highly encouraged; however, research/experimentation and exploratory SAEs are encouraged by agriculture teachers less than the other three categories. Though agriculture teachers encourage every student to have a SAE they prefer certain SAE categories to others. These teachers may value placement, entrepreneurship, and service learning SAEs above research/experimentation and exploratory SAEs which may account for higher participation levels in entrepreneurship and placement SAEs in Kentucky agriculture programs. Additionally, a small majority of Kentucky agriculture teachers require all of their agriculture students to have a SAE and an even stronger majority require every FFA members to have a SAE; however, more agriculture teachers believe that that all agriculture students and FFA members should have SAE as compared to the number of teachers that actually require SAEs. These findings indicate a disconnect between the philosophies of agriculture teachers and their actions. This conclusion is consistent with the findings of Dyer and Osborne (1995).

Though Kentucky agriculture teachers value SAE and make attempts to implement SAE in their programs, they do not feel that they have enough time for SAE activities in comparison to FFA activities. This finding indicates that FFA activities receive preferential treatment compared to SAE activities which may demonstrate a value imbalance. As one teacher commented on the questionnaire, “Time is the limiting factor in all [agriculture] programs, not desire or dedication.” Agriculture teachers prioritize their time in accordance with their values. Moreover, Kentucky agriculture programs do not provide much recognition for outstanding SAEs at the local level. These conclusions imply that though Kentucky teachers value SAE, they lack time to allocate to implementing SAE in their programs.

Objective 4

Overall, Kentucky agriculture teachers agree with the SAE quality indicators outlined by the National Council for Agricultural Education (2007). Specifically, agriculture teachers believe that all SAE categories are beneficial to students; however, placement and entrepreneurship SAEs are believed to be more beneficial than others. Agriculture teachers may believe that these types of SAEs provide students with higher quality experiences which may account for differences in student participation in the individual SAE categories.

Agriculture teachers only slightly agreed with the first quality indicator, “All students have experiential learning (SAE) programs based on career pathways/clusters/interests and agricultural curriculum standards” (National Council for Agricultural Education, 2007, p. 29). SAEs should be developed that focus on students’ career interests. Agriculture teachers also believe that SAEs should be based on both state and national curriculum standards. These conclusions imply that the first quality indicator should be accepted by the profession.

The second quality indicator states, “Experiential learning programs are planned, developed and managed by the student with instruction and support by the agriculture teacher, parents and/or employer” (p. 29). Agriculture teachers believe that their role should be to provide instruction and support to students who should be the primary

planner of the SAE. These conclusions demonstrate that the second quality indicator should be accepted by the profession.

Agriculture teachers were in moderate agreement regarding the third quality indicator, “The agriculture teacher maintains accurate records of all experiential learning (SAE) supervision” (p. 29). Kentucky agriculture teachers believe that they should keep some form of written records of supervisory visits. This conclusion shows that the third quality indicator should be accepted by the agricultural education profession.

Agriculture teachers moderately agreed concerning the fourth quality indicator, “Continuous instruction and supervision of student experiential learning (SAE) programs are provided by the agriculture teachers throughout the calendar year” (p. 29). Both statements related to this quality indicator received moderate agreement from agriculture teachers. This conclusion indicates that the fourth quality indicator should be embraced by the profession.

Agriculture teachers agreed with the fifth quality indicator, “Each agriculture student maintains up-to-date and accurate experiential learning (SAE) records,” and the sixth quality indicator, “An annual summary of students’ experiential learning (SAE) programs is completed and submitted to appropriate entities” (p. 29). Agriculture teachers moderately agreed regarding the seventh quality indicator, “Students have comprehensive experiential learning (SAE) programs that show evidence of growth in size and/or scope” (p. 29). These conclusions imply that the fifth, sixth, and seventh quality indicators should be accepted by the profession.

In addition, agriculture teachers agree that students should be rewarded for their SAEs at both the state and local level. The level of rewards may be an indicator of quality of individual SAE programs and the statewide condition of SAE. Also, agriculture teachers believe that requiring SAE of every agriculture student increases the quality of the total SAE program. This finding indicates that Kentucky agriculture teachers believe that the amount of participation in SAE is an indicator of total program quality. These conclusions may indicate that the quality indicators outlined by National Council for Agricultural Education (2007) may not be exhaustive.

Objective 5

Overall, Kentucky agricultural education teachers are not satisfied with their students' SAE programs. The highest rated statement related to the scope of student SAEs and was only slightly agreed with overall. The data suggests that agriculture teachers are split on their satisfaction with the scope of students' SAEs. Agriculture teachers are slightly dissatisfied with the total number of students with SAEs in their programs. Agricultural education teachers were even more dissatisfied with SAE participation when compared to FFA participation which indicates that even though FFA may be more valued by Kentucky agriculture teachers than SAE, SAE participation levels are still not at a satisfactory level. Agriculture teachers value SAE, but may not be implementing it effectively in their programs due to time constraints. Agriculture teachers were not satisfied with the number of proficiencies their chapter submits to the local level. Agriculture teachers were also slightly dissatisfied with the quality and diversity of SAEs in their programs. This finding may be a result of agriculture teachers' tendency to encourage more students to have placement and entrepreneurship SAEs than other SAEs. Community demographics may also influence the diversity of SAEs in a given program. Agriculture teachers were also dissatisfied with student motivation to participate in SAEs as well as their level of record keeping. Kentucky agriculture teachers were least satisfied with their ability to integrate SAE, FFA, and classroom instruction into the total program which may indicate a low self efficacy for SAE integration. Even though agriculture teachers are familiar with the SAE component, they may have difficulty integrating it into the total program. Agriculture teachers are most dissatisfied with the level of rewards provided at the state level.

Objective 6

Significant differences were not identified between any of the three constructs by number of years teaching, department size, and teaching rank certification. Variation was almost non-existent among the constructs by number of years teaching which may imply that Kentucky agriculture teacher's perceptions regarding the value of SAE, the quality components of SAE, and their satisfaction with their SAE programs are not changing

over time. In other words, Kentucky agriculture teacher's attitudes toward SAE when entering the profession will likely stay with them for the remainder of their tenure.

Very little variation existed among the constructs by agricultural education program department size. This finding was not consistent with the findings of Swortzel (1996) who found that agriculture teachers in larger departments tended to have more positive perceptions toward the supervision of students' SAEs. This discrepancy may be due to the scope of this study compared to Swortzel's study.

Little variation existed among the SAE constructs by teaching rank certification. Again, this finding implies that Kentucky agriculture teachers' attitudes toward SAE are not changing as they gain experience, whether through interactions with teachers or through further education. This conclusion may have implications for Kentucky agriculture teacher educators and state staff. If the state hopes to influence teacher's attitudes toward SAE, initiatives must be focused toward undergraduates in agricultural education and early career agriculture teachers.

A statistically significant difference was assessed in the value construct by degree earned. This finding paints a slightly different picture of the educational level of the teacher than the finding regarding differences in the construct by teaching rank certification. This finding implies that teachers with master's degrees may value SAE differently than teachers with bachelor's degrees; however, the actual difference in means was relatively small, so this finding may have little practical implication. Because the differences in means by degree earned were small and the differences in the construct by teaching rank certification were not statistically significant, this conclusion is an area that warrants further research.

Recommendations

Agriculture teachers recognize SAE as a valuable component of agricultural education. Agriculture teacher education programs should continue to teach that SAEs are a necessary part of a quality high school agriculture program. SAE should continue to be used as a requirement for FFA degree advancement and FFA scholarship. The SAE scholarship and degree requirement may serve as motivation for students to participate in SAEs. Moreover, agriculture teacher education and professional development in

Kentucky should be expanded in the area of SAE to include topics related to developing programs in both rural and urban areas, managing the entire program, overall time management, and ways to provide rewards and recognition for students' SAEs at the local level.

The agricultural education profession in the state of Kentucky should embrace the quality indicators established by the National Council for Agricultural Education (2007). State staff should undergo an effort to assess the quality of agricultural education SAE programs based on these standards. Additionally, efforts should be made to create curriculum standards for Kentucky agricultural education programs on which student SAEs may be based. National agricultural education curriculum standards should also be formed which apply to all agricultural education programs.

Based on these findings, a standardized instrument for SAE supervisory visits may be beneficial to agriculture teachers. Professional development in this state should be expanded to include the use of this new SAE supervision instrument and synthesizing individual students' SAE program information to create a summary of the total SAE program condition. Agriculture teacher education curriculum and professional development should focus on the benefits of all five major SAE categories to improve the perceptions of Kentucky agriculture teachers toward research/experimentation, exploratory, and placement SAEs. Moreover, teacher education and professional development should be further expanded to include topics related to providing instruction and support for all students with SAEs throughout the entire year.

This study focused on the condition of SAE at the current time. State staff should track the participation levels of students in SAE across the state year to year. This data will be helpful in determining whether SAE in Kentucky is growing or declining. The findings from this study indicate that Kentucky teacher education programs and professional development should be expanded for current and future agriculture teachers to include topics on teaching record keeping to students, how to continually develop students SAEs, and the integration of SAE, FFA, and classroom instruction into the total agricultural education program. Moreover state staff should open a discussion with Kentucky teachers to determine areas of deficiency in state rewards for SAEs. Agriculture teachers' dissatisfaction with state SAE rewards may stem from issues with

the amount of rewards given, the diversity of rewards given, or the quality of rewards given within each SAE category. Agriculture state staff and teacher educators should partner to analyze demographic differences that occur between regions in which teachers are satisfied with their SAE programs and regions in which teachers are dissatisfied with their SAE programs to determine if any regional characteristics influenced the results of this study. Agricultural education teacher educators and state staff in Kentucky should also work together to determine the root causes of agriculture teacher dissatisfaction with SAEs in Kentucky as a whole and within each region and design professional development and education curriculum which address these issues.

A Kentucky task force should be created to lead an effort to revitalize SAEs in Kentucky. The task force should consist of leaders in Kentucky Team Ag Ed, which includes state staff, teacher educators, and teachers. The task force should focus on expanding student participation in SAE within agriculture programs, increasing the diversity of SAEs in Kentucky, motivating teachers to implement and students to participate in SAE programs, expanding the level of state rewards for outstanding SAEs, and assessing the quality of current student SAEs.

Recommendations for Further Research

Based upon the conclusions of this study, the researcher offers the following recommendations for further research:

- This study was a foundational study from which to build data regarding SAE in Kentucky. This study should be replicated in similar states where a deficiency in SAE research exists. Moreover, national studies should be completed to assess the national state of SAE and perceptions of teachers toward SAEs.
- Research should focus on the seven quality indicators for SAE programs (National Council for Agricultural Education, 2007) used in this study to determine their validity among other teachers. Moreover, research should seek to determine if these indicators are exhaustive or if other indicators should be added.
- Data from this study should be analyzed to determine relationships that exist between the value, quality, and satisfaction constructs of this study.

- Data from this study should be further analyzed to assess any relationship that may exist between student participation in SAE and agriculture teacher satisfaction with SAEs.
- Data from this study should be analyzed to identify relationships that may exist between teacher demographics and the level of student participation in SAE.
- SAE participation varied among the five SAE categories. Future research should seek to identify the causes of this variation. Do agriculture teachers value certain SAE categories more than others? Do agriculture teachers encourage students to participate in one SAE category more than others?
- This study sought to quantitatively explain the perceptions of Kentucky agriculture teachers regarding SAE. Qualitative data should be collected regarding the perceived value of SAE, the definition of SAE quality, and the satisfaction of teachers with their SAE programs. Qualitative data may provide rich descriptions of the value of SAE and agriculture teachers' satisfaction with SAE. Such data may also identify additional indicators of SAE program quality.
- Future research should seek to identify the activities that teachers count as SAEs.
- Further research is warranted in the area of agriculture teacher satisfaction with SAE to determine the causes of the low satisfaction with SAE of Kentucky agricultural education teachers.
- Future research should approach SAE from the conceptual perspective conceived by Dyer and Osborne (1996). Research should focus on the perceptions of other individuals involved in the implementation of SAEs, including students, parents, employers, school administrators, agriculture teacher educators, and agricultural education state staff. Also, school policies and other school characteristics should be examined to determine any influence on SAE program participation and quality. Community characteristics which may influence SAE programs in different areas should also be examined.
- The relationship between department size and the perceptions of teachers toward SAE warrants further insight as the findings of this study were inconsistent with literature on SAE (Swortzel, 1996).

- A difference was found among the value construct of SAE by degree earned by the teacher. This difference should be further analyzed to determine if a relationship exists between the two variables.

APPENDIX A:
ELECTRONIC COPY SAE IN
KENTUCKY QUESTIONNAIRE

Supervised Agricultural Experience in Kentucky



Purpose

A quality Agricultural Education program consists of three components: 1) classroom/laboratory, 2) FFA, and 3) Supervised Agricultural Experience (SAE). This study focuses on the experiential component, SAE, and the perceptions of Kentucky high school agriculture teachers. Your participation in this study is vital to the continued success of SAE in Kentucky. Your participation is strictly voluntary and your identity will remain confidential. **Please respond truthfully to all items.** Thank you for your participation!

Definitions

Instructions: Please review the following definitions of the types of SAEs before beginning the questionnaire and use as a reference as needed.

1. Entrepreneurship SAE - involves students who own and operate an agricultural business, whether production or services oriented.
2. Placement SAE - students work for others in an agriculturally related industry or setting.
3. Exploratory SAE - designed to broaden and clarify student interests in agriculture without an overall goal of job or career placement.
4. Research/experimentation SAE - students conduct long term investigations that are "carefully planned" and "curriculum based" within basic areas related to agriculture.
5. Service learning SAE – students provide a service to their school and/or community using skills learned in the agriculture classroom

EXAMPLE QUESTION AND INSTRUCTIONS:

Instructions: Please respond truthfully by indicating the degree to which you agree/disagree with each of the following statements where 1 = Strongly Disagree and 6 = Strongly Agree.

Statements	Response						
	Strongly Disagree	1	2	3	4	5	Strongly Agree
1. SAE benefits all students.	1	<input type="radio"/>					

The respondent indicated that he/she strongly disagrees with the above statement.

IMPORTANT:

***Please do not hit your Enter key at any time
as this will automatically submit your questionnaire.***

Please enter the ID number that was assigned to you:

SAE Value						
<p>Instructions: The following statements deal with how much you value SAE. Please respond truthfully by indicating the degree to which you agree/disagree with each of the following statements where 1 = Strongly Disagree and 6 = Strongly Agree.</p>						
Statements	Response					
	Strongly Disagree					Strongly Agree
	1	2	3	4	5	6
1. I am familiar with the role of SAEs within the 3-circle model.	<input type="radio"/>					
2. SAE should be required of every student in an agricultural class.	<input type="radio"/>					
3. A quality SAE should not be a requirement for FFA degree advancement.	<input type="radio"/>					
4. A quality SAE should be required for FFA scholarships.	<input type="radio"/>					
5. All chapter officers should have a SAE.	<input type="radio"/>					
6. SAE should be required of every FFA member.	<input type="radio"/>					
7. SAEs that do not change in some way each year provide students with quality agricultural experiences.	<input type="radio"/>					
8. SAEs are more relevant to rural settings than urban areas.	<input type="radio"/>					
9. No part of a student's grade in class should be based on SAE.	<input type="radio"/>					
10. Quality SAEs improve student mastery of course objectives.	<input type="radio"/>					
11. Quality SAEs get students started in an agricultural career.	<input type="radio"/>					
12. Quality SAEs provide real-life experiences for students.	<input type="radio"/>					
13. SAE participation does not positively affect students' work attitudes.	<input type="radio"/>					
14. Increased activities in FFA leave me less time for SAE.	<input type="radio"/>					
15. Teachers should spend as much time working with SAE as with FFA activities.	<input type="radio"/>					
16. FFA activities are more important than SAE activities.	<input type="radio"/>					
17. The local Agricultural Education program benefits						

	from offering SAE.	<input type="radio"/>					
18.	A successful agriculture program can be achieved without SAE.	<input type="radio"/>					
19.	SAE cannot be required of every student.	<input type="radio"/>					
20.	Pre-service Agricultural Education Programs should stop teaching that every student should have a SAE.	<input type="radio"/>					
21.	In order to have a quality Agricultural Education program, SAE, FFA, and in-class instruction are required.	<input type="radio"/>					
22.	SAE is not beneficial to some students.	<input type="radio"/>					
23.	As agriculture continues to change, SAE opportunities will become less relevant to students.	<input type="radio"/>					
24.	Students do not gain knowledge through exploratory SAEs.	<input type="radio"/>					
25.	Students gain valuable hands-on experience through exploratory SAEs.	<input type="radio"/>					
26.	Students gain knowledge through research/experimentation SAEs.	<input type="radio"/>					
27.	Students gain valuable hands-on experience through research/experimentation SAEs.	<input type="radio"/>					
28.	Students gain knowledge through entrepreneurship SAEs.	<input type="radio"/>					
29.	Students do not gain valuable hands-on experience through entrepreneurship SAEs.	<input type="radio"/>					
30.	Students gain knowledge through placement SAEs.	<input type="radio"/>					
31.	Students gain valuable hands-on experience through placement SAEs.	<input type="radio"/>					
32.	Students gain knowledge through service learning SAEs.	<input type="radio"/>					
33.	Students gain valuable hands-on experience through service learning SAEs.	<input type="radio"/>					
34.	Students enrolled in an agriculture class in my school must have a SAE.	<input type="radio"/>					
35.	Every FFA member in my school must have a SAE.	<input type="radio"/>					
36.	Students receive recognition for their SAEs on the local level in my program.	<input type="radio"/>					
37.	I encourage all of my students to have a SAE.	<input type="radio"/>					
38.	I encourage some of my students to have a research/experimentation SAE.	<input type="radio"/>					
39.	I encourage some of my students to have an exploratory SAE.	<input type="radio"/>					
40.	I encourage some of my students to have an entrepreneurship SAE.	<input type="radio"/>					
41.	I encourage some of my students to have a placement SAE.	<input type="radio"/>					
42.	I encourage some of my students to have a service learning SAE.	<input type="radio"/>					
43.	I encourage my students to conduct SAE because of the proficiency award recognition.	<input type="radio"/>					

SAE Quality

Instructions: The following statements deal with the perceived quality. Please respond truthfully by indicating the degree to which you agree/disagree with each of the following statements where 1 = Strongly Disagree and 6 = Strongly Agree.

Statements	Response					
	Strongly Disagree					Strongly Agree
	1	2	3	4	5	6
1. Requiring SAE of each student enrolled in an agriculture class improves the quality of the total SAE program.	<input type="radio"/>					
2. Requiring SAE of each FFA member benefits the local FFA program.	<input type="radio"/>					

3.	Requiring SAE of each FFA member improves the quality of the total SAE program.	<input type="radio"/>					
4.	Recognition for SAEs should not be provided at the local level.	<input type="radio"/>					
5.	Rewards should be provided for students with outstanding SAEs at the state level.	<input type="radio"/>					
6.	Students' SAEs should show evidence of growth in size and scope.	<input type="radio"/>					
7.	SAE programs should not be based on the national agricultural curriculum standards.	<input type="radio"/>					
8.	SAE programs should be aligned with Kentucky's skills standards.	<input type="radio"/>					
9.	SAE programs should be based on the career pathways of students.	<input type="radio"/>					
10.	Students should not be required to keep up-to-date records of their SAE programs.	<input type="radio"/>					
11.	The student should be the primary planner of the SAE program.	<input type="radio"/>					
12.	The role of the agriculture teacher in a SAE program is to provide instruction.	<input type="radio"/>					
13.	The role of the agriculture teacher in a SAE program is to provide support for students.	<input type="radio"/>					
14.	The teacher should not keep written records of SAE supervisory visits.	<input type="radio"/>					
15.	The teacher should create a summary of all students' SAE programs at the end of the calendar year.	<input type="radio"/>					
16.	The teacher should provide continuous instruction for students' SAEs throughout the year.	<input type="radio"/>					
17.	The teacher should provide continuous supervision for students' SAEs throughout the year.	<input type="radio"/>					
18.	Exploratory SAEs are beneficial to students.	<input type="radio"/>					
19.	Research/experimentation SAEs are not beneficial to students.	<input type="radio"/>					
20.	Entrepreneurship SAEs are beneficial to students.	<input type="radio"/>					
21.	Placement SAEs are beneficial to students.	<input type="radio"/>					
22.	Service learning SAEs are beneficial to students.	<input type="radio"/>					

SAE Satisfaction

Instructions: The following statements deal with your satisfaction with the SAE component of your Agricultural Education program. Please respond truthfully by indicating the degree to which you agree/disagree with each of the following statements where 1 = Strongly Disagree and 6 = Strongly Agree.

	Statements	Response					
		Strongly Disagree					Strongly Agree
		1	2	3	4	5	6
1.	I am satisfied with the number of students in my program enrolled in SAE.	<input type="radio"/>					
2.	I am not satisfied with the level of rewards provided at the state level for outstanding SAEs.	<input type="radio"/>					
3.	Overall, I am satisfied with the scope of students' SAEs in my program.	<input type="radio"/>					
4.	I am not satisfied with the overall diversity of SAEs in my program.	<input type="radio"/>					
5.	I am satisfied with the number of proficiencies my program submits to the regional level.	<input type="radio"/>					
6.	I am satisfied with my students' level of record keeping for their SAEs.	<input type="radio"/>					
7.	I am not satisfied with the quality of the SAEs in my program.	<input type="radio"/>					
8.	I am satisfied with SAE participation in my program when compared to FFA participation	<input type="radio"/>					

	and classroom enrollment.							
9.	I am not satisfied with my ability to integrate SAE, FFA, and in-class instruction into my Agricultural Education program.	<input type="radio"/>						
10.	I am satisfied with my students' motivation to participate in SAE.	<input type="radio"/>						

SAE Participation

Instructions: The following questions relate to SAE participation in your Agricultural Education program. Please respond to the following questions in the space provided.

- How many students are in your Agricultural Education program?
- How many students in your program have a SAE program?
- How many students in your program participate in each type of SAE? (Note: if a student has multiple SAEs, please only count that student once for his/her *primary* SAE.)
 - Exploratory:
 - Research/Experimentation and Analysis:
 - Ownership/Entrepreneurship:
 - Placement:
 - Service learning:

Demographic Information

Instructions: Please click the answer that corresponds to your information or fill in the blank where appropriate.

- I am ? Male Female
- What is your age? years old
- How long have you been teaching (as of the end of the current school year)? years.
- I am located in the region.
- I teach in a _____ teacher department.

 Single Two Three Four Plus
- The highest degree you have is: Bachelor's Master's Doctoral Other:
- What is your current teaching rank? Rank I Rank II Rank III
- How many extended days do you have?
- Do you have a period or block specifically designated for SAE supervision? No Yes

Thank you for your participation!

Please click the submit button when you are finished.

Submit Survey

Reset survey values

If you have any questions regarding this questionnaire please contact **Cam White** at:

307 Garrigus Building University of Kentucky Lexington, KY 40546-0215

Phone: (859) 257-3153 Mobile: (270) 625-0253 Fax: (859) 257-1164

Email: cam.white@uky.edu

UK UNIVERSITY OF KENTUCKY
College of Agriculture

APPENDIX B:
HARD COPY SAE IN
KENTUCKY QUESTIONNAIRE



Questionnaire

Supervised Agricultural Experience in Kentucky



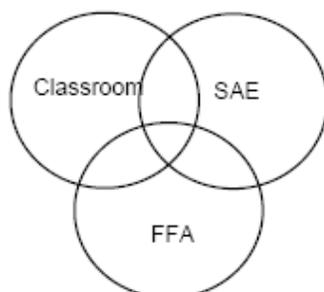
Please return by January 16, 2008.

Purpose

A quality Agricultural Education program consists of three components: 1) classroom/laboratory, 2) FFA, and 3) Supervised Agricultural Experience (SAE). This study focuses on the experiential component, SAE, and the perceptions of Kentucky high school agriculture teachers. Your participation in this study is vital to the continued success of SAE in Kentucky.

Your participation is strictly voluntary and your identity will remain confidential. **Please respond truthfully to all items.**

Thank you for your participation!



If you have any questions regarding this questionnaire please contact **Cam White** at:

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Fax: (859) 257-1164
Email: cam.white@uky.edu



Definitions

Instructions: Please review the following definitions of the types of SAEs before beginning the questionnaire. Refer back to this page as needed.

- Entrepreneurship – involves students who own and operate an agricultural business, whether production or services oriented
- Placement – students work for others in an agriculturally related industry or setting
- Exploratory – designed to broaden and clarify student interests in agriculture without an overall goal of job or career placement
- Research/experimentation – students conduct long term investigations that are “carefully planned” and “curriculum based” within basic areas related to agriculture
- Service Learning – students provide a service to their school and/or community using skills learned in the agriculture classroom

Turn to page 4 for additional instructions.



Example Question

Instructions: Pages 5 through 10 consist of several statements related to the value of SAE and the factors that define a quality SAE. The following is an example question and instructions.

Instructions: Please respond truthfully by circling the response that best describes your opinion of the following statement where 1 = Strongly Disagree and 6 = Strongly Agree.

Statement	Level of Agreement					
	1	2	3	4	5	6
1. SAE is beneficial to all students.				4		

The respondent indicated that he/she agrees slightly that SAE is beneficial to students.

Turn to page 5 to begin questionnaire.



SAE Value

Instructions: The following statements deal with how much you value SAE. Please respond truthfully by circling the response that best describes your opinion of each of the following statements where 1 = Strongly Disagree and 6 = Strongly Agree.

Statement		Level of Agreement					
		Strongly Disagree					Strongly Agree
1.	I am familiar with the role of SAEs within the 3-circle model.	1	2	3	4	5	6
2.	SAE should be required of every student in an agricultural class.	1	2	3	4	5	6
3.	A quality SAE should not be a requirement for FFA degree advancement.	1	2	3	4	5	6
4.	A quality SAE should be required for FFA scholarships.	1	2	3	4	5	6
5.	All chapter officers should have a SAE.	1	2	3	4	5	6
6.	SAE should be required of every FFA member.	1	2	3	4	5	6
7.	SAEs that do not change in some way each year provide students with quality agricultural experiences.	1	2	3	4	5	6
8.	SAEs are more relevant to rural settings than urban areas.	1	2	3	4	5	6
9.	No part of a student's grade in class should be based on SAE.	1	2	3	4	5	6
10.	Quality SAEs improve student mastery of course objectives.	1	2	3	4	5	6
11.	Quality SAEs get students started in an agricultural career.	1	2	3	4	5	6
12.	Quality SAEs provide real-life experiences for students.	1	2	3	4	5	6



		Level of Agreement					
		Strongly Disagree	←————→				Strongly Agree
Statement		1	2	3	4	5	6
13.	SAE participation does not positively affect students' work attitudes.	1	2	3	4	5	6
14.	Increased activities in FFA leave me less time for SAE.	1	2	3	4	5	6
15.	Teachers should spend as much time working with SAE as with FFA activities.	1	2	3	4	5	6
16.	FFA activities are more important than SAE activities.	1	2	3	4	5	6
17.	The local Agricultural Education program benefits from offering SAE.	1	2	3	4	5	6
18.	A successful agriculture program can be achieved without SAE.	1	2	3	4	5	6
19.	SAE cannot be required of every student.	1	2	3	4	5	6
20.	Pre-service Agricultural Education Programs should stop teaching that every student should have a SAE.	1	2	3	4	5	6
21.	In order to have a quality Agricultural Education program, SAE, FFA, and in-class instruction are required.	1	2	3	4	5	6
22.	SAE is not beneficial to some students.	1	2	3	4	5	6
23.	As agriculture continues to change, SAE opportunities will become less relevant to students.	1	2	3	4	5	6
24.	Students do not gain knowledge through exploratory SAEs.	1	2	3	4	5	6
25.	Students gain valuable hands-on experience through exploratory SAEs.	1	2	3	4	5	6
26.	Students gain knowledge through research/experimentation SAEs.	1	2	3	4	5	6
27.	Students gain valuable hands-on experience through research/experimentation SAEs.	1	2	3	4	5	6



		Level of Agreement					
		<div style="display: flex; justify-content: space-between; align-items: center;"> Strongly Disagree ← → Strongly Agree </div>					
	Statement	1	2	3	4	5	6
28.	Students gain knowledge through entrepreneurship SAEs.	1	2	3	4	5	6
29.	Students do not gain valuable hands-on experience through entrepreneurship SAEs.	1	2	3	4	5	6
30.	Students gain knowledge through placement SAEs.	1	2	3	4	5	6
31.	Students gain valuable hands-on experience through placement SAEs.	1	2	3	4	5	6
32.	Students gain knowledge through service learning SAEs.	1	2	3	4	5	6
33.	Students gain valuable hands-on experience through service learning SAEs.	1	2	3	4	5	6
34.	I require every student enrolled in an agriculture class to have a SAE.	1	2	3	4	5	6
35.	I require every FFA member to have a SAE.	1	2	3	4	5	6
36.	My program does not recognize students for their SAEs on the local level.	1	2	3	4	5	6
37.	I encourage all of my students to have a SAE.	1	2	3	4	5	6
38.	I encourage some of my students to have a research/experimentation SAE.	1	2	3	4	5	6
39.	I encourage some of my students to have an exploratory SAE.	1	2	3	4	5	6
40.	I encourage some of my students to have an entrepreneurship SAE.	1	2	3	4	5	6
41.	I encourage some of my students to have a placement SAE.	1	2	3	4	5	6
42.	I encourage some of my students to have a service learning SAE.	1	2	3	4	5	6
43.	I encourage my students to conduct SAE because of the proficiency award recognition.	1	2	3	4	5	6



SAE Quality

Instructions: The following statements deal with the perceived quality. Please respond truthfully by circling the response that best describes your opinion of each of the following statements where 1 = Strongly Disagree and 6 = Strongly Agree.

		Level of Agreement					
		Strongly Disagree	←————→				Strongly Agree
Statement							
1.	Requiring SAE of each student enrolled in an agriculture class improves the quality of the total SAE program.	1	2	3	4	5	6
2.	Requiring SAE of each FFA member benefits the local FFA program.	1	2	3	4	5	6
3.	Requiring SAE of each FFA member improves the quality of the total SAE program.	1	2	3	4	5	6
4.	Recognition for SAEs should not be provided at the local level.	1	2	3	4	5	6
5.	Rewards should be provided for students with outstanding SAEs at the state level.	1	2	3	4	5	6
6.	Students' SAEs should show evidence of growth in size and scope.	1	2	3	4	5	6
7.	SAE programs should not be based on the national agricultural curriculum standards.	1	2	3	4	5	6
8.	SAE programs should be aligned with Kentucky's skills standards.	1	2	3	4	5	6
9.	SAE programs should be based on the career pathways of students.	1	2	3	4	5	6
10.	Students should not be required to keep up-to-date records of their SAE programs.	1	2	3	4	5	6
11.	The student should be the primary planner of the SAE program.	1	2	3	4	5	6
12.	The role of the agriculture teacher in a SAE program is to provide instruction.	1	2	3	4	5	6



Statement		Level of Agreement					
		Strongly Disagree					Strongly Agree
13.	The role of the agriculture teacher in a SAE program is to provide support for students.	1	2	3	4	5	6
14.	The teacher should not keep written records of SAE supervisory visits.	1	2	3	4	5	6
15.	The teacher should create a summary of all students' SAE programs at the end of the calendar year.	1	2	3	4	5	6
16.	The teacher should provide continuous instruction for students' SAEs throughout the year.	1	2	3	4	5	6
17.	The teacher should provide continuous supervision for students' SAEs throughout the year.	1	2	3	4	5	6
18.	Exploratory SAEs are beneficial to students.	1	2	3	4	5	6
19.	Research/experimentation SAEs are not beneficial to students.	1	2	3	4	5	6
20.	Entrepreneurship SAEs are beneficial to students.	1	2	3	4	5	6
21.	Placement SAEs are beneficial to students.	1	2	3	4	5	6
22.	Service learning SAEs are beneficial to students.	1	2	3	4	5	6



SAE Satisfaction

Instructions: The following statements deal with your satisfaction with the SAE component of your Agricultural Education program. Please respond truthfully by circling the response that best describes your opinion of each of the following statements where 1 = Strongly Disagree and 6 = Strongly Agree.

		Level of Agreement					
		Strongly Disagree	←————→				Strongly Agree
Statement							
1.	I am satisfied with the number of students in my program enrolled in SAE.	1	2	3	4	5	6
2.	I am not satisfied with the level of rewards provided at the state level for outstanding SAEs.	1	2	3	4	5	6
3.	Overall, I am satisfied with the scope of students' SAEs in my program.	1	2	3	4	5	6
4.	I am not satisfied with the overall diversity of SAEs in my program.	1	2	3	4	5	6
5.	I am satisfied with the number of proficiencies my program submits to the regional level.	1	2	3	4	5	6
6.	I am satisfied with my students' level of record keeping for their SAEs.	1	2	3	4	5	6
7.	I am not satisfied with the quality of the SAEs in my program.	1	2	3	4	5	6
8.	I am satisfied with SAE participation in my program when compared to FFA participation and classroom enrollment.	1	2	3	4	5	6
9.	I am not satisfied with my ability to integrate SAE, FFA, and in-class instruction into my Agricultural Education program.	1	2	3	4	5	6
10.	I am satisfied with my students' motivation to participate in SAE.	1	2	3	4	5	6



SAE Participation

Instructions: The following questions relate to SAE participation in your Agricultural Education program. Please respond to the following questions in the space provided.

1. How many students are in your Agricultural Education program?

2. How many students in your program have a SAE program?

3. How many students in your program participate in each type of SAE? (Note: if a student has multiple SAEs, please only count that student once for his **primary** SAE.)
 - a. Exploratory: _____
 - b. Research/Experimentation and Analysis: _____
 - c. Ownership/Entrepreneurship: _____
 - d. Placement: _____
 - e. Service Learning: _____



Demographic Information

Instructions: Please circle the answer that corresponds to your information or fill in the blank where appropriate.

- I am:
 - Female
 - Male
- I am _____ years old.
- How long have you been teaching (as of the end of the current school year)?

- I am located in the _____ region.
- I teach in a _____ teacher department.
 - Single
 - Two
 - Three
 - Four +
- The highest degree I have received from a collegiate university is _____.
 - B.S.
 - M.S.
 - Ph.D.
 - Other: (please specify)

- What is your current teaching rank?
 - Rank III
 - Rank II
 - Rank I



Demographic Information (continued)

Instructions: Please circle the answer that corresponds to your information or fill in the blank where appropriate.

8. How many extended days do you have?

9. Do you have a period or block specifically designated for SAE supervision?
 - a. Yes
 - b. No

Thank you again for your participation!

APPENDIX C:
INITIAL POSTCARD
SENT TO PARTICIPANTS

November 6, 2007

Name,

My name is Cameron White. I am a graduate student in the agricultural education Program at the University of Kentucky and am currently working on my thesis. I am writing today to request your help.

In a few days you will receive an e-mail requesting you to fill out a questionnaire for an important research study being conducted at the University of Kentucky. The study concerns supervised agricultural experience (SAE) in Kentucky, both the perceptions of current agriculture teachers regarding SAE and the current status of SAE.

I am writing today to inform you that you have been randomly selected for participation in this study. You have been randomly assigned the number: **Study #**. Further instructions regarding the use of this number will be given when you receive the questionnaire. This is an important study that will help agricultural educators and state staff members understand the perceptions of teachers regarding SAE in their own programs.

Thank you very much for your time and consideration. Your generous help makes our research successful and your responses will help shape SAE in Kentucky in the years to come.

Sincerely,

Cameron White

APPENDIX D:
FIRST E-MAIL
TO PARTICIPANTS

November 19, 2007

Name,

I am writing today to ask for your help in a study regarding Kentucky high school agriculture teachers. The study deals with the perceptions of agriculture teachers regarding supervised agricultural experience (SAE) and the current status of SAE. You have been contacted for this study because you are currently a high school agriculture teacher in the commonwealth of Kentucky. We have selected a random sample from current agriculture teachers in Kentucky to participate in this important study.

It is unclear whether or not agriculture teachers value the SAE component of agricultural education programs. It is also unclear how agriculture teachers define SAE quality. By understanding the perceptions of agriculture teachers regarding SAE quality and the value of SAE, we can develop strategies to improve SAE. Your honest responses in this study will help state agricultural education staff and teacher educators determine how to approach the implementation of SAE in Kentucky in future years.

Your responses are strictly confidential. Answers will be released in summary form only and no individual answers will be identified. If you have any questions about your rights as a volunteer in this research, contact the staff in the Office of Research Integrity at the University of Kentucky at 859-257-9428 or toll free at 1-866-400-9428. Your name will be deleted from the mailing list when you return your completed questionnaire and your responses will never be connected in any way to your name. Your participation in this survey is voluntary. However, you can assist us greatly by taking a few moments to share your perceptions and opinions regarding SAE.

You can access the questionnaire by clicking on the following link:

<http://ces.ca.uky.edu/cld/saeky.htm>

Should you decide to complete the questionnaire, you must enter the following number at the beginning of the survey: **Study #**. Your number will be used only to delete your name from the mailing list and will not be connected to your responses. Once your name is deleted from the list, you will be entered into a raffle drawing for one of two \$30 FFA Unlimited gift certificates.

If you have any questions or comments, please contact me via e-mail at cam.white@uky.edu or by phone at (859) 257-3153. I would be happy to talk with you and address any concerns that you may have.

Thank you very much for your help with this important study.

Sincerely,

Cameron White

APPENDIX E:
FIRST FOLLOW-UP E-MAIL
TO PARTICIPANTS

Name,

Last week a questionnaire was sent to you via e-mail asking you to share your perceptions regarding supervised agricultural experience (SAE) in Kentucky. Your name was randomly selected from among all Kentucky high school agriculture teachers.

If you have already completed and returned the questionnaire, please accept my sincere thanks. If not, please do so as soon as possible. Your responses are vital to helping us gain a greater understanding of SAE in Kentucky and we greatly appreciate your help.

If you have any questions or have had trouble viewing the questionnaire, please contact me at cam.white@uky.edu or by phone at (859) 257-3153. If you did not receive a link to the questionnaire in your e-mail or have misplaced the original e-mail I have included the link below. Please remember to write in your survey number of **Study #** in the entry field on the questionnaire.

Questionnaire Link:

<http://ces.ca.uky.edu/cld/saeky.htm>

Thank you for your time and consideration.

Cameron White

APPENDIX F:
SECOND QUESTIONNAIRE E-MAIL
TO NON-RESPONDENTS

Name,

Approximately two weeks ago I sent you a questionnaire that asked you about your perceptions regarding supervised agricultural experience (SAE) in your agricultural education program. According to our records, we have not received a completed questionnaire from you.

The comments of individuals who have already responded to the questionnaire give us a wide range of opinions regarding SAE in Kentucky. Several have identified SAE as a very useful component of agricultural education and others have placed little value on SAE. The results from this study will be very useful to state leaders in the profession and agriculture teacher educators.

I am writing to remind you of the importance that your response is in helping us collect accurate data regarding the perception of SAE in Kentucky. Questionnaires have been sent to numerous agriculture teachers in Kentucky, but it is important to hear from everyone in order to ensure that our data is representative of Kentucky as a whole.

You can access the questionnaire by clicking on the following link:

<http://ces.ca.uky.edu/cld/saeky.htm>

Please take notice of our survey procedures. Please input the following number at the top of the survey: **Study #**. This number is used only to check your name off of our mailing list to ensure that you do not receive any unnecessary mailings and so that you will be entered into the raffle drawing for one of two \$30 FFA Unlimited gift certificates as token of our appreciation for your response. The list of names will be destroyed so that your name cannot be connected to the results in any way. Please remember that your participation in this study is voluntary and your confidentiality is of utmost importance to us and the University of Kentucky. If you have any questions about your rights as a volunteer in this research, contact the staff in the Office of Research Integrity at the University of Kentucky at 859-257-9428 or toll free at 1-866-400-9428.

I hope that you will complete the questionnaire as soon as possible. If you have any questions or comments, please contact me via e-mail at cam.white@uky.edu or by phone at (859) 257-3153. I would be happy to talk with you and address any concerns that you may have.

Again, thank for your participation in this important study.

Sincerely,

Cameron White
Graduate Assistant

APPENDIX G:
SECOND REMINDER E-MAIL
TO PARTICIPANTS

Name,

In the past few weeks, you have received several e-mails requesting your participation in a study regarding the perceptions of agriculture teachers regarding supervised agricultural experience (SAE) in Kentucky. If you have already filled out this questionnaire, we sincerely appreciate your response. If you have not yet completed the questionnaire, please do so as soon as possible. Your prompt response is vital to ensure that our data is representative of all agriculture teachers in Kentucky and helping us gain a greater understanding of SAE in Kentucky.

If you have any questions or have had trouble viewing the questionnaire, please contact me at cam.white@uky.edu or by phone at (859) 257-3153. If you did not receive a link to the questionnaire in your e-mail or have misplaced the original e-mail I have included the link below. Please remember to write in your survey number of **Study #** in the entry field on the questionnaire.

Questionnaire Link:

<http://ces.ca.uky.edu/cld/saeky.htm>

Thank you very much for your prompt response.

Cameron White

APPENDIX H:
COVER LETTER FOR HARD
MAILING OF QUESTIONNAIRE

January 2, 2008

Name,

In the past few weeks, you have received multiple e-mails requesting your participation in a study on the perceptions of agriculture teachers regarding SAE in Kentucky. According to our records, we have yet to receive a questionnaire from you.

The responses of others in the study have already provided us with a variety of opinions regarding SAE, but in order to ensure that our findings are truly representative we need your responses as well. We believe that the results of this study will be very useful to state agricultural education staff in developing ways to help Kentucky agriculture teachers with the SAE component of their programs.

A questionnaire identification number is written on the back of the enclosed questionnaire. This number will only be used to check your name off of our mailing list and to enter you into the raffle drawing for one of two \$30 FFA Unlimited gift certificates as a token of our appreciation. The list of names will be destroyed so that the results of the study cannot be connected to any individual. Protecting your confidentiality is extremely important to us and the University of Kentucky. Please remember that your participation in this study is voluntary. If you have any questions about your rights as a volunteer in this research, contact the staff in the Office of Research Integrity at the University of Kentucky at 859-257-9428 or toll free at 1-866-400-9428.

We hope that you will take a few moments to fill out and return the questionnaire as soon as possible in the enclosed stamped envelope. If for any reason you prefer not to answer, please let us know by returning the blank questionnaire in the enclosed envelope.

If you have any questions or concerns, please feel free to contact me. I can be reached by e-mail at cam.white@uky.edu or by phone at (859) 257-3153. Again, we appreciate your help with this study.

Sincerely,

Cameron White
Graduate Assistant

APPENDIX I:
FINAL REMINDER LETTER
TO NON-RESPONDENTS

January 14, 2008

Name,

During the last two months you have received multiple mailings requesting your participation in an important research study about the perceptions of Kentucky agriculture teachers regarding supervised agricultural experience (SAE).

The purpose of the study is to help state agricultural education staff and teacher educators understand the current condition of SAE in Kentucky and what agriculture teachers believe constitutes SAE quality.

This study is nearing completion, and this is the final contact that will be made with the random sample of Kentucky agriculture teachers selected for this study.

We are concerned that individuals who have yet to respond to the questionnaire may have different experiences and perceptions than those who have already responded. Hearing from everyone in the sample will ensure that our findings are representative of all Kentucky agriculture teachers.

We want to assure you that your response to this study is voluntary, and if you prefer not to respond that is fine. If you choose to respond, please remember that your participation is confidential and the findings will not be tied to any individual included in the study. If you have any questions about your rights as a volunteer in this research, contact the staff in the Office of Research Integrity at the University of Kentucky at 859-257-9428 or toll free at 1-866-400-9428. In addition, you will be entered in the raffle drawing for one of two \$30 FFA Unlimited gift certificates. If you do not wish to respond to the study, please take a moment to return your blank questionnaire in the pre-addressed stamped envelope included in the original mailing.

We appreciate your willingness to consider our request as we conclude this important study on the perceptions of Kentucky agriculture teachers regarding SAE. Thank you very much for your time.

If you have any questions or comments or would like to request a replacement questionnaire, please contact me at (859) 257-3153 or by e-mail at cam.white@uky.edu.

Sincerely,

Cameron White

APPENDIX J:
LEVENE'S EQUALITY OF
VARIANCE FOR T-TESTS

Table J-1

Levene's Test of Equality of Variance for Teacher Gender

Construct	<i>F</i>	<i>p</i>
Value	0.17	0.68
Quality	0.03	0.87
Satisfaction	4.00	0.5

Table J-2

Levene's Test of Equality of Variance for Degree Earned

Construct	<i>F</i>	<i>P</i>
Value	0.37	0.54
Quality	1.96	0.17
Satisfaction	0.20	0.66

APPENDIX K:
LEVENE'S EQUALITY OF
VARIANCE FOR ANOVA

Table K-1

Levene's Test of Equality of Variance for Number of Years Teacher has Taught

Construct	<i>F</i>	<i>p</i>
Value	1.82	0.15
Quality	0.73	0.54
Satisfaction	0.25	0.86

Table K-2

Levene's Test of Equality of Variance for Teacher Certification Rank

Construct	<i>F</i>	<i>p</i>
Value	1.35	0.26
Quality	0.88	0.42
Satisfaction	1.69	0.19

Table K-3

Levene's Test of Equality of Variance for Department Size

Construct	<i>F</i>	<i>p</i>
Value	2.16	0.12
Quality	0.71	0.49
Satisfaction	1.26	0.29

APPENDIX L:
DISTRIBUTION OF STUDENT
PARTICIPATION IN SAE HISTOGRAMS

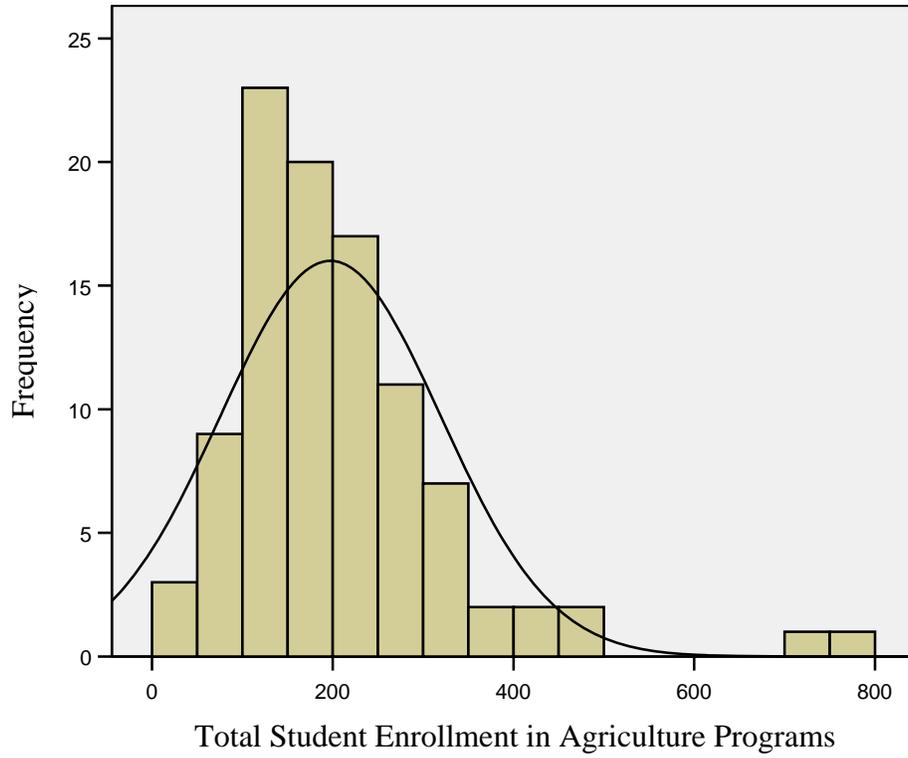


Figure L.1. Histogram of student enrollment in agricultural education programs.

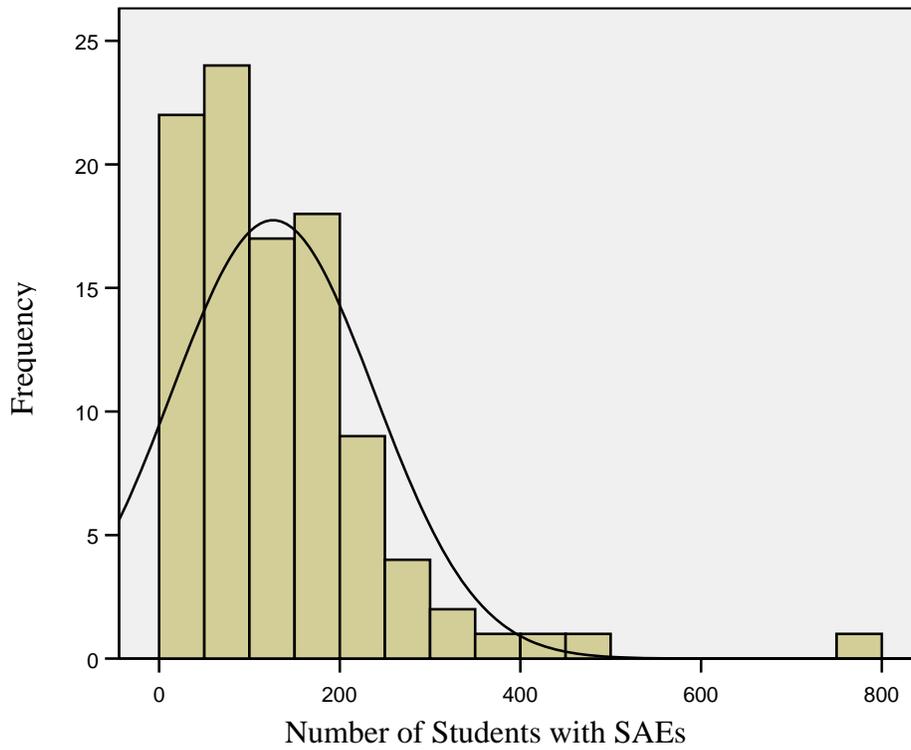


Figure L.2. Histogram of student enrollment in SAE programs.

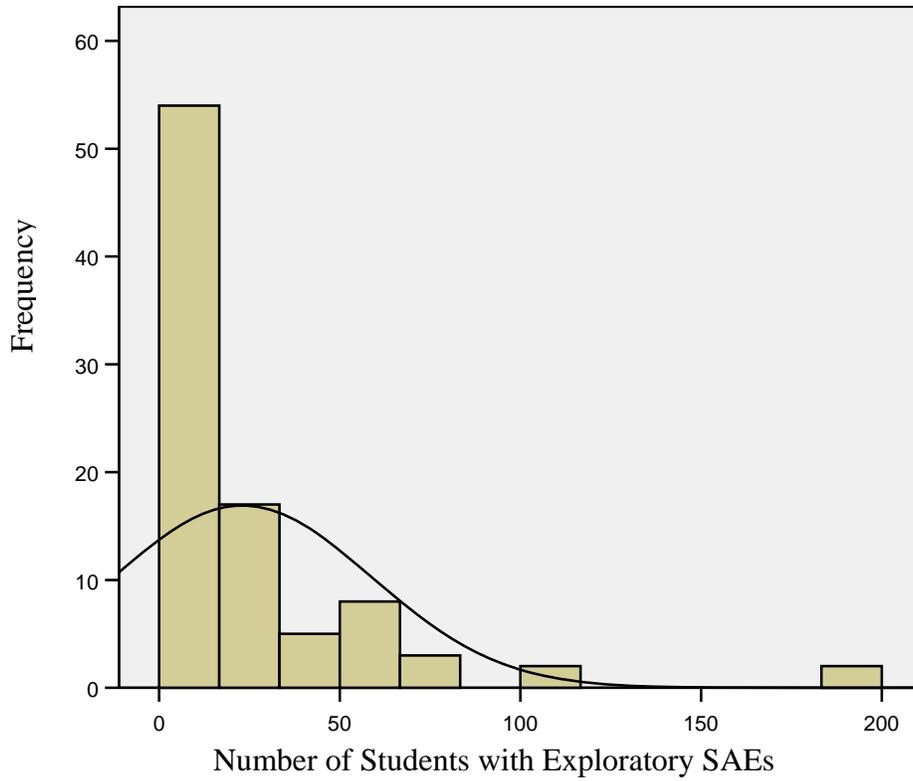


Figure L.3. Histogram of number of students with exploratory SAEs.

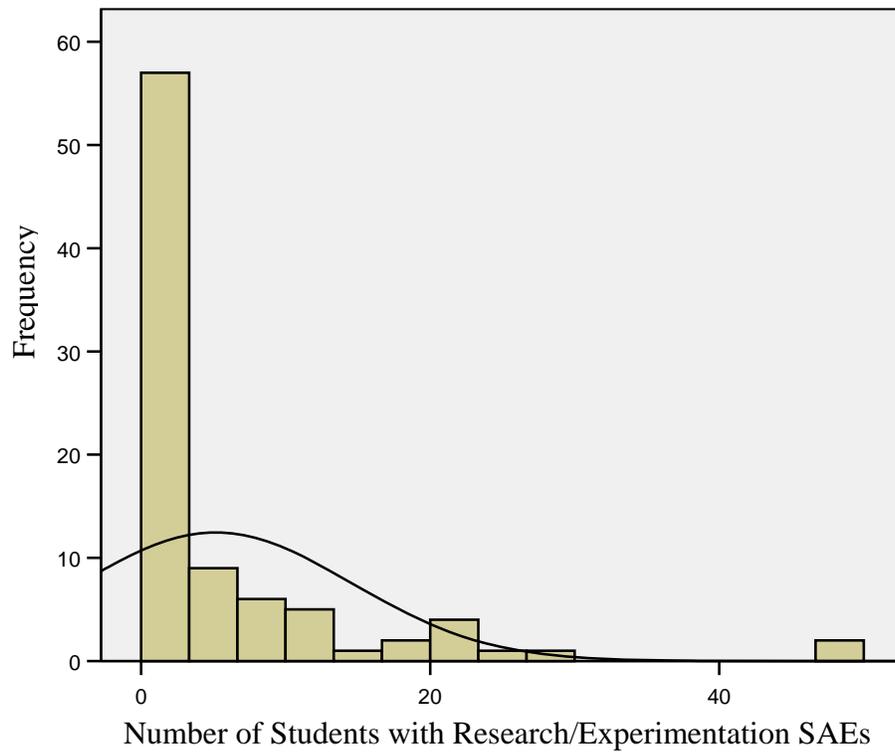


Figure L.4. Histogram of number of students with research/experimentation SAEs.

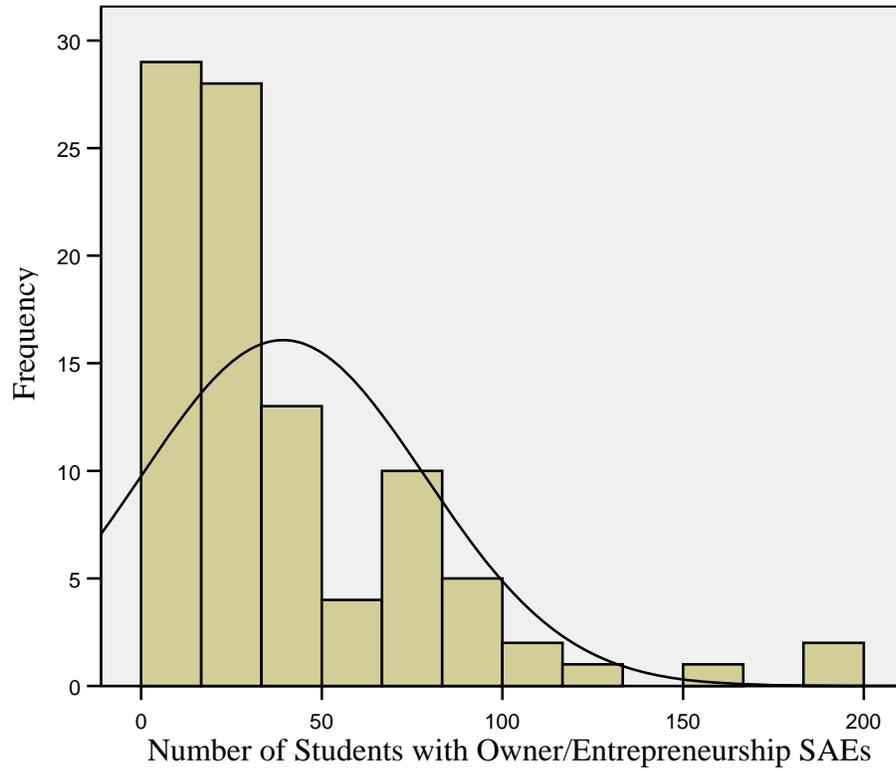


Figure L.5. Histogram of number of students with owner/entrepreneurship SAEs.

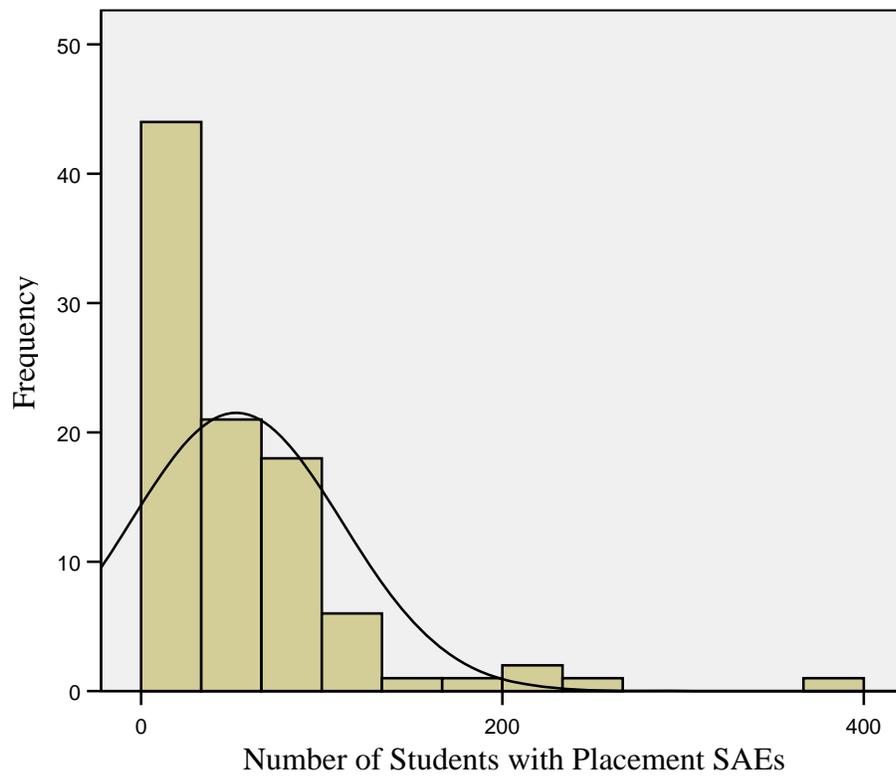


Figure L.6. Histogram of number of students with placement SAEs.

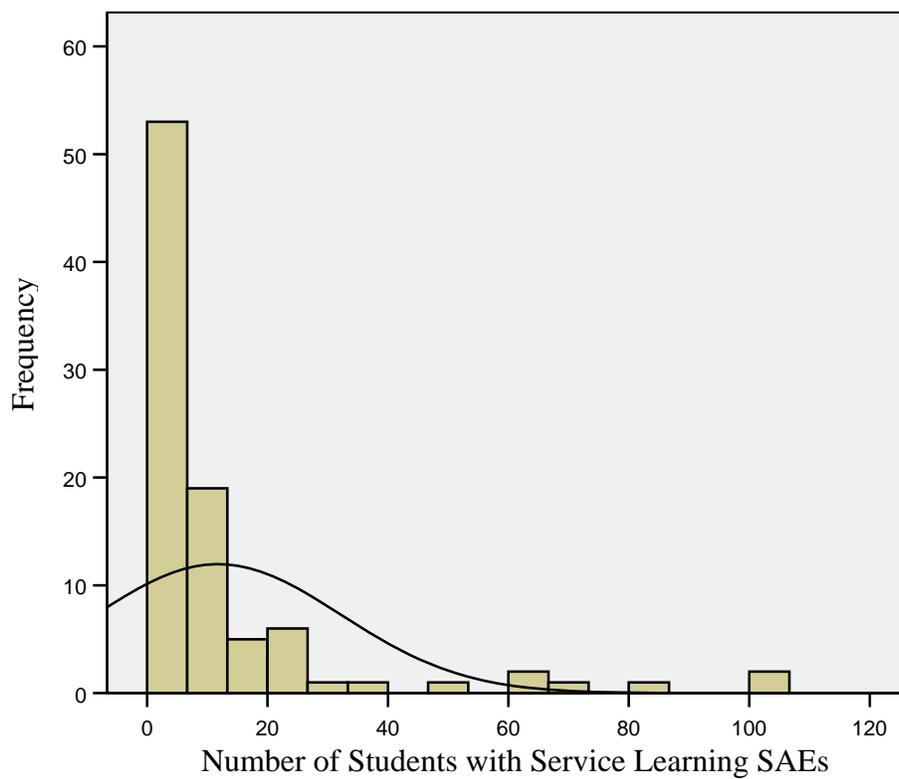


Figure L.7. Histogram of number of students with service learning SAEs.

APPENDIX M:
FREQUENCIES AND PERCENTAGES
FOR LIKERT RESPONSES

Frequencies and Percentages for Value Responses

Statement	1		2		3		4		5		6	
	<i>f</i>	%										
I am familiar with the role of SAEs within the 3-circle model.	2	1.8	2	1.8	1	0.9	3	2.8	19	17.4	82	75.2
SAE should be required of every student in an agricultural class.	7	6.4	5	4.6	12	11.0	20	18.3	24	22.0	41	37.6
A quality SAE should be a requirement for FFA degree advancement.	5	4.6	4	3.7	8	7.4	10	9.3	36	33.3	45	41.7
A quality SAE should be required for FFA scholarships.	4	3.7	7	6.5	12	11.1	18	16.7	32	29.6	35	32.4
All chapter officers should have a SAE.	3	2.8	4	3.7	3	2.8	12	11.0	27	24.8	60	55.0
SAE should be required of every FFA member.	6	5.5	4	3.7	9	8.3	17	15.6	30	27.5	43	39.4
Only SAEs that change in some way each year provide students with quality agricultural experiences.	6	5.5	19	17.4	34	31.2	16	14.7	25	22.9	9	8.3
SAEs are as relevant to urban settings as rural settings.	12	11.0	22	20.2	11	10.1	14	12.8	30	27.5	19	17.4

Frequencies and Percentages for Value Responses (continued)

Statement	1		2		3		4		5		6	
	<i>f</i>	%										
Part of a student's grade in class should be based on SAE.	11	10.1	8	7.3	16	14.7	27	24.8	20	18.3	27	24.8
Quality SAEs improve student mastery of course objectives.	1	0.9	2	1.8	6	5.5	22	20.2	32	29.4	46	42.2
Quality SAEs get students started in an agricultural career.	2	1.8	3	2.8	2	1.8	21	19.3	36	33.0	45	41.3
Quality SAEs provide real-life experiences for students.	2	1.8			21	0.9	6	5.5	24	22.0	75	68.8
SAE participation positively affects students' work attitudes.	2	1.8	4	3.7	4	3.7	5	4.6	32	29.4	65	56.9
I have as much time for SAE activities as FFA activities.	10	9.2	26	23.9	30	27.5	13	11.9	18	16.5	11	10.1
Teachers should spend as much time working with SAE as with FFA activities.	3	2.8	11	10.1	34	31.2	28	25.7	20	18.3	13	11.9
SAE activities are as important as FFA activities.	6	5.5	12	11.0	22	20.2	36	33.0	24	22.0	9	8.3

Frequencies and Percentages for Value Responses (continued)

Statement	1		2		3		4		5		6	
	<i>f</i>	%										
The local agricultural education program benefits from offering SAE.	1	0.9	3	2.8	5	4.6	14	12.8	37	33.9	49	45.0
A successful agriculture program cannot be achieved without SAE.	6	5.5	14	12.8	13	11.9	22	20.2	31	28.4	23	21.1
SAE can be required of every student.	14	12.8	14	12.8	18	16.5	14	12.8	25	22.9	24	22.0
Pre-service agricultural education programs should teach that every student should have a SAE.	7	6.5	6	5.6	10	9.3	21	19.6	34	31.8	29	27.1
In order to have a quality agricultural education program, SAE, FFA, and in-class instruction are required.	3	2.8	1	0.9	9	8.3	11	10.1	26	23.9	59	54.1
SAE is beneficial to some students.	3	2.8	15	13.9	11	10.2	16	14.8	26	24.1	37	34.3
As agriculture continues to change, SAE opportunities will remain relevant to students.	3	2.8	3	2.8	16	14.7	18	16.5	34	31.2	35	32.1
Students gain knowledge through exploratory SAEs.	5	4.	2	1.8	2	1.8	7	6.4	40	36.7	53	48.6

Frequencies and Percentages for Value Responses (continued)

Statement	1		2		3		4		5		6	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Students gain valuable hands-on experience through exploratory SAEs.	1	0.9	1	0.9	7	6.4	22	20.2	25	22.9	53	48.6
Students gain knowledge through research/experimentation SAEs.			3	2.8	4	3.7	15	13.8	34	31.2	53	48.6
Students gain valuable hands-on experience through research/experimentation SAEs.			1	0.9	5	4.6	19	17.4	31	28.4	53	48.6
Students gain knowledge through entrepreneurship SAEs.	2	1.9			1	0.9	9	8.3	24	22.2	72	66.7
Students gain valuable hands-on experience through entrepreneurship SAEs.	8	7.4	4	3.7	3	2.8	2	1.9	21	19.4	70	64.8
Students gain knowledge through placement SAEs.	1	0.9	1	0.9	1	0.9	9	8.4	28	26.2	69	63.9
Students gain valuable hands-on experience through placement SAEs.	1	0.9	1	0.9	1	0.9	11	10.2	25	23.1	69	63.9

Frequencies and Percentages for Value Responses (continued)

Statement	1		2		3		4		5		6	
	<i>f</i>	%										
Students gain knowledge through service learning SAEs.	1	0.9	2	1.9	2	1.9	14	13.0	31	28.7	58	53.7
Students gain valuable hands-on experience through service learning SAEs.	1	0.9	1	0.9	3	2.8	17	15.9	28	26.2	57	53.3
I require every student enrolled in an agriculture class to have a SAE.	14	13.1	18	16.8	18	16.8	11	10.3	18	16.8	28	26.2
I require every FFA member to have a SAE.	9	8.3	12	11.1	22	20.4	11	10.2	24	22.2	30	27.8
Students receive recognition for their SAEs on the local level in my program.	52	48.6	26	24.3	8	7.5	4	3.7	5	4.7	12	11.2
I encourage all of my students to have a SAE.	2	1.9	1	0.9			7	6.5	26	24.3	71	66.4
I encourage some of my students to have a research/experimentation SAE.	5	4.6	8	7.4	14	13.0	27	25.0	27	25.0	27	25.0
I encourage some of my students to have an exploratory SAE.	4	3.7	8	7.4	12	11.1	31	28.7	25	23.1	28	25.9

Frequencies and Percentages for Value Responses (continued)

Statement	1		2		3		4		5		6	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
I encourage some of my students to have an entrepreneurship SAE.	1	0.9	2	1.9	4	3.8	17	16.0	31	29.2	51	48.1
I encourage some of my students to have a placement SAE.	1	0.9	1	0.9	3	2.8	17	15.9	33	30.8	52	48.6
I encourage some of my students to have a service learning SAE.	4	3.7	6	5.6	6	5.6	22	20.6	35	32.7	34	31.8
I encourage my students to conduct SAE because of the proficiency award recognition.	1	0.9	5	4.7	9	8.4	26	24.3	34	31.8	32	29.9

Note: Scale from 1 = Strongly Disagree to 6 = Strongly Agree

Frequencies and Percentages for Quality Statements

Statement	1		2		3		4		5		6	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Requiring SAE of each student enrolled in an agriculture class improves the quality of the total SAE program.	3	2.8	10	9.3	9	8.4	18	16.8	27	25.2	40	37.4
Requiring SAE of each FFA member benefits the local FFA program.	2	1.9	2	1.9	10	9.3	16	15.0	32	29.9	45	42.1
Requiring SAE of each FFA member improves the quality of the total SAE program.	2	1.9	5	4.7	13	12.3	12	11.3	30	28.3	44	41.5
Recognition for SAEs should be provided at the local level.	6	5.6	5	4.7	2	1.9	2	1.9	15	14.0	77	72.0
Rewards should be provided for students with outstanding SAEs at the state level.	1	0.9	3	2.8			7	6.5	23	21.5	73	68.2
Students' SAEs should show evidence of growth in size and scope.	1	0.9	2	1.9	4	3.7	15	14.0	41	38.3	44	41.1
SAE programs should be based on the national agricultural curriculum standards.	4	3.7	10	9.3	23	21.5	22	20.6	28	26.2	20	18.7

Frequencies and Percentages for Quality Statements (continued)

Statement	1		2		3		4		5		6	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
SAE programs should be aligned with Kentucky's skills standards.	4	3.7	9	8.4	8	7.5	33	30.8	28	26.2	25	23.4
SAE programs should be based on the career pathways of students.	2	1.9	8	7.5	10	9.3	26	24.3	30	28.0	31	29.0
Students should be required to keep up-to-date records of their SAE programs.	3	2.8	6	5.6	3	2.8	4	3.7	25	23.4	66	61.7
The student should be the primary planner of the SAE program.	6	5.6	4	3.7	6	5.6	23	21.5	32	29.9	36	33.6
The role of the agriculture teacher in a SAE program is to provide instruction.	1	0.9	6	5.6	4	3.7	16	15.0	44	41.1	36	33.6
The role of the agriculture teacher in a SAE program is to provide support for students.	2	1.9	1	1.0			7	6.7	44	41.9	51	48.6
The teacher should keep written records of SAE supervisory visits.	2	1.9	6	5.7	5	4.7	9	8.5	20	18.9	64	60.4

Frequencies and Percentages for Quality Statements (continued)

Statement	1		2		3		4		5		6	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
The teacher should create a summary of all students' SAE programs at the end of the calendar year.	7	6.5	9	8.4	16	15.0	22	20.6	27	25.2	26	24.3
The teacher should provide continuous instruction for students' SAEs throughout the year.	2	1.9	1	0.9	6	5.6	20	18.7	30	28.0	48	44.9
The teacher should provide continuous supervision for students' SAEs throughout the year.	1	0.9	1	0.9	3	2.8	14	13.1	33	30.8	55	51.4
Exploratory SAEs are beneficial to students.	1	0.9	2	1.9	7	6.5	21	19.6	29	27.1	47	43.9
Research/experimentation SAEs are beneficial to students.	3	2.8	6	5.6	7	6.5	11	10.3	29	27.1	51	47.7
Entrepreneurship SAEs are beneficial to students.	2	1.9			2	1.9	5	4.7	30	28.0	68	63.6
Placement SAEs are beneficial to students.	2	1.9			1	0.9	3	2.8	31	29.2	69	65.1

Frequencies and Percentages for Quality Statements (continued)

Statement	1		2		3		4		5		6	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Service learning SAEs are beneficial to students.	2	1.9			6	5.6	8	7.5	35	32.7	56	52.3

Note: Scale from 1 = Strongly Disagree to 6 = Strongly Agree

Frequencies and Percentages for Satisfaction Statements

Statement	1		2		3		4		5		6	
	<i>f</i>	%										
I am satisfied with the number of students in my program enrolled in SAE.	12	11.4	27	25.7	16	15.2	14	13.3	20	19.0	16	15.2
I am satisfied with the level of rewards provided at the state level for outstanding SAEs.	27	25.7	24	22.9	25	23.8	17	16.2	7	6.7	5	4.8
Overall, I am satisfied with the scope of students' SAEs in my program.	7	6.7	18	17.1	24	22.9	22	21.0	22	21.0	12	11.4
I am satisfied with the overall diversity of SAEs in my program.	15	14.4	22	21.2	21	20.2	27	26.0	13	12.5	6	5.8
I am satisfied with the number of proficiencies my program submits to the regional level.	16	15.5	24	23.3	15	14.6	19	18.4	16	15.5	13	12.6
I am satisfied with my students' level of record keeping for their SAEs.	17	16.2	32	30.5	22	21.0	19	18.1	10	9.5	5	4.8
I am satisfied with the quality of the SAEs in my program.	15	14.4	21	20.2	19	18.3	25	24.0	17	16.3	7	6.7

Frequencies and Percentages for Satisfaction Statements (continued)

Statement	1		2		3		4		5		6	
	<i>f</i>	%	<i>f</i>	%								
I am satisfied with SAE participation in my program when compared to FFA participation and classroom enrollment.	9	8.6	26	24.8	21	20.0	23	21.9	18	17.1	8	7.6
I am satisfied with my ability to integrate SAE, FFA, and in-class instruction into my agricultural education program.	28	26.9	27	26.0	16	15.4	16	15.4	11	10.6	6	5.8
I am satisfied with my students' motivation to participate in SAE.	15	14.6	22	21.4	24	23.3	21	20.4	16	15.5	5	4.9

Note: Scale from 1 = Strongly Disagree to 6 = Strongly Agree

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Papers Presented

Horstmeier, R., Wilkinson, B., & White, C. C. (2008). A demographic analysis of FFA members' chapter leadership engagement. *2008 AAAE Southern Region Research Conference*.

Horstmeier, R., White, C. C., & Houck, A. M. (2008). Preparing today's CTE teacher: What successes and challenges do first year agricultural educators experience? *2008 Kentucky CTTE-UCC Conference*.

Posters Presented

Houck, A. M., White, C. C., & Peiter Horstmeier, R. (2008). Experiences of agricultural education student teacher interns. *2008 AAAE Southern Region Research Conference*.

Houck, A. M., White, C. C., Smith, D. J., & Peiter Horstmeier, R. (2008). Reel me in! Using movies to reinforce foundations in teaching and learning. *2008 AAAE Southern Region Research Conference*.

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