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

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Abstract

This study sought to identify traits and characteristics of secondary agricultural education programs contributing to success. A three round modified Delphi survey technique was utilized to frame this study. The researchers utilized purposive sampling to select members for the jury comprised of secondary agricultural instructors identified as high quality (n = 65). High quality programs were determined based on the results of various activities and competitions a program would participate in including CDE's, LDE's, Agriscience Fair Divisions, State Fair livestock shows, State Officer Elections, and National Chapter Awards. Data collected identified important factors associated with high performing SAE programs and that students should be actively involved with an SAE project. Additionally, important factors included that students should experience some kind of personal growth as they develop through a program and that students should be taught and prepared so they are able to take part in both program activities and eventually a career. The FFA program should be operated so 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. Success does not only rely on instructors but is also dependent upon students.

Keywords: Classroom, FFA, Secondary, Agricultural Education, Successful

Introduction

Education and interest toward agricultural practices has been prevalent since the founding of the United States. Formal instruction centered on agriculture began in the early 1900's (Moore, 1987) and significant developments have occurred in agricultural education at the secondary instruction level since (Camp & Crunkilton, 1985). One hallmark development was basing agricultural education programs 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 including: supervised agricultural experience (SAE), classroom/laboratory, and FFA participation. SAE focuses on taking knowledge acquired in the classroom and allowing students to apply this knowledge in real and practical settings under instructor supervision (National FFA Organization, 2015; Retallick, 2010) FFA is a co-curricular component of agriculture education (Croom, 2008). FFA focuses on "premier leadership, personal

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growth, and career success through engagement in FFA programs and activities" (National FFA Organization, 2015, para. 1). Many of these programs and activities take the form of Career Development Event (CDE) competitions, regular meetings, and competing for awards among many others (Vaugh & Moore, 2000). The three circle model as characterized through a Venn diagram (see Figure 1), and indicates the interdependencies of each area relating to School Based Agricultural Education (SBAE).

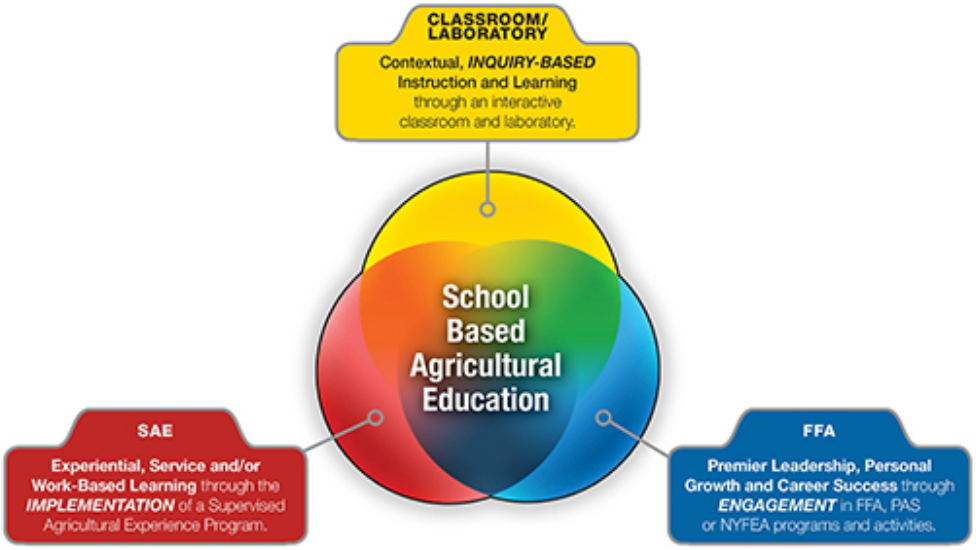

Figure 1. Three-Component Model of Agricultural Education (National FFA Organization, 2015)

Researchers have examined the relationship to agricultural education programs in terms of exploring students' participation in FFA (Phelps, Henry, Bird, 2012). Recently, Rubenstein and Thoron (2014) interviewed high performing students in SAE's to develop a definition of a successful SAE program. However, there has been limited research concerning the characterization of successful traits of FFA and SAE's in SBAE. There is a need for further research to be conducted on secondary agricultural education programs to better define the characteristics of successful 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 as aligned with RPA 5.00: Efficient and effective agricultural education programs.

Theoretical/Conceptual Framework

FFA is currently one of the largest youth development organizations in U.S. public schools and is considered a key component in providing positive youth development opportunities to students enrolled in SBAE (National FFA Organization, 2015; Rayfield, Compton, Doerfert, Fraze, & Akers, 2008). FFA is structured in such a way that it provides opportunities for young adults 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 groups 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 regarding why youth choose to participate in FFA: encouragement from others, personal gain, social component, and fun and travel.

While program participation hinges on student involvement, instructors still have to practice effective teaching (Murnane & Steele, 2007). Research has indicated effective teachers offer encouragement, provide clear instructions, and allow few distractions or interruptions (Suydam, 1983). Furthermore, it has been 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 regard 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 found that a little over half of those participants mentioned being student-centered as a characteristic of an effective teacher. Several characteristics received 100% acceptance rate and included: effectively planning for instruction, having a sound knowledge of the FFA, actively advising the FFA chapter, effectively preparing students for CDEs and other FFA activities, communicating well with others, and effectively managing, maintaining, and improving laboratories (Robert and Dyer, 2004).

According to Croom (2008) SAE's most likely developed from the apprenticeship model utilized in Colonial America. Retallick (2010) stated three major reasons that instructors include SAE programs which were the development of life skills, the FFA award system, and because it is a component of the three circle model in SBAE. 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 agricultural education system. 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. 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.

In today's agricultural education programs, the FFA should be an integral part of a successful program (Cogdill & Reneau, 1986). The FFA portion of agricultural education programs are made up of an immense number of opportunities for students to partake in and is often thought of as a demanding task to facilitate for instructors (Croom, Moore, & Armbruster, 2009). No matter how demanding the task for an instructor, research has shown there is no statistical significance 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).

Rosenshine (1982) stated that student learning and development will be greatest when the environment is structured to encourage active student participation. The student involvement theory emphasizes active participation by students (Astin, 1999) and draws from the resource theory and individualized theory conceptualized by Chickering (1981). Resource theory posits that when ranges of approaches are brought together into one place, student learning and development will occur (Astin, 1999). 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). In relation to FFA and SAEs, this is seen in the many different activities students are able to partake in within the organization (Vaughn & Moore, 2000).

Student involvement is a measure of physical and psychological energy students devote to their experiences (Astin, 1999). Rayfield et al., (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)

Quantifying successful programs throughout the three circle model is paramount to identifying important characteristics for further investigation. The value of FFA programs for youth and communities is vital toward societal enrichment. Therefore, the purpose of this study was to identify traits and characteristics of secondary agricultural education programs contributing to successful SAEs and FFA. Guided by the student involvement theory (Astin, 1999) identification and description of key variables is sought through the objectives of study which are:

1. Identify the 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. Identify the common traits found among high performing programs.

It is posited that students involved in high performing FFA chapters devote time and energy (student involvement) towards SAE and FFA chapters (Astin, 1999). Through the use of a Delphi technique, understanding of important factors, expressed through chapter advisors will be revealed. The traits found through this study will describe aspects of high performing chapters in Arkansas and which could relate to other states with similar demographics and FFA chapter participation.

Research Methods

A modified Delphi survey technique was utilized to frame this study. Researchers utilized purposive sampling to select members for the jury of experts ($N = 100$) 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 and analyzed using IBM SPSS 23.

Content validity for Delphi studies can be determined by expert judgment (Gay, Mills, & Airasian, 2006). Accordingly, a panel of experts (faculty members at 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 consists of 11 members or more. Therefore, 65 members (agreed to serve) formed the final expert jury (Agricultural Education instructors) suggesting the reliability of the multiple-round Delphi procedure would meet the expected reliability of .90. 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.

The target population for this study was all secondary agricultural instructors in Arkansas who were identified as high quality (n = 65). 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 (CDE's, LDE's, Agriscience Fair Divisions, State Fair livestock shows, State Officer Elections, and National Chapter Awards). Results from the previous five years were gathered and compiled to select high quality programs. Chapter results, based on placings in the identified areas, were tabulated resulting in the identification of high quality programs. All identified activities and competitions were reviewed and all programs were entered in an excel template. Placings were given a numerical value, i.e. 1st place = 1, etc… and all chapters and participants based on their chapter were summated for each category and in total resulting in the identification of high quality programs.

The instrument developed for this study has been constructed from the literature and measures traits and characteristics of secondary agricultural education programs, specifically in the areas of SAE's and FFA. In round one, the instrument was composed of nine short answer or fill in the blank questions to generate responses about the traits and characteristics of successful FFA and SAE programs. In round two, the results from round one were used to develop a five section instrument with 9-10 statements each. The third and final round replicated the sections and statements from round two, but allowed participants to rank each response based on its importance pertaining to each section.

Participants (jurors) were initially contacted with an invitation email. In this email, researchers sought to thoroughly describe the process and goals of the study. Jurors were encouraged to actively participate in all three rounds 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. A reminder email was sent after the second week. Those who did not respond were contacted, in person, at the Arkansas FFA State CDE contest. Those who filled out instruments at the state contest were considered late respondents (no significant differences were found).

For round one responses were gather from 62 of the 100 jurors who were invited to participate (n = 62; 62% response rate). Researchers analyzed each statement and either combined or eliminated duplicate statements (Shinn, Wingenbach, Briers, Lindner, & Baker, 2009). A total of forty nine statements were retained and presented to the participants 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 forty nine 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. Four items failed to reach consensus and were highlighted in red on the final survey instrument. The instrument used in round three was emailed to the thirty four 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.

Inherent in most all research designs are limitations due to time and access to population participants. It is noted that the agricultural educators (participants) are busy and the response at each round decreased. As noted, 11 participants could result in a validity of .70 or higher which

this research did accomplish (n = 15). Although, each round resulted in an attrition loss of approximately half of the intended participants (n = 62, 34, 15) the main use of the Delphi technique is to informed judgement from the primary source while gaining anonymity from participants. The reader should be cautioned through employing the results found towards another demographic region. The findings of this study should be evaluated and utilized to gain a general understanding of successful secondary agricultural programs.

Results

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. Demographics, gathered from the Arkansas Department of Education found that fifteen (29%) schools' enrollment in agricultural education was between 44 to 125 students, eighteen (35%) had 126 to 250, ten (19%) reported between 251 to 375, five (9%) had an enrollment of 376 to 500, while four (8%) schools enrolled over 500 students.

Round One: Program Demographics and Characteristics

In round one, responses (500+) were recorded where similar and duplicate responses were at that time combined resulting in the development of five sections to describe successful characteristics. Additionally, jurors were asked to indicate their programs' level of participation in CDEs and LDEs. Programs indicated a wide range of event participation but a significant number reported fielding between six and ten teams (see Table 1).

Table 1

*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

Jurors were asked to indicate their programs' level of participation in agriscience fair. The agriscience fair is a recognized activity through the FFA organization. An overwhelming majority of respondents did not participate in the agriscience fair program (f = 46, 75.40%) with the highest involvement occurring with one project resulting in five jurors responding (8.20%). Jurors were queried to indicate their programs number of national chapter awards. These chapter awards represent a culmination of a chapters POA, hard work, and dedication. Over two thirds of respondents (70%) indicated they had received the national chapter award in the previous year.

Jurors were requested to respond with the amount of time they dedicated annually to CDEs and LDEs. Time is a limiting factor. Many instructors indicated they worked with teams between 0 – 150 hours per year (n=19) while the second most common occurrence being from 0 – 50 hours. However, there were respondents who worked over 450 hours (n = 6). Time dedicated annually to FFA officers is another major responsibility and officers often receive additional training, have additional meetings with their advisors, and require more management than typical FFA members. Responses were varied in how much time was spent with FFA officers but the high response rate was in the 0 – 30 hours range (27.10%) and closely followed by 91-120 hours (20.30%) and finally 61 – 90 hours (6.80%).

Jurors responded (64.90%) that they spent less than 10 hours on National Chapter Awards with similar frequencies for 11 – 20 hours (14%) and not known (10.50%) indicating that jurors could not adequately judge time spent on awards. Respondents were also asked to indicate what percentages of enrolled students had an SAE program. 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. Additionally, respondents reported that less than 25% of students had a SAE project (18.60%) and that 26 – 50% of student had a SAE project (15.30%).

Round Two Responses

Open-ended responses from round one were desegregated and based on the statement 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 2). Jurors overwhelming agreed that students should experience personal growth and development. This statement was closely followed by the response depicting that programs add value towards creating students who are productive members of society (M = 4.76, SD = .42) and career preparation resulting from a successful program (M = 4.71, SD .46).

Table 2

*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 willing to become FFA members and participate in activities	4.53	0.55
Student opportunity 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

For question two what is the most important factor(s) in having success in these areas (CDE, LDE, Agriscience fair, FFA officers, and national chapter awards) all ten responses reached consensus (mean ≥ 4.0) (see Table 3). Instructors had the highest agreement that both having students prepared and having an instructor who is willing and able (M = 4.81) is an important factor of success. The statement of having enough time was the least agreed on response (M = 4.56, SD = .86).

Table 3

*Round Two: Level of Agreement on Responses Toward Successful Characteristics (*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, parental, and community)	4.59	0.61
Time	4.56	0.86

There were ten responses for question three *how would you describe a successful SAE program* which all reached consensus (mean ≥ 4.0) (see Table 4). *Student involvement* was agreed on as the top response (M = 4.74, SD = .51). Students having an *active SAE project* was the least agreed upon (M = 4.26, SD = .84).

Table 4

*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

Only seven responses for the 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) reached consensus (mean ≥ 4.0) while three failed to reach consensus (see Table 5). Communicating with students was the most agreed on response (M = 4.58, SD =.66). Jurors did 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.

Table 5

*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

For the question what in your opinion is the most important factor(s) in having a successful SAE program nine responses reached consensus (mean ≥ 4.0) as shown in Table 6. Student participation was the top consensus from jurors (*M* = 4.90, *SD* = .30). Accurate record keeping was the least agreed on statement receiving a mean of 4.45 (*SD* = .61).

Table 6

*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: Rankings

Jurors were asked to rank responses based on importance (0 to 10 scale) toward having a successful FFA program (see Table 7). The response ranked most important by jurors was that *students should experience personal growth and development*. While *students achieving success in livestock shows and contest* received the lowest mean score.

Table 7

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

Response	Min	Max	M	SD
Students experience personal growth and development	5.00	10.00	7.80	1.68
Program molds students into productive members of society	1.00	10.00	7.40	2.68
Career preparations	2.00	10.00	6.27	2.82
Student involvement	4.00	9.00	6.13	2.78
Student opportunity in events focused on a variety of skills	1.00	10.00	6.00	2.88
Fulfills the need of the local school and community	1.00	10.00	5.33	2.55
Knowledge acquisition	2.00	9.00	4.80	2.04
Program utilizes the three circle model	1.00	10.00	4.40	3.09
Students willing to become FFA members and participate	2.00	10.00	4.20	2.17
Students achieved success in livestock shows and contest	1.00	9.00	2.67	2.65

Participants were asked to rank the set of responses based on importance related to having success in CDE, LDE, agriscience fair, FFA officers, and national chapter awards. Jurors indicated that having *students who are committed to involvement* ($M = 7.64$, $SD = 2.12$) as the most important factor. *Time* was indicated as the least important factor ($M = 3.64$, $SD = 2.12$).

Table 8

*Round Three: Ranking of Importance Toward Successful Characteristics (*n = *14)*

Response	Min	Max	*M*	*SD*
Student commitment to involvement	3.00	10.00	7.64	2.12
Student willingness to participate	1.00	10.00	7.43	2.92
Enthusiasm about participation	2.00	10.00	6.50	2.10
Instructor's willingness and availability	2.00	10.00	6.00	2.70
Adviser's passion	1.00	9.00	5.57	3.29
Instructor actively communicates opportunities to students	2.00	9.00	4.79	2.04
Program support (admin, parental, and community)	1.00	10.00	4.71	2.79
Student preparation	1.00	10.00	4.57	2.50
Cultivating a culture/tradition within the program	1.00	8.00	4.14	2.72
Time	3.00	1.00	3.64	2.12

Jurors indicated the level of importance on how to have a successful SAE program (see Table 9). The top two important factors were student involvement and student willingness to participate which were tied with an $M = 6.86$ ($SD = 2.50$, 1.51 respectively). Whereas, teachers indicated career preparation the least important ($M = 3.93$, $SD = 2.81$).

Table 9

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

Response	Min	Max	*M*	*SD*
Student involvement	3.00	10.00	6.86	2.50
Student willingness to participate	4.00	9.00	6.86	1.51
Students should enjoy their project	1.00	9.00	6.79	2.34
Student initiative	1.00	10.00	6.64	2.82
Students should experience personal growth	1.00	10.00	6.57	3.33
Knowledge acquisition	2.00	10.00	4.64	2.12
Accurate record keeping	1.00	9.00	4.43	2.69
Practical project related to students area of interest	1.00	9.00	4.14	2.67
Students should have an active SAE project	1.00	10.00	4.14	2.61
Career preparation	1.00	10.00	3.93	2.81

Participants ranked the importance of factors when evaluating SAE programs (see Table 10). *Communicating with students* was considered the most important factor ($M = 7.71$, $SD = 1.48$). While, *students producing a written report on their project* was considered the least important.

Table 10

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

Response	Min	Max	*M*	*SD*
Communicating with students	5.00	10.00	7.71	1.48
Home/site visits	3.00	10.00	7.00	2.59
Case-by-case basis	1.00	10.00	6.93	2.68
Knowledge acquisition	2.00	10.00	6.00	2.51
Documentation (videos or pictures of the project)	2.00	10.00	5.64	2.32
Amount of time students spend working with an SAE	1.00	10.00	5.36	2.82
Project growth	1.00	10.00	5.29	2.74
SAE's are a portion of the students overall grade	1.00	10.00	4.14	3.16
Analysis of student record keeping	2.00	7.00	3.93	1.75
Students produce written reports about their project	1.00	9.00	3.00	2.48

Jurors ranked the importance of having a successful SAE program (see Table 11). *Student initiative* was ranked highest with a mean score of 7.64 (*SD* = 1.76). *Accurate record keeping* and *time management* were ranked lowest with a score of 3.14 (*SD* = 1.92 each).

Table 11

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

Response	Min	Max	*M*	*SD*
Student initiative	2.00	9.00	7.64	1.76
Student participation	3.00	9.00	6.71	1.71
Student should have an interest in their project	4.00	9.00	6.36	1.54
Parental involvement	1.00	9.00	6.29	2.34
Adviser involvement	1.00	9.00	4.64	2.44
Encouragement of students	1.00	6.00	3.86	1.68
Knowledge acquisition	1.00	9.00	3.21	2.24
Time management	1.00	7.00	3.14	1.92
Accurate record keeping	1.00	7.00	3.14	1.92

Summary of Findings

The purpose of this study was to identify traits and characteristics of secondary agricultural education programs contributing to successful SAE's and FFA chapters outside of the classroom. The open response of *how would you describe a successful SAE program* revealed the top three agreed upon responses were that 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 queried response asked *how would you evaluate a student's SAE*. Participants agreed that communicating with students and home/site visits were important but were also in agreement that SAE evaluation is a case-by-case basis. Jurors 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. The question of *how you would describe a successful FFA program* revealed that jurors agreed that students should experience personal growth, the program should mold students into productive members of society, and there are elements of career preparation. Participants also ranked these three as the top three most important factors in having a successful FFA program.

The third objective guiding 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 spending very little time to spend inordinate amounts of time (> 500 hours). This indicated that advisors from high quality programs spent a wide range of time in each area of their 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)*. Jurors 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 participants *what is the most important factor(s) in having a successful SAE program*. Jurors 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 jurors, were that students should be actively involved with an SAE project. Students should take the initiative with their projects, but it is also important that students find satisfaction in their project. Through the SAE process, students should experience personal growth. Additionally, students should 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 and not formulate a common mold for SAE structure.

Important factors associated with high performing FFA programs, as indicated by jurors, were that students should experience some kind of personal growth as they develop through a program. Students should be taught and prepared so that they are able to take part in both program activities and eventually a career. Furthermore, students should be willing to participate and be enthusiastic about their participation. Additionally, members 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. It is also imperative that the FFA advisor be passionate and have a willingness and availability to work with members.

Over the course of the school year teachers/advisors will dedicate many hours of work in different areas of their programs. Which areas they dedicate time can vary widely based on their program goals and characteristics. However, to have a successful program, jurors agreed that advisors 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 demonstrate 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 Recommendations

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 have opportunities to apply both academic and occupational skills in the workplace or similar environment (National FFA, 2016). 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 SAE's 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 and initiative, but also the high value teachers place on making home/site visits to supervise those SAE projects. Rubenstein and Thoron (2014) proposed definition of a successful SAE program is reflected through many of the factors found 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. Conversely, whereas instructors in this study could not reach consensus agreement regarding SAE's being a portion of students overall grades, the jurors indicated it as one of the least important factors impacting a successful SAE.

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" (National FFA Organization, 2016). 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 experiencing personal growth and development.

Roberts and Dyer (2004) reported that instructors agreed 100% on the following characteristics of effective agriculture instructors: actively advising the FFA chapter, effectively preparing students for CDE and other FFA activities, and communicating well with others.

Instructors themselves are also important factors in the successfulness of an FFA program. As stated, jurors agreed that an instructor should be willing and available to work with students and advisors should also be passionate about their work. 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. Vaughn 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" (p. 387). This was echoed by the participants in this study indicating little involvement in agriscience fair.

Further research is needed in response to this research to generalize it to a larger population. Researchers also recommend a study to determine if programs are actively implementing factors which have been determined as quality indicators related to successful FFA and SAE programs. Although used in this study, a determination of active involvement in an SAE project should be determined. If this determination is made, chapter advisors can more easily determine their student participation which could aid in their successfulness in this area. 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 should be further investigated. One of the identified characteristics for students is personal growth. Although this is a very broad description that encompasses many types of students, further refining what personal growth is for incoming and other types of students would be a useful guide for advisors as they determine the success gained or could be gained by the students in their program. In today's FFA programs student initiative was shown to be imperative and measuring that aspect can be delicate. A further question for future research is how to measure initiative. Teachers know that getting involved in something new (FFA) shows initiative but can it be measured yearly, by the semester, or by the activity? Further understanding into student involvement, an important facet (Astin, 1999) could further explain the identified characteristics of successful program in agricultural education.

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