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Successful Secondary Agricultural Programs Outside the Classroom: A View of Champions

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Successful Secondary Agricultural Programs Outside the Classroom: A View of Champions

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by

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Abstract

The purpose of this study was to study select secondary agricultural education programs and determine common traits among these programs which lead them to be successful in a number of different areas including: Career Development Events (CDE) winners, Leadership Development Events (LDE) winners, agricultural science fair winners, chapters of elected state FFA officers, proficiency award winners, national chapter awards, and state fair market show results. This study utilized a modified Delphi approach consisting of three rounds to reach consensus on the importance of traits related to successful SAE and FFA programs. Many traits were identified but the most important traits associated with high performing programs that instructors agreed on were 1) student commitment to involvement, 2) student willingness to participate, 3) student enthusiasm about participation, 4) student initiative, and 6) student interest in their project. This research also found that although every student is required to have an SAE and previous research recommends providing grades based on SAE projects, teachers in this study found grading SAEs unimportant and many did not have 100% participation in SAEs.

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Dedication

I would like to dedicate this thesis to my parents. Mom, you have always been my biggest fan and my go to grammar checker. Thanks for all the early morning and late nights I put you through in high school and college. Thank you for supporting my decision to pursue my dreams wherever they take me even when if it's further away than you'd like. Dad, thanks for all ways pushing me to be the best person I can be. You have always been there for me. I love your support both for me and for agricultural education and the FFA. Thank you for always supporting me and for giving the best life advice. I love both of you.

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CHAPTER 1

Introduction

Education has a long history in American society. Massachusetts was the first colony to develop a formal education system in 1642 (Barger, 2006). Prior to 1642, youth were educated through apprenticeships in various trades (Urban & Wagoner, 2000). In that era, society promoted education of the affluent instead of all individuals (Edgar, 2012). If an individual wanted training or education and was not of the "well to do" class then apprenticeship programs were their only option. Through apprenticeships, education was defined as experiential experiences and guided by a proven practitioner.

Interest in agricultural practices was prevalent in the late 1800's and early 1900's. Young adults desired to become more adept at the technological advances used in the agricultural sector. Classroom instruction centered on agricultural education began around 1906 (Moore, 1987). This classroom instruction was initiated and developed through individual states passing legislation regarding agricultural education. Through the Smith-Hughes act of 1917, set standards and guidelines for all agricultural education programs were outlined (Moore, 1987).

Over the past 100 years significant changes and developments have occurred in agricultural education at the secondary level (Camp & Crunkilton, 1985). One significant development is that many of today's programs are based on a three circle model of agricultural education (NATIONAL FFA Organization, 2015). The three circle model is made up of three overlapping areas representing the major components of an agricultural education program. The three major components/areas outlining agricultural education are classroom instruction, FFA, and Supervised Agricultural Experience (SAE) (Croom, 2008).

The SAE element focuses on taking knowledge acquired in the classroom and allowing students to apply this knowledge in a real and practical setting under instructor supervision (National FFA Organization, 2015; Retallick, 2010) SAE's are considered part of a comprehensive agricultural education program (Retallick, 2010). The SAE portion of agricultural education programs has consistently been identified by instructors as a vital components a program should maintain (Dyer & Osborne, 1995). While the focus and project of each SAE may be differ between students and programs there are some traits which should be found universally. Jenkins and Kitchel (2009) reported that some major factors that signify a quality SAE program are instructors setting aside time for SAE supervision, students keeping up-to-date records for their projects, and a variety of SAE types are promoted in the program. These traits, reported by Jenkins and Kitchel are consistent with previous research (Bobbitt, 1986; Cogdill & Reneau, 1986; and McMillion & Auville, 1976). Reported traits correspond with the National FFA Organization's goal for SAE's:

> Through their involvement in the SAE program, students are able to consider multiple careers and occupations, learn expected workplace behavior, develop specific skills within an industry, and are given opportunities to apply academic and occupational skills in the workplace or a simulated workplace environment. Through these strategies, students learn how to apply what they are learning in the classroom as they prepare to transition into the world of college and career opportunities. (National FFA Organization 2015)

The FFA is a co-curricular component of agricultural education (Croom, 2008). The National FFA Organization that guides this co-curricular component was established in 1928 (National FFA Organization, 2015). The FFA component focuses on "premier leadership, personal growth, and career success through engagement in FFA programs and activities" (Official FFA Manual, 2010). Many of these programs and activates take the form of Career Development Event competitions, regular meetings, and competition for awards, among many

others (Vaugh & Moore, 2000). But there are many other activities that make up a quality program including: using official FFA ceremonies in meeting, having a written program of activities (POA), holding an annual banquet, participating in National FFA week, and participating in the agriscience fair (Vaugh & Moore, 2000).

Background of the Study

The National FFA organization mission states, "FFA makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education" (Official FFA Manual, 2010). Researchers have conducted meaningful research in relation to agricultural education programs in terms of exploring students' participation in FFA (Phelps, Henry, Bird, 2012). Recently Rubenstein & Thoron (2014) interviewed high performing students in SAE's to develop the definition of a successful SAE program. However, there has been limited research concerning the characterization of successful traits of FFA and SAE's in secondary agricultural education programs.

Statement of the Problem

There is a need for further research to be conducted on secondary agricultural education programs to better identify and describe what successful characteristics of agricultural education programs. Because programs continue to be active outside of the classroom in the areas of FFA and SAE, determining these characteristics will frame possible positive traits associated with agricultural education programs. Research should be conducted to examine high performing chapters to assess what factors contribute to their success.

Statement of Purpose

The purpose of this study was to identify and describe traits and characteristics of secondary agricultural education programs contributing to successful SAE's and FFA.

Research Objectives

This study will be guided by the following research objectives.

1. Describe important factors associated with SAE projects in high performing programs that influence success.
2. Describe important factors associated with FFA chapters in high performing programs that influence success.
3. Synthesize common traits found among high performing programs.

Overview of Methodology

This study will describe Arkansas agricultural education programs that have been identified as high performing. High performing programs will be identified through a number of different metrics: Career Development Events (CDE) winners, Leadership Development Events (LDE) winners, agricultural science fair winners, chapters of elected state FFA officers, national chapter awards winners, and state fair market show champions. The instrument for this study will be composed by the researcher and a committee of experts. The instrument will consist of Likert scale and short answer open response questions.

Assumptions & Limitations

The following assumptions were made:

1. The researcher in this study relied on the truthfulness of those instructors who were surveyed.

2. While it is students who are the reason these programs have been identified as high performing, the assumption is being made that the instructors were a major influence on those students.
3. This study assumes that the traits being studied (CDEs, LDEs, agriscience fair, national chapter awards, number of officers, and state fair winners) indicate high quality programs.

The following limitations were identified:

1. Reactivity to experimental situations where subjects guess the hypotheses of the research and modify their behavior accordingly. The instructors may guess we are looking for factors influencing success and indicate elevated levels of performance.
2. The threat of diffusion, which is where participants interact with each other and share information. This could occur in multiple teacher programs, where those being surveyed decided to collaborate on their responses.
3. This study could receive a low level of responses from instructors. This is because agricultural instructors have busy and varying schedules. This research is also being conducted during the main CDE judging season.
4. Because this research is looking at high performing programs some programs will be identified in multiple categories. These programs will still only be surveyed once.
5. This research will only attempt to contact instructors who are currently at high performing programs. This is because data was collected from the past five years coupled with the fact that there are high rates of turnover and moving jobs in the agricultural education occupation.
6. High performing in this study is limited to FFA and SAE success.

7. The mortality rate of teachers dropping out of this study from round one through round three could also be a limitation of this study,

Key Terms

FFA- "Future Farmers of America" was founded by a group of young farmers back in 1928. Their mission was to prepare future generations for the challenges of feeding a growing population. They taught us agriculture is more than planting and harvesting-- it's a science, it's a business and it's an art (National FFA, 2015).

High performing- Those programs which have been won a Career Development Events (CDE), Leadership Development Events (LDE), agricultural science division winners, state fair market animal winners, and national chapter award winners

Supervised Agricultural Experience (SAE) - "The application of the concepts and principles learned in the agricultural education classroom in planned, real–life settings under the supervision of the agriculture teacher" (Talbert, Vaughn, Croom, & Lee, 2007, p. 418).

Secondary agricultural education- the second stage traditionally found in formal education, beginning about age 11 to 13 and ending usually at age 15 to 18 (Britannica, 2015). Agriculture is a subject taught in secondary education.

Success – the correct or desired result of an attempt (Merriam-Webster, n.d.).

Successful - having the correct or desired result / ending in success (Merriam-Webster, n.d.).

Three circle model- The educational model used in agricultural education which involves the interrelationships between three major concepts: classroom and laboratory instruction, supervised agricultural experience, and agricultural youth organization participation (Croom, 2008).

Summary

In secondary school based agricultural education a program is made up of different components. Each component should have a recognizable standard of success. Even though research has begun to synthesis definitions of success, it has only occurred in regards to SAEs (Rubenstein & Thoron, 2014). Because research dealing with success has only occurred in one component there remains a gap in the research concerning success. Thus, this study will attempt to assess each area more in-depth for indicators of success. This study will attempt to identify factors associated with high performance in the areas of FFA and SAE. This study will also seek to determine traits associated with high performing agricultural education programs.

CHAPTER 2

Introduction

Within the American educational system, which is a dynamic and continually evolving entity, is career and technical education, formally known as vocational education. Career and technical education has continually had strong influences exerted on it through its history which has shaped it into the modern education system (Wardlow & Swanson, 1991). Because of these influences, agricultural education is a complex system that is made up of many different variables. Copa, Plihal, Scholl, Ernst, Rehm, and Copa (1985) identified some variables as: building competence, applying basic knowledge, thinking through problems, learning technical skills, expressing self, and extending self to community. Other studies have implied that excellent vocational education programs are made up of engaged students, instructors who are motivated and knowledgeable in their fields, and the opportunities for real life/ industry based educational experiences (Attwood, 1984). All of these variables relate in one way or another to either SAE's or the FFA.

Influences on Modern Agricultural Education

There is a long list of organizations which have had an influence on agricultural education including: the United States Agricultural Society, the Philadelphia Society for Promoting Agriculture, National Grange, and the Future Farmers of Virginia (FFV) (Hillison & Bryant, 2001). The oldest of these is the Philadelphia Society which dates back to 1744 (True, 1929). This society dedicated its attentions to agriculture and rural affairs. The Philadelphia Society was known for presenting prizes awarded for interesting subjects in the areas of agricultural experimentation and improvements (True, 1929). The United States Agricultural Society had a stated purpose of gathering together, in one central association, valuable

information which had already been developed by local societies. This was done to establish a more intimate connection between these local societies, to foster correspondence with agriculture in foreign counties, and to diffuse new knowledge of agriculture practices or improvements as well as promote the noble practice of farming (Wilder, 1853).

From its inception in 1852, the United States Agricultural Society began to promote the creation of a Department of Agriculture. The societies' support for agricultural education was significant in the development of the Department of Agriculture which then played an important role in the Land-Grant Act and the development of the college specializing in agriculture and mechanics ("Land Grant & Sea Grant: Events Leading to the Establishment of Land-Grant Universities"). The National Grange is an organization for the general farmer concerned with both formal and non-formal education (Saloutos, 1974). One of the overall common beliefs of the Grange is the practical application of education (Hillison & Bryant, 2001). This led to the Grange being supportive of education, especially agricultural education (Howard, 1992).

The FFV began as an organization in September of 1925, when four agricultural educators sat down to discuss the need for a youth organization geared for rural students in vocational agricultural education (Noblin, 1942). Henry Groseclose was chosen to work out the details of this proposed organization of youth focused on agriculture. Groseclose, an active member of the Grange, began writing the rituals and FFV constitution that would be adopted in 1926 (Howard, 1992,). The Future Farmers of Virginia would evolve into the Future Farmers of America (FFA) in 1928 (Official FFA Manual, 2010). Many of these organizations impacted agricultural education through fairs, exhibitions, and the offering of prizes for those in agricultural implementation, crop displays, and livestock competitions. These can all be traced

to the present Proficiency Award Program utilized by the National FFA organization (Hillison & Bryant, 2001).

Educational Acts

When studying secondary agricultural education "many people believe the teaching of agricultural education began with the passage of the Smith-Hughes Act of 1917" (Moore, 1987, p. 1). However, during the 1914-15 school year, a few years before the passage of the Smith-Hughes Act, agriculture was being taught in more than 4,000 schools (U.S. Commissioner of Education, 1916). The actual growth of agricultural education in high schools started around 1906, as individual states began to pass legislation regarding the teaching of agriculture, although there was agricultural education happening even prior to 1906 (Moore, 1987). However, before the Smith-Hughes Act most agricultural education was not taught from a vocational viewpoint, but instead focused on general agricultural knowledge or taught as a science. Also, there was great variation of the quality and focus of agricultural programs from state to state. "The Smith-Hughes Act established strict guidelines for the conduct of agricultural programs thus improving the quality, providing federal funds so more programs could be established, and making the programs more vocational" (Moore, 1987, p. 4). Text of the Smith-Hughes Act introduced the project method which was the fore runner of the present SAE project system. This model was used until the Vocational Act of 1963, which specified that funds for SAE's had to include projects both on the farm and off (Stewart & Birkenholz, 1991). Currently, secondary agricultural education operates using the three circle model of agricultural education. This model is characterized through a Venn diagram (see Figure 1) consisting of three overlapping circles. Each circle represents a different component of agricultural education

which includes: classroom/laboratory instruction, supervised agricultural experience programs, and student leadership organizations (National FFA Organization, 2015).

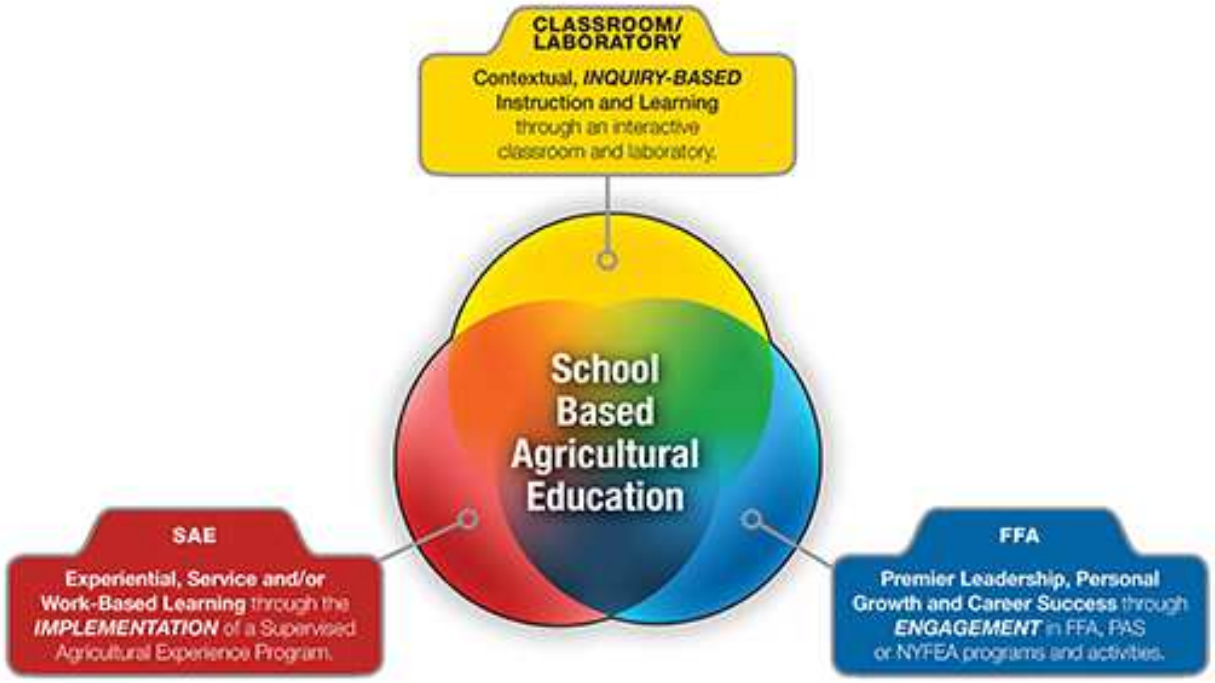

Figure 1. Three-Component Model of Agricultural Education (National FFA Organization, 2015)

Impact of program participation

FFA is currently one of the largest youth development organizations available in U.S. public schools providing numerous positive youth development opportunities to students enrolled in school based agricultural education programs (National FFA Organization, 2015). FFA is also considered as a key component in secondary agricultural education classrooms (Rayfield, Compton, Doerfert, Fraze, & Akers, 2008). The FFA is structured in such a way that it provides opportunities for teens to achieve personal goals and engage in meaningful activities (Croom &Flowers, 2001). Studies support this claim by indicating that students who participate in more activities report the highest aspirations and attainments (Spady, 1970) which correlates

with research indicating there are positive relationships between being an FFA member and participating in an SAE (Retallick, 2010). Students are often influenced to either participate or not by several factors including the reputation of activities, their peer group's reaction, and the perceived benefits (Boreden, Perkins, Villarruel, & Stone, 2005; Croom & Flowers, 2001). In a study by Phelps, Henry, and Bird (2012) four major themes emerged in regard to why youth chose to participate in FFA: encouragement from others, personal gain, social component, and fun and travel. Specifically, for the theme of fun and travel, non-FFA members listed learning outside the traditional classroom as a benefit of joining the FFA. "Members expressed they received the most pride and sense of accomplishment from providing a service to the community or school rather than winning contest" (Phelps, Henry, & Bird, 2012, p. 77).

Participating in an SAE program is thought to be a foundational piece of a student's educational experience (Lewis, Rayfield, & Moore, 2012). Knobloch supported this assertion,

> Supervised agricultural experiences implemented in agricultural education programs by its true definition of learners experiencing agriculture with adult supervision have proved to help learners apply knowledge, clarify career choices, solve problems through decision making, developing responsibility, and learn agricultural skills through practical experience. (Knobloch, 1999, p. 16)

Students who were recognized as having high level SAE's indicated that by participating, the SAE program provided them with experiences that helped to guide them in their career choices and personal goals (Rubenstein & Thoron, 2014).

Effective Teacher studies

While program participation hinges on student involvement, instructors still have to practice effective teaching (Murnane, Steele, 2007). However, "identifying effective teachers is not always an easy task" (Roberts & Dyer, 2004, p. 82). At a basic level, at least five teacher behaviors have been identified that contribute to effectiveness including: variability, enthusiasm, clarity, task-oriented behavior, and providing students opportunity to learn (Rosenshine & Furst,

1971). Other studies have indicated effective teachers offer encouragement, provide clear instructions, and allow few distractions or interruptions (Suydam, 1983). Still, more studies have found that effective teachers utilize well planned lessons and are knowledgeable in subject matter (Richardson & Arundell, 1989).

Roberts and Dyer (2004) reported a gap in the literature in regards to the "characteristics of effective agricultural teachers in terms of their responsibilities in conducting a total agricultural education program" (p. 84). A survey of preservice teachers by Minor, Onwuebuzie, Witcher and James (2002) found that a little over half of those participants mentioned being student centered as a characteristic of an effective teacher. The second and third most mentioned characteristics were being effective classroom/behavior managers and being a competent instructor, each was mentioned by one third of the participants. Being ethical was the next most common characteristic, with slightly less than one third of preservice teachers mentioning this. Nearly 25% of the sample identified the characteristic of being enthusiastic. Of those surveyed, 20% indicated being knowledgeable about their subject area as a trait of an effective teacher. Finally, professionalism was the theme that received the lowest recognition with only 15% of participants referring to this characteristic (Minor, Onwuegbuzie, Witcher, & James, 2002). In a Delphi study by Robert and Dyer (2004) there were several characteristics which received a one hundred percent acceptance rate from agricultural instructors which included: effectively planning for instruction, having a sound knowledge of the FFA, actively advises the FFA chapter, and effectively prepares students for CDEs and other FFA activities; communicates well with others; and effectively manages, maintains, and improves laboratories. While the following characteristics: recognize achievements of their students; motivate students; works well with

other teachers, administrators, and parents; and effectively manage the agriculture program, finished with a 96.76% acceptance rate.

Successful SAEs

According to Croom (2008) SAEs most likely developed from the apprenticeship model that was utilized in Colonial America. Rufus Stimson is the man credited as the father of SAE because his concept of the home project which was a precursor to today's SAE (Croom, 2008). Although it is required by the Smith-Hughes act to include SAEs as part of an agricultural education program, according to Retallick (2010) there are three major reasons that instructors are including SAEs in their programs. These reasons are the development of life skills, the FFA award system, and because it is a component of the three circle model of agricultural education programs. Retallick (2010) also found that several factors limited SAE programs including: changing demographics and social attitudes, mechanics and structure of schools, resource availability, and the changing structure of schools; the agriculture courses being offered along with the ability for students to finish a course of study in the agricultural education program. In another study, instructors who were asked "what is your biggest problem in making SAEs work in your school" offered up a myriad of problems which included: financial resources, time (both for the students and the instructors), and a lack of opportunities for students to be engaged in their interest (Bobbitt, 1986, p. 61). Interestingly, the emphasis instructors place on the SAE program changes depending on if the school is rural or not (Bobbitt, 1986) and if the program has historically had a stronger or weaker SAE component (Dyer & Osborne, 1995).

Dyer and Osborn (1996) found that there were little to no guidelines as to how to measure program quality. Although, routinely instructors have indicated that having students with active SAE projects and supervising those projects are one of their most important activities

as a teacher. However, often it is reported that SAEs are the least well conducted portion of an agricultural education program (Bobbitt, 1986). In the study by Bobbitt (1986), instructors were given an open response question asking "to what factors do you attribute your success in making SAEs work in your school?" (p. 57). Many respondents indicated that it was because they had incorporated SAEs as a grade and as part of their curriculum, others indicated that it was through hard work and students being able to earn money and recognition as a result of their projects, while others indicated that it was because they emphasized the possible practical applications of an SAE. McMillion and Auville (1976) found that having an instructor who assisted with fairs and livestock shows along with informing school administration of FFA and departmental activities served as predictors in the successfulness of a program's SAEs.

Rubenstein and Thoron (2014) established seven components of successful SAE programs identified as goal planning/learner learning/career planning, utilization of program partners, income from SAE program, personal satisfaction, FFA participation, awards, and degree structure, hard work/personal growth, and complete records. Bobbitt (1986) found that in a study of programs with highly successful SAEs that there was an average of four SAE visits conducted by an instructor per student per year. Bobbitt (1986) recommended that not only should more emphasis be placed on preparing preservice instructors to be capable of overseeing all of the many options encompassed through SAEs, but that there should also be more done to reward those options that are less conventional. Rubenstein and Thoron (2014) concluded that "a successful SAE program is one that is agricultural career-based, engages learner interest through partnerships (community and industry), and can be recognized through FFA programs based on evidence of sustained personal and financial growth" (p. 172).

Successful/Effective FFA programs

In today's agricultural education programs FFA should be an integral part for programs to be successful (Cogdill & Reneau, 1986). The FFA portion of agricultural education programs is made up of many opportunities for students to participate in and is often thought of as a demanding task for instructors to facilitate (Croom, Moore, & Armbruster, 2009). No matter how demanding the task for an instructor, research has shown there is no statistically significant relationship between the individual characteristics of an instructor and the successfulness of an FFA chapter, nor is there significance between an instructor's perceived ability as an FFA advisor and the successfulness of their FFA chapter (Vaugh, 1976).

The opportunities presented through FFA include attending state and national conventions, applying for FFA degrees, and participating in judging contests, among many other things (Cogdill & Reneau, 1986). Wolf (2011) found within the FFA that over 70 percent of agricultural education teachers reported a high self-efficacy score in conducting the following areas: assist students planning FFA banquets, assist students in facilitating FFA fundraising activities, supervise students during FFA trips and activities, advise FFA meetings, assist students in FFA chapter activities, assist students in developing community service projects, coach leadership CDE teams, and train a chapter officer team. In other areas: assisting students in preparing a program of activities, coaching skill based CDE teams, preparing FFA degree applications and preparing FFA proficiency applications instructors registered higher percentages of low to moderate self-efficacy (Vaughn & Moore, 2000). Other activities seen as quality variables in a program are: official FFA ceremonies used in meetings, national rating received, participation in national FFA week activities, and participation in agri science fairs (Vaughn & Moore, 2000). There may be factors that continually hinder programs from being considered successful. Vaughn and Moore (2000) made the observation that of the FFA

programs in North Carolina only 55.4 % of those programs had a written program of activities. This led Vaughn and Moore (2000) to conclude that "many chapters are simply not doing what leaders in the field believe quality FFA programs should be doing."

Student Involvement Theory

Rosenshine (1982) stated that learning and development will be greatest when the environment for students is structured to encourage active participation. The student involvement theory emphasizes active participation by students (Astin, 1999). There are two traditional theories from which the theory of student involvement draws. They are the resources theory and the individualized (eclectic) theory. The resource theory is the idea that a wide range of approaches can be used to enhance student learning. When all these approaches are brought together into one place, student learning and development will occur (Astin, 1999). The other theory, the individualized (eclectic) theory, assumes that "there is no singular approach regarding subject matter, teaching, or resource allocation which will be adequate for all students" (Chickering & Associates, 1981). Individualized theory emphasizes electives and promotes student's choices (Astin, 1999). In relation to FFA and SAEs this is seen in the many different activities in which students are able to participate within the FFA organization (Vaughn & Moore, 2000) and students involved in SAEs are able to choose between four distinct types of SAEs, each of which has a plethora of sub options, from which students choose (Official FFA Manual,2010).

Student involvement is the measure of physical and psychological energy students devote to their experiences (Astin, 1999). An example of a highly involved student would be one who devotes considerable energy towards studying, student organizations, and interactions with instructors and peers (Astin, 1999). This would be exemplified in agricultural education's three

circle model of classroom instruction, FFA membership, and SAE participation (Croom, 2008). This student involvement theory also encourages instructors to focus less on themselves and their action and focus more on what their students do (Astin, 1999). Rayfield, Compton, Doerfert, Fraze, and Akers (2008) reported 5 postulates from Astin's student involvement theory:

> (a) involvement refers to the investment of physical and psychological energy in various objects; (b) regardless of the object, involvement occurs along a continuum; (c) involvement has both quantitative and qualitative features; (d) the amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program; and (e) the effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement. (p. 85)

It should be noted that this theory was developed based on college undergraduates. However, there is precedence for this theory to be used in relation to high school students (Rayfield, Compton, Doerfert, Fraze, & Akers, 2008).

Summary

Secondary agricultural education programs are products of a multitude of influences and variables. Years of legislation and influences by agricultural organizations have given agricultural education form and direction. Agricultural education has also used these influences to lay the foundations for both the FFA and SAE components of programs. Both areas, the FFA and SAEs, have criteria that can be used to indicate a program's success in that area. Chapter two also discussed the student involvement theory developed by Astin (1999) which looks at the amount of physical and psychological energy devoted to an activity and how this theory can be applicable when discussing areas of the three circle model.

CHAPTER 3

Purpose of the Study

The purpose of this study was to identify traits and characteristics of secondary agricultural education programs contributing to successful SAEs and FFA.

Research Objectives

This study will be guided by the following research objectives.

1. Describe important factors associated with SAE projects in high performing programs that influence success.
2. Describe important factors associated with FFA chapters in high performing programs that influence success.
3. Determine traits associated with high performing programs based on selected participants.

Research Design

This study relied on the use of the modified Delphi survey technique. This design is used to reach consensus among respondents. Traditionally the Delphi technique has been used in a variety of fields to improve decision making as well as expand knowledge within chosen professions (Hasson, Keeney, & McKenna, 2000). The researcher utilized purposive sampling to select members for the jury of experts who served as the Delphi panel. Stitt-Gohdes and Crews (2002) determined "careful selection of the panel of experts is the keystone to a successful Delphi study" (p. 60). Data were collected online in the spring 2016. Data were analyzed using IBM SPSS 23.

Validity

Content validity for Delphi studies can be determined by expert judgment (Gay, Mills, & Airasian, 2006). Accordingly, a panel of experts who were faculty members in the Department of Agricultural Education, Communications and Technology, as well as the Department of Curriculum and Instruction, at the University of Arkansas evaluated face and content validity of the study's questions. Dalkey, Rourke, Lewis, and Snyder (1972) stated a reliability of .70 or greater could be accomplished if a Delphi panel consisted of 11 members or more. In addition, Dalkey et al. (1972) reported a group size of 13 was required for reliability with a correlation coefficient of .90. Therefore, 65 members formed the final expert jury suggesting the reliability of the multiple-round Delphi procedure used in this study would meet the expected reliability of .90, as described by Dalkey et al. (1972). In studies such as this attrition of the expert jury is not uncommon. It is believed that time of the school year and instructors' schedules contributed to the decrease in participation through three rounds of the Delphi study.

Population and Selection

The target population for this study was all high school agricultural instructors ($N = 100$) in the state of Arkansas who were the instructors of programs identified as high quality ($N = 52$). High quality programs were determined based on the results of various activities and competitions a program would be expected to participate in throughout the year. This study employed a purposive sampling method based on previous year's results from CDE's, LDE's, Agri Science Fair Divisions, State Fair market animal livestock shows, State Officer Elections, and National Chapter Awards. The researcher gathered results from the previous five years, when available, for each category. Because a number of agricultural education programs that were identified as high quality have multiple instructors every instructor associated with the identified program was included in the population.

Instrumentation

The instrument developed for this study was constructed from the literature and measured traits and characteristics of secondary agricultural education programs, specifically in the areas of SAEs and FFA. The instrument development was guided and reviewed by a committee. The instrument consisted of three online surveys which were emailed to the study population.

In round one the instrument was composed of nine short answer or fill in the blank questions. The aim of these questions was to generate responses from instructors about the traits and characteristics of successful FFA and SAE programs. This round also sought to identify the average amount of time instructors spent in different areas of their program. Round two consisted of five different section which were as follows:

- How would you describe a successful FFA program
- What (in your opinion) is/are the most important factor(s) in having success in these areas (CDE & LDE teams, agri science fair participants, FFA officers, and national chapter award)
- How would you describe a successful SAE program
- What (in your opinion) are acceptable ways to evaluate a student SAE program
- What (in your opinion) is/are the most important factor(s) in having a successful SAE program.

Each section contained nine or ten responses generated from the first round. Respondents were asked to indicate their level of agreement with each response using a 5 point Likert scale (either strongly disagree, somewhat disagree, neither agree nor disagree, somewhat agree, strongly agree). Round three also utilized the same sections and responses as round two:

however, in this round respondents were also asked to rank responses in each section based on their level of importance.

Instrument Reliabilities

Because this instrument was created by the researcher it was presented to a panel of experts to ascertain reliability. This panel was made up of university professors with ties to agricultural education or career and technical education. The panel reviewed the instrumentation, recommended changes and then agreed upon the instrument's reliability.

Data Collection

Jurors were initially contacted with an invitation email. In this email researchers sought to thoroughly describe the process and goals of this study. Jurors were encouraged to actively participate in all three rounds of the study based on recommendations by Stitt-Gohdes and Crews (2004), which stated "it is important that participants understand the goal of the study and feel they are a part of a group" (p. 61). Subjects were given a week to respond to the initial email with the option of opting out of the study. Participants were then emailed a link to the online survey. The survey, which utilized a modified Delphi approach, consisted of three rounds. In the round one the survey consisted of nine short answer or fill in the blank questions. Instructors were asked to complete the instrument within three weeks of receiving the survey link. A reminder email was sent after the second week. For those who did not respond, an attempt was made to contact them in person at the Arkansas FFA state CDE contest. Those who filled out surveys at the state contest were considered late respondents.

Round two consisted of five sections with each section having either nine or ten statements. For this round respondents were asked to indicate their agreement or disagreement with each statement using a 5 point Likert scale (either strongly disagree, somewhat disagree,

neither agree nor disagree, somewhat agree, strongly agree). For round two respondents were asked to complete the survey in ten days. A reminder email was sent after the first week. In round three respondents were given the same responses as round two but this time were asked to rank them in order of importance. For round three respondents were asked to complete the survey in ten days. A reminder email was sent after the first week.

For round one responses were gather from 62 of the 100 jurors who were invited to participate (n = 62; 62% response rate). One hundred and seven responses were indicated for the first question, *How would you describe a successful FFA program*? One hundred and twenty eight responses were recorded for the second question, *What is the most important factor(s) in having success in these areas (CDE, LDE, agri science fair, FFA officers, and national chapter awards)?* Ninety two responses were generated for the third question, *How would you describe a successful SAE program?* Eighty five responses were indicated for the fourth question, *How would you evaluate a student's SAE (i.e. do you measure growth of their project in size and scope, assign a grade for their project, etc.)?* Eighty eight responses were recorded for the fifth question, *What in your opinion is the most important factor(s) in having a successful SAE program?* Each statement was analyzed and duplicates were either combined or eliminated (Shinn, Wingenbach, Briers, Lindner, & Baker, 2009). A total of forty nine statements were retained and presented in round two.

The instrument used in round two was sent to the 62 jurors who participated in round one. A follow up email was sent to jurors one week after the initial email. Twenty eight jurors did not participate in the second round. The instrument asked each juror (n = 34; 55% response rate) to rate his or her agreement on the 49 responses from round one. Jurors were provided the following five-point Likert scale to rate their level of agreement with the statements derived from

round one: 1 = *Strongly Disagree*, 2 = *Somewhat Disagree*, 3 = *Neither Agree nor Disagree*, 4 = *Somewhat Agree*, 5 = *Strongly Agree*. Based on this scale, responses which had a mean score less than 4.00 were considered to have failed to reach consensus on importance. Four items failed to reach consensus and were highlighted in red on the final survey instrument (Hsu & Sandford, 2007).

The instrument used in round three was emailed to the 34 jurors who participated in round two. A reminder email was sent one week after the initial email. Nineteen jurors did not participate in round three. The instrument asked each juror (n = 15; 44% response rate) to rank each response in order of importance.

CHAPTER 4

Introduction

Both FFA and SAEs are considered as crucial parts of agricultural education. However there has been limited research concerning the characterization of successful traits of FFA and SAEs in secondary agricultural education programs. Therefore, the purpose of this study was to identify traits and characteristics of secondary agricultural education programs contributing to successful SAEs and FFA.

Research Objectives

This study will be guided by the following research objectives.

1. Describe important factors associated with SAE projects in high performing programs that influence success.
2. Describe important factors associated with FFA chapters in high performing programs that influence success.
3. Determine traits associated with high performing programs based on selected participants.

Data Collection

During round one personal and professional characteristics were collected from each Delphi juror regarding their teaching experience (years), size of agricultural education program, percentage of students to participate in FFA and chapter activities, percentage of students who have active SAE programs, Round one also included five open-ended questions used to obtain feedback from the expert jury:

- How would you describe a successful FFA program?

- What is the most important factor(s) in having success in these areas (CDE, LDE, agri science fair, FFA officers, and national chapter awards)?
- How would you describe a successful SAE program?
- What (in your opinion) are acceptable ways to evaluate a student SAE program?
- What in your opinion is the most important factor(s) in having a successful SAE program?

The second round of this modified Delphi study consisted of an instrument that was made up from responses to the open response questions in round one. This instrument asked instructors to use the provided five point Likert scale to indicate their level of agreement with each response. Responses were grouped together under the open response question they were associated with.

The third round of this modified Delphi study utilized the same set of responses used in round two. The instrument used in this round asked instructors to take each set of responses and rank them in order of importance. Instructors did this for each response set.

Results

Demographics were gathered from the Arkansas Department of Education to describe the size of each program ($N = 52$) in terms of total agriculture student enrollment. Fifteen (29%) schools had a program enrollment between 44 to 125 students. Eighteen (35%) programs had enrollment between 126 to 250 students enrolled in secondary agricultural education. Ten (19%) schools had enrollment between 251 to 375 students. Five (9%) programs had enrollment between 376 to 500 students. While four (8%) schools had enrollments of over 500 students.

Open Response Findings

Round One Findings

In round one, respondents were presented with five open response questions. This yielded a total of five hundred responses. The researcher analyzed the data and combed through the data to combine similar responses and account for duplicate answers for each question. A complete list of responses can be found in the appendixes.

Round Two Findings

Thirty-four of the 65 jurors who participated in round one also responded in round two which yielded a response rate of 52%. Jurors were asked to use a five-point, summated response scale to rate their level of agreement on responses. For each of the questions either nine or ten responses were selected to be used for rounds two and three. The responses selected were responses most commonly stated to the initial open response questions; *How would you describe a successful FFA program*, *What is the most important factor(s) in having success in these areas (CDE, LDE, agriscience fair, FFA officers, and national chapter awards)*. *How would you describe a successful SAE program*? *What (in your opinion) are acceptable ways to evaluate a student SAE program*? *What in your opinion is the most important factor(s) in having a successful SAE program*?

Round Three Findings

During round three jurors were presented with an instrument that contained the same response sets used in round two. Jurors were instructed to rank the responses in order of importance based on the following statements. *Attributes that describe a successful FFA program* (see table 4-16), *attributes that describe the most important factor(s) in having success in these areas (CDE & LDE teams, agriscience fair participants, FFA officers, and national chapter award)* (see table 4-17), *attributes that describe a successful SAE program* (see table 4-18), *attributes that describe acceptable ways to evaluate a student SAE program* (see table 4-19),

attributes that describe the most important factor(s) in having a successful SAE program (see table 4-20). Respondents were provided a ten point scale, and a nine point scale for question five, with ten being the most important and one being the least important. Question five only had a nine point scale due to one point appearing twice on the scale.

The first research objective asked to describe important factors associated with SAE projects in high performing programs that influence success. This led the researcher to look at instructors views in different areas of SAEs. These areas included how they defined a successful SAE, what it takes to have a successful SAE, and how they evaluate students SAE projects. The questions associated with this objective were:

- Percentages of enrolled students with an SAE program
- How would you describe a successful SAE program
- How would you evaluate a student's SAE (i.e. do you measure growth of their project in size and scope, assign a grade for their project, etc)

The second research objective in this study dealt with describing the important factors associated with FFA chapters in high performing programs that influence success. For this objective the researcher looked at the amount of time instructors dedicated to different areas of the FFA program. The researcher also studied instructors thoughts on having a successful FFA program as well as the factors they perceived to impact that successfulness. Questions associated with this objective were:

- Average number of CDE and LDE teams per year
- Average number agriscience fair projects per year
- Average number of FFA officers per year
- Average number of National Chapter awards per year

- How would you describe a successful FFA program

The third research objective guiding this study was to synthesis common traits found among high performing programs. This led the researcher to compare common factors across participating programs such as average number of enrolled and active students. Also compared were average number of competition teams, number of SAE projects, and number of agriscience fair projects. Questions associated with this objective were:

- Percentage of Enrolled Students Active in FFA or Chapter Activities
- Time (in hours) dedicated annually to CDE and LDE teams
- Time (in hours) spent with agriscience fair projects per year
- Time (in hours) spent with FFA officers per year
- What is the most important factor(s) in having success in these areas (CDE, LDE, agri science fair, FFA officers, and national chapter awards)
- What in your opinion is the most important factor(s) in having a successful SAE program

Round one findings

The following data sets were analyzed using frequencies as well as the mean and standard deviations. It should be noted that for the questions associated with tables 4-6 thru 4-9 respondents did not always answer in a similar fashion. Thus the researcher interpreted and compressed those responses. For tables utilizing means and standard deviations the researcher used a mean of ≥ 4.0 as the cut off from consensus based on recommendations from committee members as well as literature (Hsu & Sandford, 2007).

Table 4-1

*Round One: Percentage of Enrolled Students Active in FFA or Chapter Activities (*n = *60)*

% Active*	*f*	%
0-25	11	18.30
26-50	29	48.30
51-75	13	21.70
76-100	7	11.70
Total	60	100.00

Teachers were asked to indicate their program's level of participation in CDEs and LDEs. This provides researchers with an overview of the number of CDE and LDE teams that these programs, which have been identified as successful, typically compete in. Programs indicated a wide range of the number of contests in which they compete but a significant number reported fielding between six and ten teams.

Table 4-2

*Round One: Average Number of CDE and LDE Teams per Year (*n = *61)*

# of CDE and LDE teams	*f*	%
0-5	10	16.40
6-10	21	34.40
11-15	12	19.70
16-20	11	18.00
21+	7	11.50
Total	61	100.00

Teachers were asked to indicate their program's level of participation in agriscience fair (see table 4-3). The agriscience fair is a recognized activity through the FFA organization and is

closely tied to the STEM initiative. An overwhelming majority of respondents did not participate in the agriscience fair program.

Table 4-3

*Round One: Average Number Agriscience Fair Projects per Year (*n = *61)*

# of Agriscience Fair projects	*f*	%
0	46	75.40
1	5	8.20
2	2	3.30
3	2	3.30
5	1	1.60
6	2	3.30
8	2	3.30
10	1	1.60
Total	61	100.00

Teachers were asked to indicate their program's number of FFA officers (see table 4-4). FFA officers are vital to the effective running of an FFA chapter. Officers can often be used to accomplish task related to the success of a program. A majority of respondents indicated they had either 7 or 8 FFA chapter officers.

Table 4-4

*Round One: Average Number of FFA Officers per Year (*n = *61)*

# of FFA officers	*f*	%
0-6	5	8.20
7-9	43	70.50
10-12	10	16.40
13+	3	4.90
Total	61	100.00

Teachers were asked to indicate their program's number of national chapter awards (table 4-5). These chapter awards represent a culmination of a chapters POA, hard work, and dedication. Over two-thirds of respondents indicated they had received the national chapter award in the previous year.

Table 4-5

*Round One: Average Number of National Chapter Awards per Year (*n = *60)*

# of National chapter awards	*f*	%
0	12	20.00
1	42	70.00
2	4	6.70
3	2	3.30
Total	60	100.00

Teachers were asked to respond with the amount of time they dedicated annually to CDEs and LDEs (see table 4-6). Time is a limiting factor. As such it is important to understand how much time instructors are dedicating to instruction towards these teams and events. Many instructors indicated they worked with teams between 0 and 150 hours per year. However there were respondents who worked over 450 hours.

Table 4-6

*Round One: Time (in Hours) Dedicated Annually to CDE and LDE Teams (*n = *59)*

Hours spent with CDE and LDE teams	*f*	%
0-50	16	27.10
51-150	19	32.20
151-250	9	15.30
251-350	3	5.10
351-450	2	3.40
451+	4	6.80
Unknown	6	10.20
Total	59	100.00

Teachers were asked to respond with the amount of time they dedicated annually to agriscience fair (see table 4-7). This sought to look at the amount of time instructors are dedicating to helping students progress through their science projects. Because most respondents

did not participate in the science fair a majority of respondents spent between zero and 25 hours working with students on their project while two teachers spent over 100 hours on projects.

Table 4-7

*Round One: Time (in Hours) Spent with Agriscience Fair Projects per Year (*n = *58)*

Hours spent with agriscience fair	*f*	%
0-25	48	82.80
26-50	6	10.30
51-75	0	0.00
76-100	2	3.40
100+	2	3.40
Total	58	100.00

Teachers were asked to respond with the amount of time they dedicated annually to FFA officers (see table 4-8). Officers often receive additional training than other students and have additional meetings throughout the year with their advisors. Responses were varied in how much time was spent with FFA officers but the high response rate was in the zero to 30 hours range.

Table 4-8

*Round One: Time (in Hours) Spent with FFA Officers per Year (*n = *59)*

Hours spent with FFA officers	*f*	%
0-30	16	27.10
31-60	11	18.60
61-90	4	6.80
91-120	12	20.30
121-150	2	3.40
151+	7	11.90
Unknown	7	11.90
Total	59	100.00

Teachers were asked to respond with the amount of time they dedicated annually to national chapter awards (table 4-9). This award is a culmination of a year's worth of work in

other areas. Because this is an application over half of respondents spent ten hours or less preparing the application.

Table 4-9

*Round One: Time (in Hours) Spent with National Chapter Awards per Year (*n = *57)*

Hours spent with National chapter awards	*f*	%
0-10	37	64.90
11-20	8	14.00
21-30	1	1.80
31-40	3	5.30
41+	2	3.50
Unknown	6	10.50
Total	57	100.00

Respondents were asked to indicate what percentages of enrolled students had an SAE program (see table 4-10). SAE is a component of agricultural education and every student is required to have an SAE program. Thirty three instructors, a majority, indicated their programs had 76% or more of students with an SAE program.

Table 4-10

*Round One: Percentages of Enrolled Students with an SAE Program (*n = *59)*

% of students with an SAE	*f*	%
0-25	11	18.60
26-50	9	15.30
51-75	6	10.20
76-100	33	55.90
Total	59	100.00

Round Two Findings

Of the ten statements identified from the first question *How would you describe a successful FFA program* nine reached consensus (mean ≥ 4.0) while one failed to reach

consensus (see table 4-11). Instructors overwhelming agreed that students should experience personal growth and development. This had the highest mean and lowest standard deviation.

Table 4-11

*Round Two: Level of Agreement on Responses – Successful FFA Program (*n = *34)*

Responses	*M*	*SD*
Students experience personal growth and development	4.94	0.24
Program molds students into productive members of society	4.76	0.42
Career Preparation	4.71	0.46
Student involvement	4.68	0.47
Fulfils the need of the local school and community	4.65	0.59
Students are willing to become FFA members and participate in program activities	4.53	0.55
Student opportunity to partake in various events focused on a variety of skills	4.50	0.56
Knowledge acquisition	4.47	0.61
Program utilize the three circle model	4.29	0.75
Students have achieved success in livestock shows and contest*	3.71	1.02

* Denotes a response with mean < 4.0 and thus did not reach consensus.

For question two *What is the most important factor(s) in having success in these areas (CDE, LDE, agri science fair, FFA officers, and national chapter awards)* had all ten responses reach consensus (mean ≥ 4.0) (see table 4-12). Instructors had the highest agreement on the statement that both having students prepared and having an instructor who is willing and able. Having enough time was the least agreed upon response in this set.

Table 4-12

*Round Two: Level of Agreement on Responses – Success in CDE, LDE, Agriscience Fair, FFA officers, and National Chapter Awards (*n = *31)*

Responses	*M*	*SD*
Student preparation	4.81	0.39
Instructor's willingness and availability	4.81	0.46
Adviser's passion	4.75	0.50
Cultivating a culture/tradition within the program	4.72	0.50
Student commitment to involvement	4.72	0.51
Student willingness to participate	4.72	0.57
Enthusiasm about participation	4.69	0.53
Instructors actively communicate opportunities to students	4.66	0.47
Program Support (administrative support, parental support, community support)	4.59	0.61
Time	4.56	0.86

There were ten responses for question 3, *How would you describe a successful SAE program* all ten responses reached consensus (mean ≥ 4.0) (see table 4-13). Student involvement, students developing an SAE or helping to develop others SAEs, was agreed upon as the top response in this set with a mean score of 4.74. Students having an active SAE project was the least agreed upon.

Table 4-13

*Round Two: Level of Agreement on Responses – Describing a Successful SAE Program (*n = *31)*

Responses	*M*	*SD*
Student involvement	4.74	0.51
Student should experience personal growth	4.65	0.54
Student should enjoy their project	4.61	0.61
Student initiative	4.58	0.71
Student willingness to participate	4.52	0.67
Career preparation	4.48	0.56
Practical project related to students area of interest	4.42	0.61
Knowledge acquisition	4.42	0.75
Accurate record keeping	4.39	0.83
Students should have an active SAE project	4.26	0.84

Question 4, *How would you evaluate a student's SAE (i.e. do you measure growth of their project in size and scope, assign a grade for their project, etc)* had seven responses reach

consensus (mean ≥ 4.0) while three failed to reach consensus (see table 4-14). Teachers could not agree that SAEs should be included as part of a student's grade nor should there be any written assignments pertaining to their projects. Instructors also could not come to consensus on whether analyzing student record was an effective method to evaluate an SAE.

Table 4-14

*Round Two: Level of Agreement on Responses – Evaluating SAE's (*n = *31)*

Responses	*M*	*SD*
Communicating with students	4.58	0.66
Case-by-case basis	4.55	0.50
Home/site visits	4.45	0.56
Knowledge acquisition	4.35	0.70
Project growth	4.26	0.57
Documentation (videos or pictures of the project)	4.06	0.76
Amount of time students spends working with an SAE	4.00	0.52
Analysis of student record keeping*	3.97	0.78
Students produce written reports about their project*	3.84	0.72
SAE's are a portion of the students overall grade*	3.29	0.96

* Denotes a response with mean < 4.0 and thus did not reach consensus.

For the question *What in your opinion is the most important factor(s) in having a successful SAE program* there were nine responses which all reached consensus (mean ≥ 4.0) (see table 4-15). Student participation was the top consensus from teachers in this response set.

Table 4-15

Round Two: Level of Agreement on Responses - Having a Successful SAE Program (n = 31)

Responses	*M*	*SD*
Student participation	4.90	0.30
Encouragement of students	4.68	0.53
Student initiative	4.68	0.59
Time management	4.61	0.55
Adviser involvement	4.52	0.56
Parental involvement	4.52	0.62
Knowledge acquisition	4.52	0.67
Students should have an interest in their project	4.48	0.37
Accurate record keeping	4.45	0.61

Round Three Findings

Instructors were asked to rank responses based on importance in having a successful FFA program. The response ranked most important by teachers was that students should experience personal growth and development. While, students achieving success in livestock shows and contest received the lowest mean score.

Table 4-16

*Round Three: Ranking of Importance – Successful FFA Program (*n = *15)*

Response	*M*	*SD*
Students experience personal growth and development	7.80	1.68
Program molds students into productive members of society	7.40	2.68
Career preparations	6.27	2.82
Student involvement	6.13	2.78
Student opportunity to partake in various events focused on a variety of skills	6.00	2.88
Fulfills the need of the local school and community	5.33	2.55
Knowledge acquisition	4.80	2.04
Program utilizes the three circle model	4.40	3.09
Students are willing to become FFA members and participate in program activities	4.20	2.17
Students have achieved success in livestock shows and contest	2.67	2.65

Instructors were was to rank the set of responses based on importance related to having success in CDE, LDE, agriscience fair, FFA officers, and national chapter awards. Instructors indicated that having students who are committed to involvement is the most important factor. Time was indicated as the least important factor in this set.

Table 4-17

*Round Three: Ranking of Importance Success in CDE, LDE, Agriscience Fair, FFA Officers, and National Chapter Awards (*n = *14)*

Response	*M*	*SD*
Student commitment to involvement	7.64	2.12
Student willingness to participate	7.43	2.92
Enthusiasm about participation	6.50	2.10
Instructor's willingness and availability	6.00	2.70
Adviser's passion	5.57	3.29
Instructor actively communicates opportunities to students	4.79	2.04
Program support (administrative support, parental support, community support)	4.71	2.79
Student preparation	4.57	2.50
Cultivating a culture/tradition within the program	4.14	2.72
Time	3.64	2.12

Teachers were asked to indicate the level of importance for factors based on how to have a successful SAE program. The top two important factors were student involvement and student willingness to participate which were tied with a mean score of 6.86. Whereas, teachers indicated career preparation the least important.

Table 4-18

*Round Three: Ranking of Importance – Describing Successful SAE Programs (*n = *14)*

Response	*M*	*SD*
Student involvement	6.86	2.50
Student willingness to participate	6.86	1.51
Students should enjoy their project	6.79	2.34
Student initiative	6.64	2.82
Students should experience personal growth	6.57	3.33
Knowledge acquisition	4.64	2.12
Accurate record keeping	4.43	2.69
Practical project related to students area of interest	4.14	2.67
Students should have an active SAE project	4.14	2.61
Career preparation	3.93	2.81

Teachers were asked to rank the importance of factors when evaluating SAE programs. Communicating with students was considered the most important factor in this set. While, students producing a report on their project was considered the least important.

Table 4-19

*Round Three: Ranking of Importance Evaluating SAE's (*n = *14)*

Response	*M*	*SD*
Communicating with students	7.71	1.48
Home/site visits	7.00	2.59
Case-by-case basis	6.93	2.68
Knowledge acquisition	6.00	2.51
Documentation (videos or pictures of the project)	5.64	2.32
Amount of time students spend working with an SAE	5.36	2.82
Project growth	5.29	2.74
SAE's are a portion of the students overall grade	4.14	3.16
Analysis of student record keeping	3.93	1.75
Students produce written reports about their project	3.00	2.48

Instructors were asked to rank the importance of responses related to having a successful SAE program. Student initiative was ranked highest with a mean score of 7.64. Accurate record keeping and time management were ranked lowest with a score of 3.14.

Table 4-20

*Round Three: Ranking of Importance - Having a Successful SAE Program (*n = *14)*

Response	*M*	*SD*
Student initiative	7.64	1.76
Student participation	6.71	1.71
Student should have an interest in their project	6.36	1.54
Parental involvement	6.29	2.34
Adviser involvement	4.64	2.44
Encouragement of students	3.86	1.68
Knowledge acquisition	3.21	2.24
Time management	3.14	1.92
Accurate record keeping	3.14	1.92

Summary

This chapter presents the findings obtained through this study. Results address the three research objectives targeted by this study. The results address important characteristics of successful FFA and SAE programs, important factors in having success in FFA and SAE programs, and acceptable methods of evaluating SAE programs. This section also looked at some basic demographics of participants.

Under objective one of identifying characteristics of successful FFA programs teachers agreed that:

- One of the most important attributes was that students experience personal growth and development.
- A student should experience personal growth and development.
- Both student preparation and the instructor's willingness and availability were important factors.
- Student commitment to involvement was ranked highest by instructors in round three.

Under objective two of identifying characteristics of successful SAE programs teachers agreed that:

- Student involvement is critical in a successful SAE.
- Teachers also ranked student willingness to participate equally important as student involvement.
- Communication with students is crucial to evaluating SAE projects.
- Student participation was agreed upon as one of the crucial factors for having a successful SAE program.

- While student initiative was ranked as the highest importance to have a successful SAE program.

Under objective three of determining traits associated with high performing programs:

- There was a significant variation of time dedicated to different areas of a program.
- Advisors must be willing and available as well as being passionate about their program.
- Students should have an interest in their projects and the activities they participate in.
- Student preparation is an important trait found in high performing programs.

Chapter 5

Introduction

The purpose of this study was to identify traits and characteristics of secondary agricultural education programs contributing to successful SAE's and FFA.

Research Objectives

This study will be guided by the following research objectives.

1. Describe important factors associated with SAE projects in high performing programs that influence success.
2. Describe important factors associated with FFA chapters in high performing programs that influence success.
3. Determine traits associated with high performing programs based off selected participants.

Summary of Findings

Research objective one sought to describe important factors in high performing SAE programs. There were two open response questions which gathered data for this objective. The first was *how would you describe a successful SAE program*. The top three agreed upon responses were student involvement is essential, students should experience personal growth, and students should enjoy their SAE project. When asked to rank responses in order of importance, instructors ranked that there must be student involvement, students should be willing to participate, and students should enjoy their SAE project as the top three responses. The second question asked *how would you evaluate a student's SAE*. Teachers agree that communicating with students and home/site visits were important but were also in agreement that SAE evaluation is a case-by-case basis. Teachers also ranked these same three aspects,

communicating with students, home/site visits, and evaluating each SAE on a case-by-case basis, as the top three important aspects when evaluating a student's SAE.

Objective two sought to describe important factors associated with high performing FFA programs. This objective had one open response questions associated with it. The first question was *how you would describe a successful FFA program.* Instructors indicated agreement that students should experience personal growth, the program should mold students into productive members of society, and there are elements of career preparation. Teachers also ranked these three as the top three most important factors in having a successful FFA program.

The third objective of this research was to determine traits associated with high performing programs. This objective was associated with questions in round one which asked teachers to quantify the number of hours spent working in different areas of a program as well as two open response questions. The questions which asked instructors to indicate their hours spent with different areas received responses which ranged from sending very little time to spend inordinate amounts of time in certain areas. This indicated teachers spent a wide range of time in each area of a program. The first open response question associated with this objective asked *what is the most important factor in having success in these areas (CDE, LDE, agriscience fair, FFA officers, and national chapter awards).* Teachers reached consensus that student preparation, an instructor who is willing and available, and an advisor who is passionate were all top factors which contributed to success in the areas of CDE's, LDE's, agriscience fair, FFA officers, and national chapter awards. When asked to rank responses in order of importance instructors indicated student commitment to involvement, student willingness to participate, and enthusiasm about participation as the top three most important factors contributing to success. The second open response question asked instructors *what is the most important factor(s) in*

having a successful SAE program. Instructors indicated agreement on student participation, encouragement of students, and student initiative as the top three factors. When asked to rank responses in terms of importance instructors ranked student initiative, student participation, and that students should have an interest in their project as the top three most important factors.

Conclusions

Important factors associated with high performing SAE programs, as indicated by instructors, were that students should be actively involved with an SAE project. Students should take the initiative with their projects but it's also important that students find satisfaction in their project. Through the SAE process students should experience personal growth. Students should also be encouraged throughout their SAE program. Specifically for evaluating SAE's instructors must maintain communication with their students and make regular home/site visits. Teachers should also be prepared to evaluate each SAE on a case-by-case basis.

Important factors associated with high performing FFA programs, as indicated by instructors, were that students should experience some kind of personal growth as they develop through a program. Students should also be taught and prepared so that they are able to take part in both program activities and eventually a career. Students should be willing to participate and be enthusiastic about their participation. Students should be committed to their involvement in the program. The FFA program should be operated in such a way that it is molding students into productive members of society. The FFA advisor should also be passionate and have a willingness and availability to work with members.

Over the course of a year teachers will dedicate many hours of work in different areas of their programs. Which areas they dedicate this time into varies widely from teacher to teacher. However, to have a successful program, instructors agreed that they themselves must have a

passion for the work they are doing and must be willing to dedicate as much time as necessary to achieve success in their program. Success does not only rely on instructors but is also dependent upon students. Having students who have initiative and who are enthusiastic about participating in the program are important to the success of a program. As is having those students sufficiently prepared to participate in program activities.

Discussion and Implications

SAE programs are a required component of agricultural education and are designed to be conducted by every student. Through involvement in their SAE program, students are able to consider multiple careers and occupations, learn expected workplace behavior, develop specific skills within an industry, and are provided opportunities to apply both academic and occupational skills in the workplace or similar environment (National FFA, 2016). Accordingly,

> Supervised agricultural experiences implemented in agricultural education programs by its true definition of learners experiencing agriculture with adult supervision have proved to help learners apply knowledge, clarify career choices, solve problems through decision making, developing responsibility, and learn agricultural skills through practical experience. (Knobloch, 1999, p. 16)

Rubenstein and Thoron (2014) found that students who were recognized as having high level SAE projects, indicated their participation in the SAE program provided them with experiences that helped to guide them in their career choices and personal goals. This is echoed in the findings of this study which ranked both student involvement and students experiencing personal growth as some of the most important factors of successful SAE programs. Instructors have routinely indicated having students with active SAEs and supervising those projects are one of their most important activities as a teacher (Dyer & Osborn, 1996). Research has shown that in programs with highly successful SAE's there is an average number of 4 supervising visits by instructors per student per year (Bobbitt, 1986). This is reflected by the importance placed not only on student participation but also student initiative as well as that teachers place a high value

on making home/site visits to supervise those SAE projects. Rubenstein and Thoron (2014) proposed a definition of a successful SAE program as being "one that is agricultural career-based, engages learner interest through partnerships (community and industry), and can be recognized through FFA programs based on evidence of sustained personal and financial growth" (p. 172). This definition is one what reflects many of the factors discussed in the findings of this study including; career preparation, students having interest in their project, and students experiencing personal growth. Bobbitt (1986) found that part of instructor's success in conducting SAE programs was through incorporating SAE's as a grade and as part of their curriculum. Whereas instructors in this study could not reach consensus agreement regarding SAEs being a portion of students overall grades. Even though SAEs are a required component of agricultural education not assigning a grade for a student's SAE may be hindering programs from achieving higher SAE involvement. Instructors also regarded assigning grades for SAEs as one of the least important factors impacting a successful SAE program.

The FFA is one of the largest youth organizations in the United States and follows its mission statement which reads "FFA makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agricultural education" (Official FFA Manual, 2010). The FFA is structured in such a way that it provides opportunities for teens to achieve personal goals and engage in meaningful activities (Croom & Flowers, 2001). While these are broad statements several factors found to be significant relate directly to these such as: molding students into productive members of society, student preparation, career preparation, and students experience personal growth and development. Robert and Dyer (2004) reported that instructors agreed 100% on the following

characteristics of effective agriculture instructors: actively advise the FFA chapter, effectively prepare students for CDE and other FFA activities, and communicate well with others.

Instructors themselves are also important factors in the successfulness of an FFA program. As stated in the findings teachers agreed that an instructor should be willing and available to work with students and these advisors should also be passionate about their work. This is reflected in enthusiasm and student opportunity to learn which, are two of the five basic tenants proposed by Rosenshine and Furst (1971). Many preservice teachers identified both being student centered and being enthusiastic as characteristics of effective teachers as well (Minor, Onwueghbuzie, Witcher, James, 2002). Research has also shown a positive relationship between FFA membership and SAE participation (Retallick, 2010). Vaughn and Moore (2000) reported several variables which were identified as quality indicators of a program. Among these quality indicators were both national ratings received and participation level in agriscience fairs. Vanugh and Moore (2000) also made observations and concluded that "many chapters are simply not doing what leaders in the field believe quality FFA programs should be doing."

Recommendations for Practice

When looking at creating successful SAE programs instructors should strive to motivate students to want to be involved in these projects. This could include showing them their earning potential, incorporating new functions into jobs they already complete, or creating new and fun opportunities students may not have thought of. By creating these new and engaging projects teachers are able to fulfill the need that students have, which is their need to enjoy the project they are working on. This circles back to if students enjoy their project, participation and student initiative could increase as well.

When evaluating SAE's a case-by-case approach should be adopted. SAE's will vary widely in size, scope, and objectives. Thus instructors must determine in each situation how the student's project is progressing. Teachers must also maintain open lines of communications with their students who have SAE projects. Along with effective communication between students and teachers, home/site visits continue to be the most practical and most effective way for teachers to evaluate students SAE projects. It was recommended by Bobbitt (1986) that there should be four SAE project visits done by teachers per student per year. This should continue to be the recommended minimum.

Through FFA students should experience personal growth, be molded into a productive member of society, and should receive career preparation. Much of this happens through student's involvement in CDE and LDE teams as well as through attending other FFA activities. However, teachers can augment these activities and reach these goals in other ways. One such ways is by inviting agricultural industry personnel as key note presenters during chapter meetings. Another option would be to use the local FFA officer team to conduct workshops throughout the year for the local FFA chapter.

When looking at success in CDE's, LDE's, agriscience fair, FFA officers, or national chapter awards students have to be willing to participate, they have to have a certain level of commitment to the activity and they have to be enthusiastic about their participation. Teachers will have to work hard to sell students on these activities and show them why they should be committed to these activities. Part of this comes from an advisor who is passionate about these areas. Instructors should be excited for students to participate and that reflects onto students. Not only should advisors be passionate but they must also communicate to students that they want to help them participate in FFA activities and that they are available to help do so.

Recommendations for Research

Further research is needed in response to this research to generalize it to a larger population. Researchers recommend that future research compare the programs surveyed in this study to the rest of the secondary agricultural education programs in Arkansas. Comparisons should also be conducted between this programs and similar programs on a national scale. Researchers also recommend a study to determine if programs are actively implementing/planning factors which have been determine as quality indicators related to successful FFA and SAE programs. Researchers also recommend a deeper exploration of the traits and characteristics found in this study to uncover more specific practices that are being utilize to obtain success in FFA and SAE. Furthermore, researchers recommend a study be conducted in regards to SAEs and instructors knowledge about them as well as why instructors do not require every student to conduct an SAE.

References

Astin, A., W. (1999). Student involvement: A development theory for higher education. *Journal of College Student Development, 40(5), 518-529.*

Attwood, M. L. (1984). Excellence in postsecondary vocational education: Four levels, four perspectives. *ERIC.* 3-40.

Barger, R. N. (2006). *Massachusetts education laws of 1642 AND 1647.* Retrieved from: http://www.nd.edu/~rbarger/www7/masslaws.html

Bobbitt, F. (1986). *An examination of the opinions and supervised occupational experience programs of selected vocational agricultural instructors in the U.S. staff study*. Retrieved from http://eric.ed.gov/?id=ED274816.

Borden, L. M., Perkins, D. F., Villarruel, F. A., & Stone, M. R. (2005). To participate or not to participate: That is the question. *New Directions for Youth Development*, *2005(105)*, 33-49. Doi: 10.1002/yd.106

Camp, W. G., Crunkilton, J. R. (1985). History of agricultural education in America: The great individuals and events. *Journal of the American Association of Teacher Educators in Agricultural, 26(1), 57-63.* Doi: 10.5032/jaaeta.1985.01057

Chickering, A. W., & Associates. (1981). The modern American college. San Francisco: Jossey-Bass.

Cogdill, K., Reneau, F. W. (1986). Guidelines for Illinois superior FFA chapters as perceived by successful superior chapter advisors. *Journal of the American Association of teacher Educators in Agriculture,* 27(3), 40-45. Doi: 10.5032/jaatea.1986.03040

Copa, G. H., Plihal, J., Scholl, S., Ernst, L., Rehm, . & Copa, P. M. (1985). An untold story: Purposes of vocational education in secondary schools. St. Paul: University of Minnesota, Minnesota Research and Development Center, Department of Vocational and Technical Education.

Croom, D. B. (2008). The development of the integrated three–component model of agricultural education. *Journal of Agricultural Education, 49(1), 110–120*. doi: 10.5032/jae.2008.01110

Croom, D. B., & Flowers, J. L. (2001). A question of relevance: FFA programs and services as perceived by FFA members and non-members. *Journal of Southern Agricultural Education Research*, 51(1), 6-19. Retrieved from, http://pubs.aged.tamu.edu/jsaer/toc51.html

Croom, B., Moore, G., Armbruster, J. (2009). An examination of student participation in national FFA career development events. *Journal of Southern Agricultural Education Research,* 59, 109-121.

Dalkey, N. C., Rourke, D. L., Lewis, R., & Snyder, D. (1972). Studies in the quality of life. Lexington, MA: Lexington Books.

Discover the possibilities of agricultural education. (N.D). Retrieved from: https://www.naae.org/advocacy/profiles/Agricultural_Education_Advocacy_Handout_2-27-13_Print.pdf

Dyer, J. E., & Osborne, E. W. (1995). Participation in supervised agricultural experience programs: A syntheses of research. *Journal of Agricultural Education, 36(1), 6–14*. doi:10.5032/jae.1995.01006

Dyer, J. E., & Osborne, E. W. (1996). Developing a model for supervised agricultural experience program quality: A synthesis of research. *Journal of Agricultural Education, 37(2), 24–33*. doi:10.5032/jae.1996.02024

Edgar, D. W. (2012) Learning theories and historical events affecting instructional design in education: Recitation literacy towards extraction literacy practices. *Sage Open.* 2, 1-9. Doi: 10.1177/2158244012462707

Erikson, E. H. (1963). Childhood and society. New York: Norton.

Gay, L. R., Mills, G. E., & Airasian, P. (2006). Educational research: Competencies for analysis and research (8th ed.). Upper-Saddle River, NJ: Pearson Education.

Hasson, F., Keeney, S., & McKenna, H. (2000). Research guidelines for the Delphi survey technique. Journal of Advanced Nursing. 32(4), 1008-1015. doi:10.1046/j.1365-2 648.2000.t01-1-01567.x

Hillison, J., Bryant, B. (2001). Agricultural societies as antecedents of the FFA. *Journal of Southern Agriculture Education Research*. 51(1), 102-113. Retrieved from: http://pubs.aged.tamu.edu/jsaer/pdf/Vol51/51-00-102.pdf

Hopson, D. B. (1988). *Perceptions of teachers, students, parents and related adults pertaining to successful practices in vocational programs in Connecticut* (Doctoral Dissertation). Retrieved from University Microfilms International Dissertation Information Service.

Howard, D. H. (1992). People, pride, and progress 125 years of the Grange in America. Washington, DC: National Grange.

Hsu, C. C., Sandford, B. A. (2007) The delphi technique: Making sense of consensus. *Practical Assessment, Research & Evaluation*, 12(10). Retrieved from,

http://essentialsofmedicine.com/sites/default/files/Delphi%20Technique_%20Making%20Sense%20Of%20Consensus.pdf

Hutter, J. B. (1991). *An instrument to assess agriculture teacher effectiveness* (Doctoral dissertation). University of Minnesota.

Johnson, M. K., Beebe, T., Mortimer, J. T., Snyder, M. (1998). Volunteerism in adolescence: A process perspective. *Journal of Research on Adolescence*, 8(3), 309-332.

Knobloch, N. A. (1999). The new SAE: Applied. The Agricultural Education Magazine, 72(3), 16-18.

Land Grant & Sea Grant: Events Leading to the Establishment of Land-Grant Universities. (n.d.). Retrieved November 17, 2016, from http://ifas.ufl.edu/events-leading-to-the-establishment-of-land-grant/

Lewis, L. J., Rayfield, J., Moore, L. L. (2012). An assessment of students' perceptions toward factors influencing supervised agricultural experience participation. *Journal of Agricultural Education*, 53(4), 55-69. Doi: 10.5032/jae. 2012.04055

Lunenburg, F. C., & Irby, B. J. (2008) *Writing a successful thesis of dissertation: Tips and strategies for students in the social and behavioral science*. Thousand Oaks, California: Corwin Press.

McMillion, M. B., Auville, M. K. (1976). Factors associated with the success of supervised farming programs of Virginia high school students. *Journal of the American Association of Teacher Educators in Agriculture,* 17(3), 9-13. Doi: 10.5032/jaatea.1976.03009

Minor, L. C., Onwuegbuzie, A. J., Witcher, A. E., and James, T. L. (2002). Preservice teachers' educational beliefs and their perceptions of characteristics of effective teachers. *The Journal of Educational Research*, Vol. 96, No. 2 (Nov. - Dec., 2002), pp. 116-127

Moore, G. E. (1987). The status of agricultural education prior to the Smith-Hughes act. *The Agricultural Education Magazine*, 59(8), 1-5. Retrieved from: https://learn.uark.edu/bbcswebdav/pid-2724472-dt-content-rid-15710281_1/courses/1153-THEUA-AGED-5053-SEC901-6993/Status%20of%20Ag%20Educ%20prior%20to%20Smith%20Hughes.pdf

Murnane, R, J., Steele, J, L. (2007). What Is the Problem? The Challenge of Providing Effective Teachers for All Children. *The Future of Children, 17(1), 15-43.* Retrieved from http://muse.jhu.edu/journals/foc/summary/v017/17.1murnane.html

National FFA Organization. (2015). About Us. Indianapolis, IN: Retrieved February 8, 2015 from: https://www.ffa.org/about/Pages/default.aspx

Noblin, E. Y. (1942). The F.F.A. chapter its organization and activities. Blacksburg: Virginia Polytechnic Institute.

Official FFA Manual. (2010). Retrieved February 8, 2015 from: https://www.ffa.org/about/Pages/default.aspx

Phelps, K., Henry, A. L., & Bird, W. A. (2012). Factors influencing or discouraging secondary school students' FFA participation. *Journal of Agriculture Education, 53*(2), 70-86. Doi: 10.5023/jae.2012.02070

Rayfield, J., Compton, K., Doerfert, D., Fraze, S., Akers, C. (2008). Factors that influence the decision to participate in youth organizations in rural high schools in three states. *Journal of Agricultural Education,* 49(4), 83-95. Doi: 10.5032/jae.2008.04083

Report of the United States commissioner of education – VOL. 2 (1916). Washington, DC: U.S. Government Printing Office.

Retallick, M. S. (2010). Implementation of supervised agricultural experience programs: The agricultural teachers' perspective. *Journal of Agricultural Education*, 51(4), 59-70. Doi: 10.5032/jae.2010.04059

Richardson, A. G. & Arundell, A. (1989). Characteristics of the effective teacher as perceived by pupils and teachers: A Caribbean case study. (ERIC Document Reproduction Service No. ED 311 013).

Roberts, T. G. & Dyer, J. E. (2004). Characteristics of effective agriculture teachers. *Journal of Agricultural Education, 45(4), 82-95.* Retrieved from: *http://pubs.aged.tamu.edu/jae/pdf/Vol45/45-04-082.pdf*

Rosenshine, B. (1982). Teaching functions in instructional programs. *Paper presented at the National Institute of Education's National Invitational Conference on Research on Teaching: Implications for Practice, Washington, DC.*

Rosenshine, B. & Furst, N. (1971). Research on teacher performance criteria. In B. O. Smith (Ed.), Research in Teacher Education – A Symposium (pp. 37- 72). Englewood Cliffs, NJ: Prentice Hall, Inc

Rubenstein, E. D., & Thoron, A. C. (2014). Successful supervised agriculture experience programs as defined by American FFA degree Star Finalist. *Journal of Agriculture Education, 55*(3), 162-174. Doi: 10.5032/jae.201403162 doi: 10.5032/jae.2010.04059

Saloutos, T. (1960). Farmer movements in the South 1865-1933. Lincoln: University Press.

Secondary education. (2015). In *Encyclopedia Britannica*. Retrieved fromhttp://www.britannica.com/EBchecked/topic/531682/secondary-education

Sergent, M. T., Sedlacek, W.E. (1990). Volunteer motivations across student organizations: A test of person-environment fit theory. *Journal of College Student Development,* 31, 255-261.

Shinn, G. C., Wingenbach G. J., Briers, G. E., Lindner, J. R., & Baker, M. (2009). Forecasting doctoral-level content in international agricultural and extension education – 2010: Viewpoint of fifteen engaged scholars. Journal of International Agricultural and Extension Education, 16(1) 57-71. doi: 10.5191/jiaee.2009.16105

Spady, W. G. (1970). Lament for the letterman: Effects of peer status and extracurricular activities on goals and achievement. *American Journal of Sociology, 75, 680-702.* Retrieved from: http://www.jstor.org/stable/2775909?seq=1#page_scan_tab_contents

Stewart, B. R., Birkenholz, R. J. (1991). Outcomes of changing supervised agricultural experience programs. *Journal of Agriculture Education,* 32(3), 35-41. Doi: 10.5032/jae.1991.03035

Stimson, R. W., & Lathrop, F. W. (Eds.) (1942). *History of Agriculture education of less than college grade in the United States.* Washington, D.C.: federal Security Agency, United States Office of Education.

Stitt-Gohdes, W. L., & Crews, T. B. (2002). The Delphi technique: A research strategy for career and technical education [Electronic version]. Journal of Career and Technical Education, 20(2), 55-67.

Success. (n.d.). In *Merriam-Webster's online dictionary.* Retrieved from: http://www.merriam-webster.com/dictionary/success

Successful. (n.d.). In *Merriam-Webster's online dictionary.* Retrieved from: http://www.merriam-webster.com/dictionary/successfulness

Suydam, M. (1983). Teaching effectiveness. *Arithmetic Teacher, 31*(2), 3.

Talbert, B. A., Vaughn, R., Croom, D. B., & Lee, J. (2007). Foundations of agricultural education (2nd Ed.). Danville, IL: Professional Educators Publications, Inc.

The National Council for Agricultural Education. (2009). *National quality program standards for secondary (grades 9-12) agricultural education*. Retrieved fromhttps://www.ffa.org/SiteCollectionDocuments/tc_national_quality_program_standards_revised.pdf

True, A. C. (1992). A history of agricultural education in the United States 1785-1925. [Google Reader]. Retrieved from: https://books.google.com/books?hl=en&lr=&id=C4Y_AAAAYAAJ&oi=fnd&pg=PA1&dq=+A+history+of+agricultural+education+in+the+United+States+1785-1925.&ots=V7PBZKAj_x&sig=wZ2lmWbZZMAOQBN3fW9xQib2TiE#v=onepage&q

=A%20history%20of%20agricultural%20education%20in%20the%20United%20States%201785-1925.&f=false

United States Environmental Protection Agency. (June 27, 2012). *Superfund Community Involvement.* Retrieved from: http://www.epa.gov/superfund/community/

Urban, W. J. & Wagoner, J. L. (2000). American education. New York: McGraw-Hill Higher Education.

Vaughn, P. R. (1976). Factors related to the success of New Mexico vocational agricultural teachers as FFA advisors. *Journal of the American Association of Teacher Educators in Agriculture,* 17(3), 21-27. Doi: 10.5032/jaatea.1976.03021

Vaughn, Z. J., Moore, G. E. (2000). Predictors of FFA program quality. *Proceedings of the 27th Annual National Agricultural Education Research Conference, USA, 379-390.*

Wardlow, G., Swanson, G. (1991). *Institutional-Level factors and excellence in vocation education: A review of the literature*. Retrieved from National Center for Research in Vocational Education.

Wilder, M.P. (1853). Circular of the United States agricultural society. Boston

Wolf, K. J. (2011). Agricultural education perceived teacher self-efficacy: A descriptive study of beginning agricultural education teacher. *Journal of Agricultural Education,* 52(2), 163-176. Doi: 10.5032/jae.2011.02163

Appendix A

UNIVERSITY OF ARKANSAS

Office of Research Compliance
Institutional Review Board

March 3, 2016

MEMORANDUM

TO:	Andrew Bolton Don Edgar
FROM:	Ro Windwalker IRB Coordinator
RE:	PROJECT MODIFICATION
IRB Protocol #:	15-12-436
Protocol Title:	*Successful Secondary Agricultural Programs Outside the Classroom: A View of Champions*
Review Type:	☒ EXEMPT ☐ EXPEDITED ☐ FULL IRB
Approved Project Period:	Start Date: 03/01/2016 Expiration Date: 01/05/2017

Your request to modify the referenced protocol has been approved by the IRB. **This protocol is currently approved for 100 total participants.** If you wish to make any further modifications in the approved protocol, including enrolling more than this number, you must seek approval *prior to* implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

Please note that this approval does not extend the Approved Project Period. Should you wish to extend your project beyond the current expiration date, you must submit a request for continuation using the UAF IRB form "Continuing Review for IRB Approved Projects." The request should be sent to the IRB Coordinator, 109 MLKG Building.

For protocols requiring FULL IRB review, please submit your request at least one month prior to the current expiration date. (High-risk protocols may require even more time for approval.) For protocols requiring an EXPEDITED or EXEMPT review, submit your request at least two weeks prior to the current expiration date. Failure to obtain approval for a continuation *on or prior to* the currently approved expiration date will result in termination of the protocol and you will be required to submit a new protocol to the IRB before continuing the project. Data collected past the protocol expiration date may need to be eliminated from the dataset should you wish to publish. Only data collected under a currently approved protocol can be certified by the IRB for any purpose.

If you have questions or need any assistance from the IRB, please contact me at 109 MLKG Building, 5-2208, or irb@uark.edu.

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