Programmatic Balance in School Based Agricultural Education

by

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ABSTRACT

There is an ongoing teacher shortage for positions in agricultural education programs. While some of the shortfall comes from new positions and retirements, the reality is many teachers are leaving the profession well before retirement. Much of the work on attrition has focused on the implications of work-life balance and how to manage it. This study takes the idea of balance one step further to look beyond work-life balance and into the balance of the programs themselves.

Prior to examining programmatic balance or its sources, a hole in the literature dictated the first step serve to create an empirical definition. The first phase of this project utilized a modified Delphi study to identify components of a balanced program and create a consensus-based definition of the "programmatic balance". The second phase utilized survey-based research methods to measure perceived and "ideal" levels of program components (classroom instruction, SAE, and FFA) and compare them using *t*-Tests and one-way ANOVAs. The third study in this project employed linear regression modeling to examine sources of program input.

The Delphi study provided 18 statements that met consensus that were then used to generate a definition for peer review. Comparisons of perceived and ideal program element levels showed consistent, significant differences among respondents and between participating states. The linear regression model did reveal any significant factors influencing programmatic balance. This is likely due to the creating of summated variables of influencer components from individual variables. This project was one of the first in this line of question. The study provides significant results and a new series of questions to be addressed through continued research.

Note: This dissertation utilized a "three-paper" format. Chapter I includes components of chapters I, II, and III from a traditional dissertation format and the included Chapters II, III, and IV are written as stan-alone journal articles formatted for the Journal of Agricultural Education.

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CHAPTER I

INTRODUCTION

School based agricultural education (SBAE) programs are part of school districts in all 50 states (FFA, 2019) where 12,000 professional educators provide instruction to approximately 1,000,000 students (Council, 2012). SBAE programs are described as systematic programs where students have the opportunity to learn about agriculture, food, and natural resource (AFNR) systems. Aside from the scope and sequence of curriculum, part of the systematic nature lies in the utilization of the three-component model of agricultural education:

1. Classroom and laboratory instruction within the context of AFNR subjects,
2. Intracurricular work-based learning in the form of Supervised Agricultural Experiences (SAEs), and
3. Leadership education and personal growth through an intra-curricular engagement in agricultural youth organizations including the National FFA Organization (FFA) (FFA, 2018).

The most common depiction of the model (Figure 1.1) shows three equal and overlapping circles that represent classroom instruction, FFA, and SAE components. It is common to find different depictions of the model depending on the source of the image which suggests different interpretations exist. The model currently published by the FFA (2018) includes call-out boxes with verbiage indicating that the classroom instruction needs to be contextual and inquiry based while the image presented by the National Association of Agricultural Educators (NAAE) does not specify the type of teaching method and emphasizes what is gained in the SAE and FFA circles. While the models are

visually similar and contain the same three components, the use of titles and additional language (or lack of) provide insight into the existence of differing views of agricultural education, the model, and its implementation.

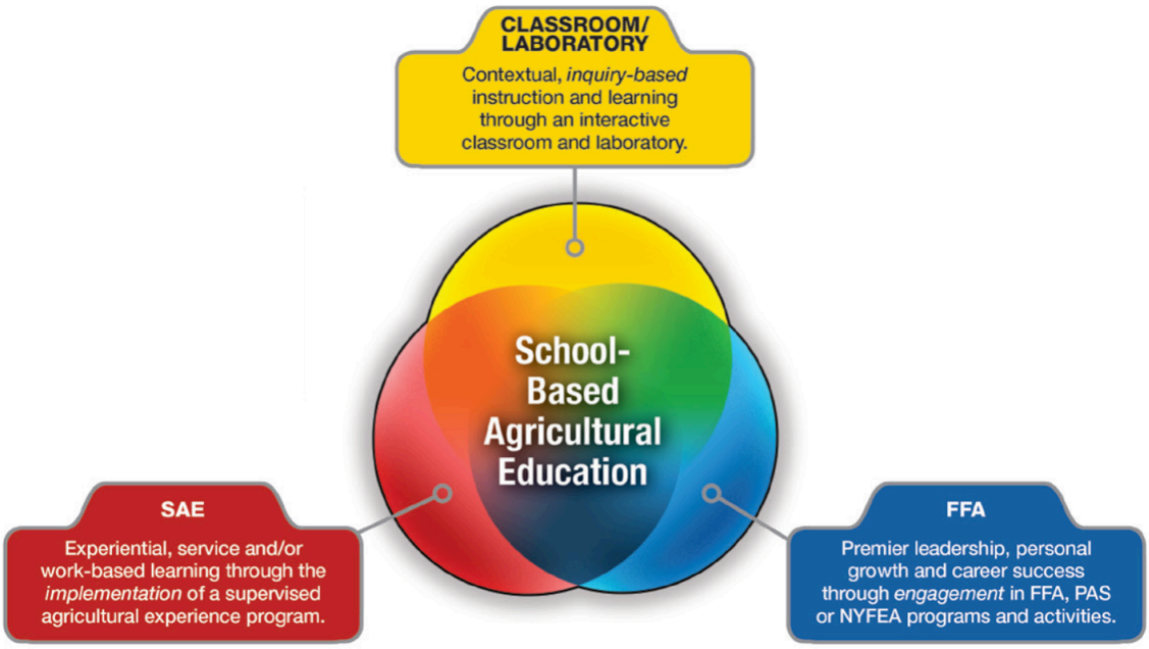

Figure 1.1 The three-element or three-circle model of agricultural education (FFA 2018).

Complexity of Programs

The three-circle model of agricultural education is simple way of depicting the overarching components of agricultural education but does not represent the complexity. FFA is a youth leadership organization that provides recognition for growth through four different degree levels to be earned and proficiency awards in 47 areas related to SAEs (FFA, 2018b), as well as opportunities to compete in 19 career development events (CDEs) and seven leadership development events (LDEs) at the national level (FFA, 2018c). Additionally, FFA offers leadership conferences and trainings, encourages community service activities, and provides awards for the most active chapters on a comprehensive level. Finally, classroom instruction is recommended to include

classroom and laboratory/shop instruction, provide scope and sequence in AFNR topics, allow for college credit or certificates, meet state standards for academic testing, and integrate core subject matter into the context of agriculture (Newcomb, McCracken, Warmbrod, & Whittington, 2004; Advance CTE, 2018). With such a broad range of subject matter and activities, how does a teacher begin to make sense of the options and develop a program?

Input from Teacher Preparation Programs and Other Sources

Newcomb, et al. (2004) suggested program planning include the factors of school facilities, community input, community resources, advisory committees, parental involvement, and administration. Talbert, Vaughn, Croom, and Lee (2007) described SBAE programs as directly related to the school district, administration, and community groups. Further stating that all groups need to be involved. Recommendations were also made to include all facets of agricultural production and business (industry partners) to provide input on what is taught. Talbert, et al. (2007) further expand on the idea of parental involvement to include parents of former students and program alumni themselves suggesting the role of program history as a factor in planning.

Teacher preparation programs and textbooks are not the only input on shaping a program. FFA published a series of "Local Program Success" (LPS) guides suggesting program planning options include developing partnerships, the use of alumni and advisory groups (FFA, 2002). The National Council for Agricultural Education (Council or NCAE) published a comprehensive rubric for program evaluation. This rubric is also used in program planning and includes sections on community needs, assessments, partnerships with secondary institutions, industry partners, and community groups

(NCAE, 2016). Marketing the program through the publication of events, student achievement, or chapter awards are common elements in LPS and NCAE planning guides.

Localized inputs are not the only source of influence on a program, state and federal legislation provide additional sources of programmatic input. Texas has legislatively approved curriculum, standards, and requirements (TEA, 2017) while Georgia has a program of work system that outlines what a program needs to include (Georgia Ag-Ed, 2017). Programs in Oregon, who wish to be part of the "statewide program of study", have to meet certain requirements including advisory committees, post-secondary partnerships, and industry connections (Oregon Department of Education, n.d.) as outlined in Federal Perkin's legislation.

Program Balance

Visual representations of the three-circle model of agricultural education (Figure 1) show equal size to each component of the program. This depiction provides a visual idea of equality and balance. Despite the visual ideal of equally weighted components of agricultural education, outside of Georgia and North Carolina referencing providing programs in a way that is balanced, there are minimal references to balance (Georgia Department of Education, 2018; North Carolina Department of Public Instruction, n. d.). A review of programmatic balance in agricultural information yielded only two publications. Moore (2006) questioned issues of leadership and balance in an address to members at the national research conference of the American Association for Agricultural Education (AAAE). Ten years later, Shoulders and Toland (2017) published a study comparing ideal program balance levels between millennial and veteran teachers.

Much of the published literature including the word "balance" focused on the struggle of SBAE teachers with balancing the requirements of work obligations with those of home and family.

NEED FOR THE STUDY

Kantrovich (2007) reported that, in every year since 1965, there has been a shortage of teachers of agriculture. While a portion of the loss is attributed to retirements, a majority are not. Many teachers are leaving the profession after only a few years in the classroom. In order to meet the needs of the profession, recruitment initiatives such as the National Teach Ag program have been created as well as new-teacher induction programs and early career mentor programs to help stem the loss. Recent research has reported on the issues caused by work-life balance, the struggle that the friction caused by the imbalance places on the family, and the impact on teacher attrition (Sorenson, McKim & Velez, 2016; Hainline, Ulmer, Ritz, Burris & Gibson, 2015; Crutchfield, Ritz & Burris, 2013; Murray, Flowers, Croom & Wilson, 2011).

While recruiting potential new educators and helping newly certified teachers with skills to help increase their professional longevity, it may not be reaching deep enough into the cause of the problem. The common thread in the studies published on work life balance, career longevity, or decisions to leave the profession, is the diversity and volume of work expected of professional agricultural educators. The complexity of teaching AFNR curriculum in such a way that incorporates all three components is evident in the description of the model provided in previous sections. In providing the opportunities to their students, the average agricultural educator dedicates a significant portion of time to their job. Sorenson and McKim (2014) found that SBAE professionals

in the western states typically worked 55 hours or more during the week. Similarly, Murray et al. (2011) reported that teachers of agriculture in Georgia were working 57 hours per week while a study of Texas teachers averaged 58.5 (Hainline, et al., 2015). This study is needed because it extends the research on the influence of balance in the profession.

PURPOSE OF STUDY AND RESEARCH QUESTIONS

The purpose of this study was to look beyond the idea of balance between personal and professional roles of the educator and into the balance of the program itself under the premise that we may be routinely asking too much from our teachers. The first portion of the study sought to use social science methods to define programmatic balance and the second part of examined perceptions of programmatic balance and investigated what tools or resources are used to shape the balance of programs.

Phase I – Paper I: A Delphi Study

No operational or empirical definition for programmatic balance was found in a search of the literature. Studies have investigated the struggle to achieve work-life balance and the need for balance between the two (Murray, et al., 2011; Sorenson & McKim, 2014). Additionally, organizations have suggested delivering a balanced program between the three components of agricultural education: Classroom Instruction, FFA, and Supervised Agricultural Experience (Georgia Department of Education, 2018; North Carolina Department of Public Instruction, n. d.). Despite the term being used and the concept suggested, there is no definition of the term "programmatic balance" in agricultural education. The research questions for Phase I of this study were:

RQ1: What are the elements of balanced secondary school based agricultural education program as identified by a panel of experts?

RQ2: How do profession experts define programmatic balance?

Phase II – Paper II

This study investigated how agricultural educators in three states perceive the balance of their programs and how instructors would "ideally" proportion the three components. The research questions for the first paper in Phase II were:

RQ1: What are the perceived and ideal levels of focus of the three elements of agricultural education among agricultural educators in Texas, Georgia, and Oregon?

RQ2: Are there differences in perceived and ideal levels of focus for the classroom instruction element of the agricultural education model in teachers from Texas, Georgia, and Oregon?

RQ3: Are there differences in perceived and ideal levels of focus for the SAE element of the agricultural education model in teachers from Texas, Georgia, and Oregon?

RQ4: Are there differences in perceived and ideal levels of focus for the FFA element of the agricultural education model in teachers from Texas, Georgia, and Oregon?

RQ5: Are there differences in perceived levels of classroom instruction, SAE, and FFA activities among teachers from Texas, Georgia, and Oregon?

RQ6: Are there differences in ideal levels of classroom instruction, SAE, and FFA activities among teachers from Texas, Georgia, and Oregon?

Phase II – Paper III

The first two portions of this research sought to define program balance and describe agricultural educators' perceptions of balance within their own programs. This segment of research sought to determine what tools or resources are used to determine the balance and direction of the program. The research questions guiding this study were:

RQ1: What factors can be used to predict programmatic focus in the area of classroom instruction as part of the three-component model of agricultural education?

RQ2: What factors can be used to predict programmatic focus in the area of Supervised Agricultural Experience as part of the three-component model of agricultural education?

RQ3: What factors can be used to predict programmatic focus in the area of FFA activities as part of the three-component model of agricultural education?

REVIEW OF CONCEPTS AND LITERATURE

Historical Development and Components of Agricultural Education

It has been suggested that the roots of American agricultural education stem from the earliest non-formal teaching when knowledge of agricultural production was a critical skill for individual and community survival (Croom, 2008). Even prior to an independent legislature, there were advocates for the creation and inclusion of formal agricultural education as early as 1749 (Shelly-Tolbert, Conroy, & Dailey, 2000). The Morrill and Hatch Acts of 1862 and 1887 are seen as the legislative seeds of agricultural education as

they provided opportunities for the creation of agricultural colleges and dissemination of research to producers. It was the Nixon Law, approved by the New York state legislature in 1897, that appropriated the first public funding for formalized agricultural education at the secondary level (Croom, 2008). Federal money for agricultural and vocational education was first approved in 1917 with the passage of the Smith-Hughes Act (Imperatore, 2017) however, Croom (2008) noted that there were approximately 30 states providing funding for agricultural education by this time.

Classroom Instruction

Pragmatism has been at the core of agricultural education since it first received federal funding with the passage of Smith-Hughes act in 1917. The Page-Wilson Bill of 1912 was the predecessor of the Smith-Hughes act and included language to create the cooperative extension service as well as provide for vocational education. This bill was split into what became the Smith-Lever and Smith-Hughes acts (Hillison, 1995). After the passage of the Smith-Lever act in 1914, a strong coalition of interest groups were rallied to push through the Smith-Hughes act.

Among the groups of the coalition was the *National Society for the Promotion of Industrial Education*. This organization had in its leadership Charles Prosser (Hillison, 1995). Prosser, along with Charles Allen, would later publish the text *Vocational Education in a Democracy*. In the book were Prosser's Sixteen Theorems for vocational education which included language on the practical necessity of educational training for industry (Martinez, 2007). Prosser was the "effective author" of the Smith-Hughes Act (Wirth, 1972) and his views can be found in the language of the act where it defines the purpose of agricultural education as:

> "…the controlling purpose of such education shall be to fit for useful employment; that such education shall be of less than college grade and be designed to meet the needs of persons over fourteen years of age who have entered upon or are preparing to enter work on the farm." (Smith-Hughes Act, 1917)

Interestingly, this push for pragmatism focused on practical education and training was in conflict with other views of the time including the work of John Dewey (Martinez, 2007) and even in contrast to earlier legislation.

This conflict between the basic philosophy of agricultural education has continued over the last 100 years. In the 1980's there was a push to make agricultural education and vocational training more inclusive of core academics and less about workforce training. Some attribute this to a Texas educational committee headed by Ross Perot who championed the change from vocational education to career and technical education (CTE) in an effort to generate more esteem for the field (Gadd, 2015). Similar changes were happening within the FFA as well. In 1988, the name of the Future Farmers of America changed to the National FFA Organization, the emblem was changed so that the words "vocational agriculture" now read "agricultural education", and an award program was introduced to recognize Agriscience student activities (FFA, 2018).

The current model of agricultural education presented by the National FFA (Figure 1) has a descriptor box connected to top circle titled "Classroom/Laboratory" with further wording describing that the instruction is interactive and contextual and specifically references "inquiry based" instruction (FFA, 2018d, p. 2). In unpacking this phrasing, the first two elements are linked to the history of agricultural education. Early formalized agricultural education focused on instruction within the specific field of

agriculture (context) and focused on encouraged real-world application and practice (interactive).

"Learning by doing" is still part of the content of agricultural education pedagogy. Phipps and Osborne (1988) stated "practical application and successful transfer of knowledge, skills, and attitudes into real-world settings is the goal of instruction" (p. 19). Furthermore, experiential learning has been the subject of literature as a process and as a context (Roberts, 2006), questioned regarding if experiential learning is "authentic" (Knobloch, 2003), and reviewed for its place in teacher preparation programs (Myers & Dyer, 2004).

The specific highlighting of "inquiry based" instruction is, perhaps, more difficult to explain and troubling. The definition cited by Parr and Edwards (2004) originates from the National Research Council and describes inquiry lessons follow the scientific method including making observations, asking questions, researching known information, planning experiments, analyzing data, and drawing conclusions. Parr and Edwards (2004) concluded that inquiry-based instruction had many similarities and benefits to problem solving instruction. Not only is inquiry-based instruction not exclusive as a vehicle for practical and experiential education, the specificity of highlighting it could give the impression of limiting the dynamic range of pedagogy in agricultural education. Textbooks for training agricultural teachers highlight and describe multiple individual and group methods of teaching of which, inquiry lessons are just a portion (Phipps & Osborne, 1988; Newcomb, et al., 2004; Talbert, et al., 2007).

SAE

The modern supervised agricultural experience program is generally traced back to the model created by Rufus Stimson during his tenure at Smith Agricultural College (Moore, 1988). This "home-school cooperation plan" stemmed from Stimson's observations that after real-world experiences and use, students were better able to utilize and retain abstract concepts (Smith & Rayfield, 2016). Croom (2008) suggested that there was a predecessor to Stimson's method in the apprenticeship programs in the technical trades of the day. Origins can be traced even further back to European contests for architecture students in the late 1500s (Knoll, 1997).

From the earliest years of the project method in America, there were questions regarding the directionality of the teaching. The idea of using project-based teaching to teach new skills or provide context to materials already taught was a contested idea from the earliest years of the method and still debated today (Smith & Rayfield, 2016). An additional area of concern developed in the post-World War era around the practice of teachers working with students off of school property and outside normal school hours. In 1947 Congress passed the Barden Act, also known as the Vocational Education Act, which provided support and funding for off-site project supervision. Currently, the engagement of an extended application element in the form of SAE participation is a requirement of career-technical student organizations (CTSOs) and at least one state legislature (FFA, 2015; TEA, 2017).

The National Council for Agricultural Education (NCAE or Council) suggested experiential learning as a foundational element of agricultural education and an opportunity to "extend beyond the classroom and into the community in order to develop

an individual student's industry and career-based competencies" (NCAE, 2015, p. 1). A key element of SAEs are agricultural contexts outside of the classroom. These external contexts link to career planning through the connection of the Common Career Technical Core (CCTC) within the national Agriculture, Food, and Natural Resources (AFNR) content standards (NCAE, 2015).

SAE has long been a subject of agricultural education research. Beginning in 1996, a series of papers synthesizing SAE research from 1964 through 1993 were published. Included in these studies were articles published in the *Journal of Agricultural Education* on developing a model of SAE program quality (Dyer & Osborne, 1996), supervision practices of SAEs (Dyer & Williams, 1997a), and the benefits of SAEs (Dyer & Williams, 1997b) as presented in three decades of research. Of the synthesized research the authors commented that "the research is state specific, fragmented, and lacks cohesiveness" (Dyer & Williams, 1997b p. 54).

The evaluation and synthesis of the literature on SAEs was continued by Rank and Retallick (2016) who compiled a synthesis of research on the subject from 1994 to 2014. Lewis, Rayfield, and Moore (2012a, 2012b) studied perceptions and factors influencing participation as well as student knowledge and potential relationships on participation. Lewis, et al (2012b) noted that only 46.1 % of the students in 120 programs surveyed had an SAE program in place which raised the question of the role of SAE in the three-circle model of Agricultural Education. Additional questions were raised on the motivational underpinnings of participation in SAEs when Bird, Martin, and Simonsen (2013) found that most students were motivated, not by career skill development or educational attainment, but rather by extrinsic factors.

FFA

The FFA provides leadership and competition opportunities, structures to support SAEs through awards, and measurement of growth through a "degree" ladder. As noted earlier, part of the impetus for the creation of the FFA came from the competitive events where agriculture students were testing the skills and knowledge taught in their programs against other, similar programs. The FFA still employs competitive events to provide opportunities for students to utilize their skills in events that extend use of knowledge and skills beyond the classroom. These competitions are called career development events (CDEs) or leadership development events (LDEs). There are currently 19 CDEs and seven LDEs offered through the national FFA organization, although, some states offer more, or different events based on state preference (FFA, 2018c; Texas FFA, 2018b; Texas FFA, 2018c).

The components of FFA and SAE are connected. The FFA provides the opportunities for local, state, and national recognition for students who have developed exemplary programs of SAEs in 30 areas of the agriculture industry. These award areas include production and research categories in plant and animal sciences as well as agricultural mechanics and services (FFA, 2018). Additionally, there are competitive events through local FFA groups, the National FFA, and other organizations (i.e. stock shows) to provide opportunities to compete with their SAE projects in the form of agriscience and agricultural mechanics fairs as well as livestock shows and sales.

Individual FFA chapters can earn awards and recognition as well through state and national level programs. Chapters who utilize a Program of Activities (POA), improve program operations using the National Quality FFA Chapter Standards (NQCS),

and satisfactorily meet the requirements of the application process can earn awards at the state and national level. Further development recognition is available through the Premier Chapter and Model of excellence awards nationally (FFA, 2019; Texas FFA 2015).

The official mission of the FFA 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" (FFA, 2018, p. 6). Although limited, there is peer-reviewed research published to support these ideas. Brannon, Holley, and Key (1989) found that former FFA members were significantly more involved in leadership activities as adults in their communities, particularly in school, educational, agricultural, and community affair groups. Dailey, Conroy, and Shelley-Tolbert (2001) concluded that "agricultural education provides students with transferable academic skills so as to prepare them to achieve in other academic courses, as well as preparing them for higher education" (p. 18). In looking at the contributions made by former 4-H and FFA members to colleges of agriculture, Park and Dyer (2005) found that these individuals were involved in more student organizations at the collegiate level and were much more involved in recruiting activities for the college. A 2016 study linked participation in the FFA to elements found in Maslow's hierarchy namely, belonging, self-esteem, and self-actualization (Rose, Stephens, Cross, Stripling, Sanok, & Brawner, 2016).

Connections of Agricultural Education to the Broader Scope of CTE

In the earliest years of education and workforce training, the histories of agricultural and vocational education are parallel and interconnected. Agricultural education was just another segment of workforce development in the late 1800's until the

industrial revolution. Many of the founding fathers of agricultural education, including Prosser and Dewey, were key proponents of vocational education for the benefit of society as a whole (Kincheloe, 1999). As vocational education developed in the early to mid 20th century, key legislation played a role in expanding the scope of what was offered. The George-Deen act of 1936 was amended by the George-Barden amendments of 1956 to increase the scope of practical training (Imperatore, 2017). The impetus for the 1956 legislation is linked to the promotion of Life Adjustment Education elements by Prosser that included the topic areas of preparation for marriage, learning to work, and growth towards maturity (Martinez, 2007; Kincheloe, 1999). Although this early legislation and academic modeling was "abandoned" (Martinez, 2007, p. 74), the concepts within were foundational to the Vocational Education Act of 1963, which passed after an impassioned plea from President Kennedy (Imperatore, 2017; Martinez, 2007; Kennedy, 1963).

Recent Changes and Model

The original Vocational Education Act went through a series of iterations and, in 1984, was renamed the Carl D. Perkins Act (Imperatore, 2017). The Perkins Act increased funding and diversity of programs. A 1990 revision added the element of secondary-post secondary connections and, much of what is seen in current CTE programs (including agricultural education) is a result of Perkins IV passed in 1998. A key element of the 1998 version of the act was the creation of "Programs of Study" (POS) which needed to include documentation of scope and sequence of courses, secondary and post-secondary connections, counseling and support structures, connections with industry through advisory committees, provides options for certificates,

and includes a student leadership element through CTSO (Advance CTE, 2018). Of the 13 CTSOs recognized (U.S. Department of Education, 2017) the FFA is nearly double the size of the next largest group (FFA, 2019b; Skills USA, 2017) with more than 660,000 members in every state plus Puerto Rico and the U.S. Virgin Islands (FFA, 2019b). With the advent of the student leadership and CTSO requirement, the current model of CTE education published (Wisconsin DOPI, n.d.; Colorado CTE, 2019; Advance CTE, 2018) looks very similar to the three-circle model of agricultural education (Figure 1.2).

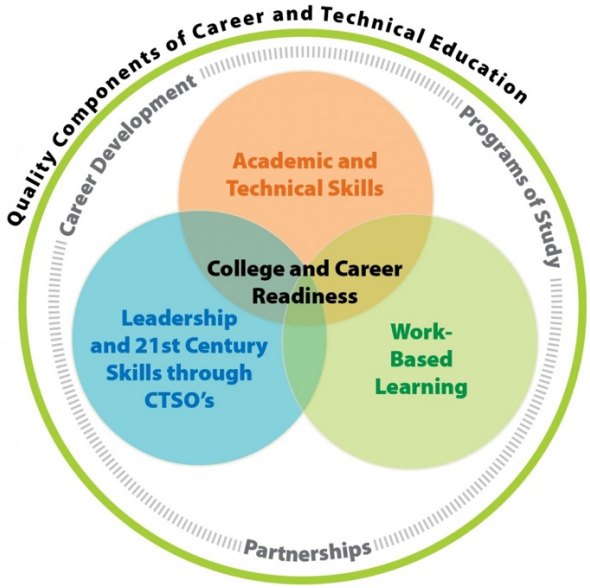

Figure 1.2 The quality components of CTE model as promoted by some states and developed from Advance CTE (Wisconsin DOPI, n.d.).

Career Clusters in CTE and Agricultural Education

As leaders further developed the POS model, a new framework developed in the form of career clusters to more clearly communicate the depth and breadth of career and technical education (Meeder, 2016). The United States Department of Education recognizes 16 career clusters, one of which is AFNR, which encompass 79 career

pathways (Advance CTE, 2018b). Under the Workforce Innovations and Opportunities Act, a career pathway is defined as "rigorous and high-quality education, training and other services" that is individually driven, provides post-secondary services, provides options for post-secondary credits or certificates, and includes counseling and support structures. Kazis (2016) re-defined the idea of a career cluster more cleanly as a planned series of education and training aimed at making students more employable in the workforce.

Long term goals are suggested to help maintain engagement (Emons, 1999) while a lack of direction, intention, purpose was noted by Damon (2008) as a source of the struggle of students to connect with their education. Furthermore, a practical preparation for transitioning students to their next steps, whether college or career, is cited as a needed source of creating a connection in modern education (Meeder, 2016). Out of these ideas, a series of college and career readiness standards (CCRS) have been developed to be included in the curriculum (NASDCTEc & NTEF, 2012). These CCRS have been integrated by the component organizations supporting CTE including those in agricultural education. The model of the integration of CCRS into the AFNR pathways shows these at the center of the educational plan (Figure 1.3) and the inclusion of career and college exploration in the foundational SAEs of the FFA further shows the integration and similarity of agricultural education as part of the greater CTE field (Council, 2012a).

Figure 1.3 Visual model of the integration of career practices in relation to the AFNR career pathway and curriculum areas (Council, 2012).

THEORETICAL FRAMEWORK

School based agricultural education programs can be very diverse and the roles of an SBAE professional require teachers serve in many different capacities. Just as complex are the routes of influence on the instructors and the program as whole. As such, there is no one theory to shape the framework of this study but rather a combination of several: Expectancy Value Theory (EVT), Theory of Planned Behavior (TPB), Self-Efficacy Theory (SE), and Social Cognitive Theory (SC).

Theory of Planned Behavior

The Theory of Planned Behavior (TPB) is an extension of the Theory of Reasoned Action (TRA) proposed by Fishbein in 1967 and originally published by Fishbein and Ajzen in 1975 (Ajzen, 2000). TRA was developed to predict behaviors or intentions and suggested behavioral intentions are influenced by an individual's personal beliefs about the behavior as well as subjective normative beliefs about the activity.

These personal beliefs, coupled with expectations of favorable or unfavorable outcomes, shape attitudes towards completing the behavior (Ajzen, 2006). Ajzen (1991) reported a correlation of .60 between the attitude towards a behavior and intention to act. Subjective norms are an individual's perceived social pressure to engage (or refrain) from acting on an intention to complete an activity. These norms come from peer, familial, or professional groups containing "important, referent" individuals (Ajzen, 2000, pp. 62; 2002; 2006) with an average correlation of $r = .42$ to intention over 150 data sets (Ajzen, 1991; 2000).

TPB (Figure 1.4) adds a third element as an antecedent to behavioral intention in perceived behavioral control (Madden, Ellen, & Ajzen, 1992). Ajzen (1991) noted perceived behavioral control is different than Rotter's ideas on perceived locus of control whereby an individual can have a general sense of controlling their future or destiny (locus of control) and yet believe that they have little control over the outcome of a specific activity owing to lack of skill, resources, and/or the presence of external influence to prevent success. Regardless of actual control over an outcome, perceived behavioral control impacts motivation and intention to engage a behavior (Madden, et al., 1992).

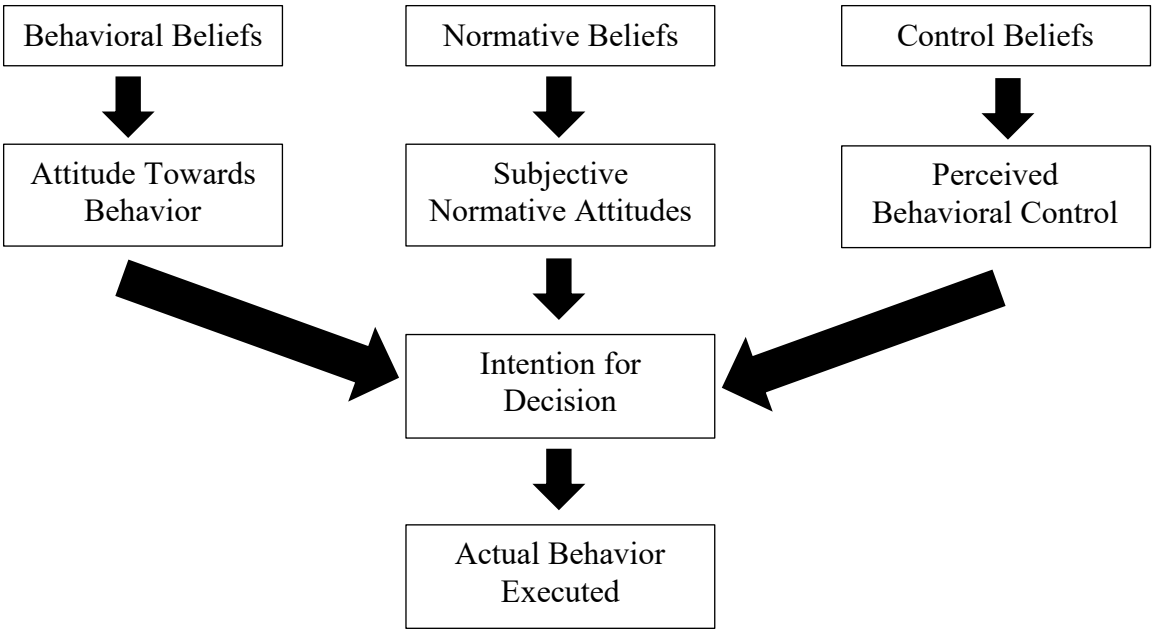

Figure 1.4 Visual depiction of Ajzen's Theory of Planned Behavior.

Expectancy Value Theory

The original expectancy value model was developed while studying adolescent performance in mathematics achievement by Eccles et al. (1983). The model proposed student persistence, achievement, and even choices of engaging in a task are related to the values they (the students) place on the task and the level of success expected as a result of their efforts. (Wigfield, 1994). As the initial model was tested and became theory, the precursor elements to the final antecedents to behaviors (values and expectations for success) became more numerous. In addition, the descriptors of what constituted "values" and "expectations of success" became more layered (Wigfield & Eccles, 2000).

For the model developed here, focus comes from a portion of the model (Figure 1.5) specifically referencing values held by an individual regarding the behavior and their expectancy beliefs. The term "values" has four, more specific, definitions within the broader use in the theory. Attainment value is the importance an individual places on

doing well or performing highly on a task. Intrinsic value is described as the amount of personal enjoyment or pleasure an individual experiences from performing the task. Utility value describes how one feels completing the task will fit into short and long-term goals. These three factors are weighed against cost values in the form of real costs (effort, time, and money) or opportunity costs (Wigfield, 1994; Wigfield and Eccles, 2000).

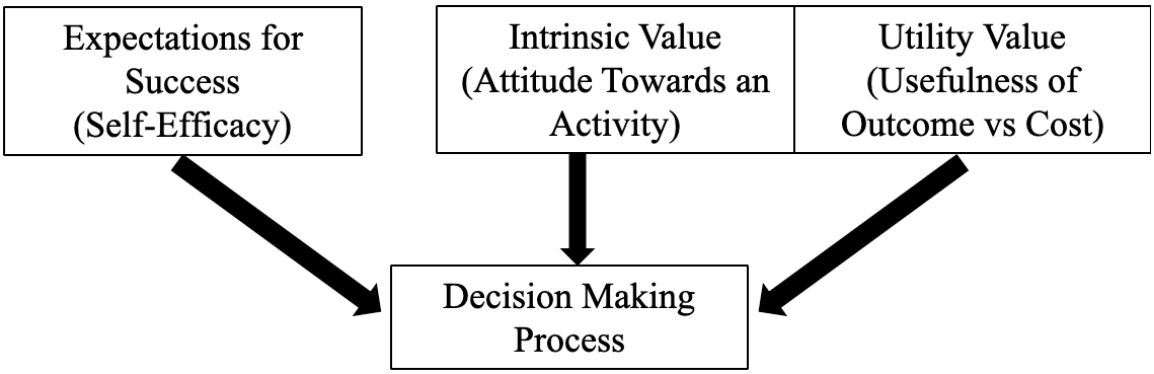

Figure 1.5 Visual model of expectancy value theory.

Within EVT, expectancy for success are generally operationalized by how well an individual believes they will perform on a given task. Although some of the literature includes beliefs regarding behavior resulting in a specific outcome, Wigfield and Eccles (2000) noted efficacy beliefs about individual perceptions to perform a task are more accurate to individual motivations and exclude external factors. Wigfield (1994) notes that the theories definition of success expectancies is aligned with self-efficacy theory.

Self-Efficacy and Social Cognitive Theory

Included in both models are elements of self-efficacy theory including mastery experiences, vicarious experiences, and social persuasion (Eccles, 1994; Wigfield & Eccles, 2000; Ajzen, 2002). Bandura (1986) defined self-efficacy as one's personal perceptions about their ability to plan and carry out certain activities. Mastery

experiences were noted by Bandura as the strongest influence on developing self-efficacy and suggested that the level of positive belief in the ability to perform a given task is related to having more positive prior experiences in that task. Vicarious experiences include watching others perform a task and are considered an opportunity to develop self-efficacy when mastery experiences are not an option (Bandura, 1977). Social persuasion is described as the nature of feedback and encouragement provided while engaging an activity (Bandura, 1986).

In addition to self-efficacy, social cognitive theory plays a role in both TPB and EVT work (Eccles, 1994; Wigfield & Eccles, 2000). Bandura, one of the early developers of social cognitive theory, derived impetus for the theory out of the limitations of behaviorism theorizing children could learn by observing the actions of others and the benefits or consequences meted out based on those actions (Bandura, 2005). In addition to the influence of social persuasion and direct vicarious experiences, learning through observation of peers and colleagues plays a role in shaping the decision-making process.

Merging the Theories

Both EVT and TPB are connected to self-efficacy and social cognitive theory and provide different perspectives. For the purpose of this study programs with as much complexity as SBAE, merging the two theories was an appropriate step to develop a conceptual visual model. Studies combining elements of these models are not unique. Rayburn and Palmgreen (1984) published a study that incorporated EVT and Uses and Gratification Theory, Martin and Kulinna (2004) merged Self-Efficacy Theory and TPB in a study involving physical activity, and another study suggested a challenge in TPB that could only be remedied by incorporating EVT in a model (French & Hankins, 2003).

Recognizing multiple studies have merged theories in designing studies or developing theoretical frames, we adapted concepts of multiple theories.

Given the nature of this study, we felt the merger of TPP, EVT, and Self-Efficacy was the most theoretical base. Figure 1.6 provides a conceptual representation of the merged theories. In the model, influences on decision making are organized left to right from internal to external factors. Across the top of the model are the individual's personal experiences, observations, and interactions in the form of mastery experiences, vicarious experiences, and social persuasion (Bandura, 1986). Mastery and vicarious experiences help shape behavioral beliefs which become personal attitudes towards the behavior (Ajzen, 2006). On the right side of the model, normative attitudes regarding a behavior are shaped by the actions and beliefs of peer groups and mentor influencers through social persuasion (Bandura, 1986; Ajzen, 2006). An individual's expectancies for success are influenced by all three elements of self-efficacy theory (Wigfield & Eccles, 2000).

At the center of the model is the utility value component. Wigfield and Eccles (2000) described this as an individual's determination of the value of the outcome in relation to the cost of performing the task. These costs can come in actual monetary costs, output of effort, allocation of time, or opportunity costs in not being able to focus on or complete other items. TPB advances the idea that one's perceived behavioral control is a final factor in deciding to execute a task and suggests that if a person believes their efforts will meet resistance, or be blocked, then they are less likely to decide to act (Ajzen, 2000). At the far left of the model is the notion of intrinsic value, or how much value an individual places on an action for the sake of simply doing the task. This value

can be influenced by perceived behavioral control, or can over-ride perceived or actual obstacles (Ajzen, 1991).

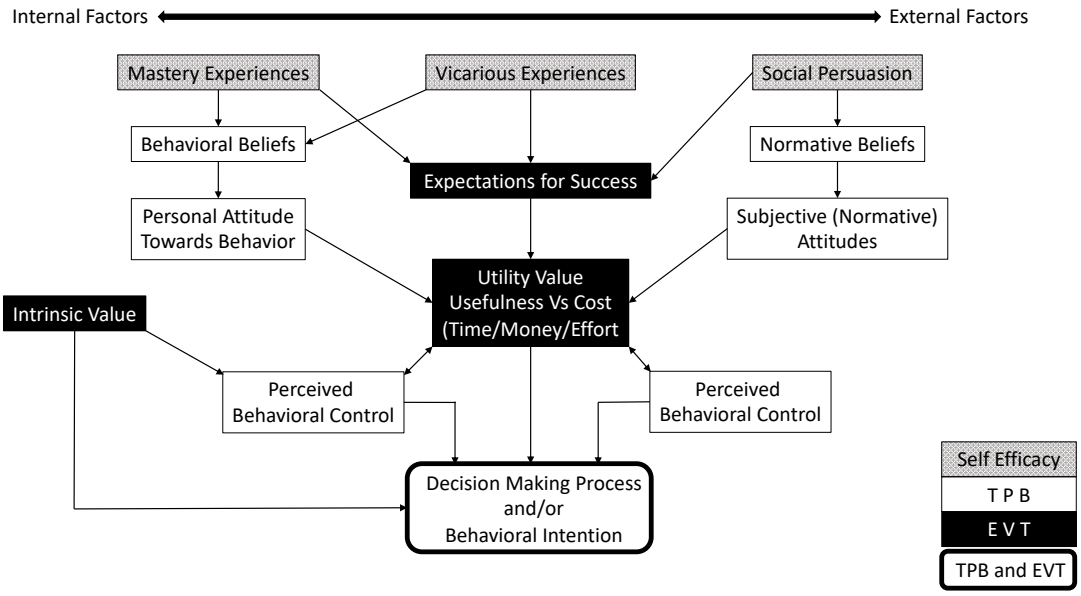

Figure 1.6 Visual model of merging Theory of Planned Behavior, Expectancy Value Theory, and Self-Efficacy.

Conceptual Model of Factors Influencing Programs

The third element of this study investigated what factors may be potentially influencing the balance of SBAE programs. In a lay article on the role of alumni groups within the scope of a school district, White (2018) published the organizational chart shown in Figure 1.7. The model originates from the National FFA and depicts a power structure similar to a business or corporate model but provides a perspective on the diversity of interaction in a SBAE program.

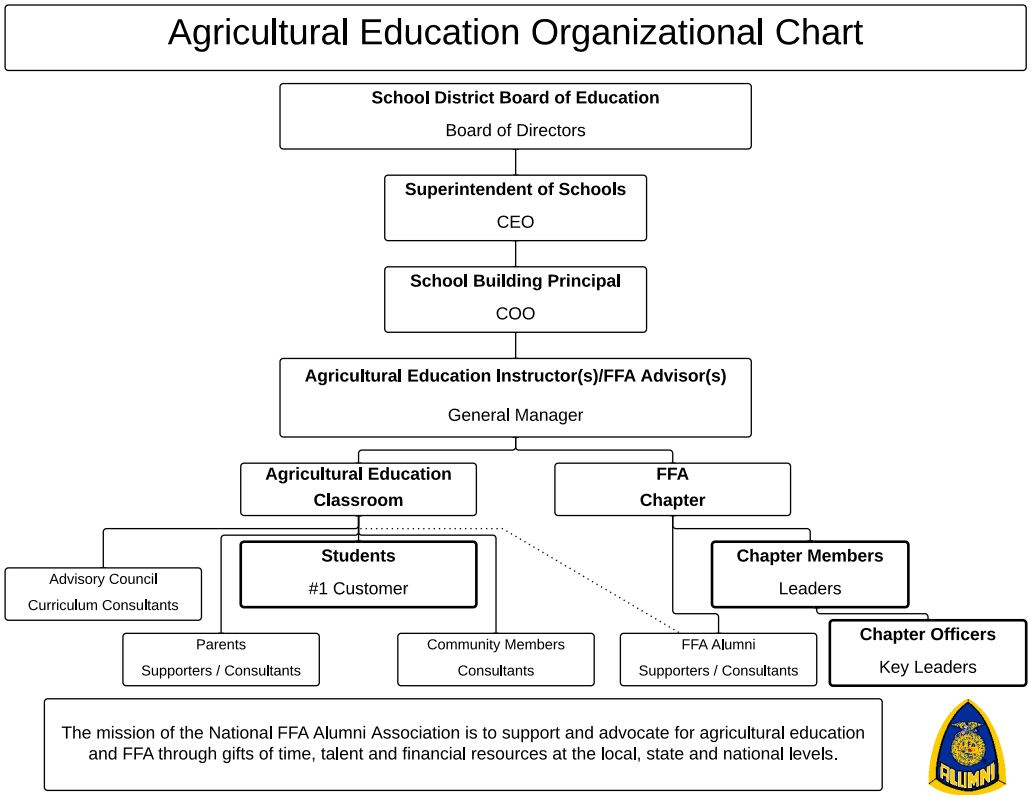

Figure 1.7 Organizational flow chart of an SBAE program at the school level (White, 2018).

The model provided by the FFA served as the foundation for the model developed on potential influences on programmatic balance. In the model (Figure 1.8) the influences described in earlier sections are shown with their suggested linkages. Beginning on the top left of the model, scholarships through multiple sources and awards for individuals or chapters are suggested to influence the SBAE teacher directly or through community influencers like parents, booster groups, or alumni associations. Additionally, these community influencers can affect programmatic balance based on personal preferences and programmatic history. The right side of the model shows the connection for Federal and State Law to influence the school district administration. The

administration, with or without changes in law, can influence the SBAE teacher or make direct changes to the program. Additionally, in the center of the visual, a section is provided for the direct influence of external partnerships with groups, organizations, or industry. These partnerships may be a result of mutually beneficial agreements, or as a result of requirements of laws or policies regarding agricultural education. Similarly, awareness of these laws or policies can be a direct influencer of the SBAE teacher. Finally, many SBAE teachers are allowed a certain level of autonomy and a potential influence through the personal preferences of the instructor is provided.

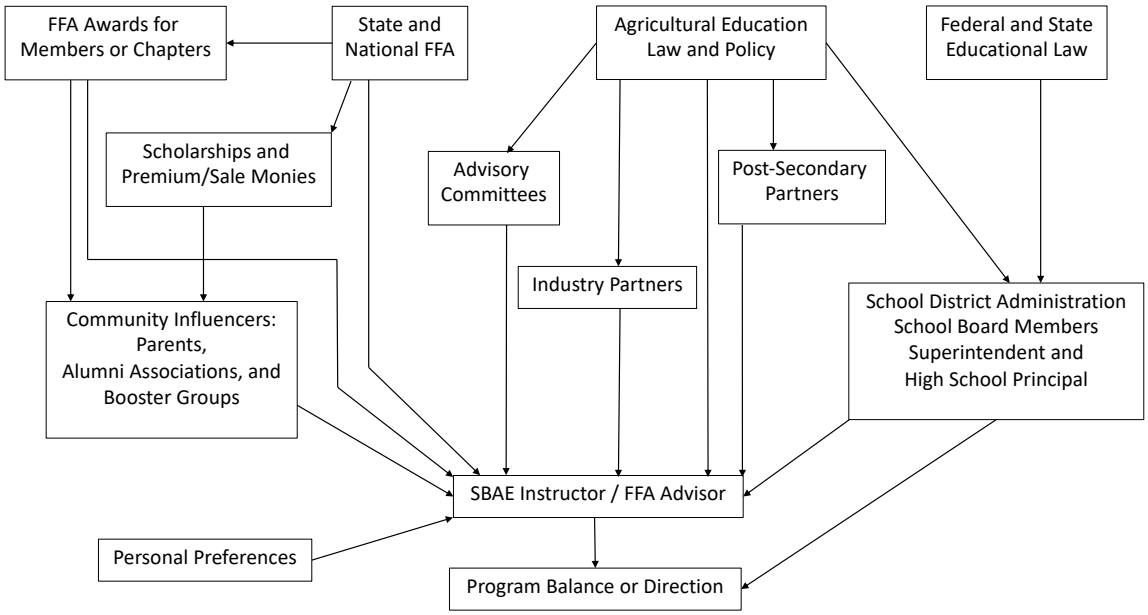

Figure 1.8 A conceptual model of sources of programmatic influence regarding balance, focus or direction.

DEFINTIONS

<u>ADVANCE CTE</u> = an organization of state directors and leaders in career technical education as a collective field of teaching. This group was formally known as the

National Association of State Directors of Career and Technical Education Consortium (NASDCTEc) (Advance CTE, 2018b).

AFNR = An acronym for the Agriculture, Food, and Natural Resource career cluster that represents eight content areas encompassing the broad field of agriculture (Council, 2012) and is included in the 16 career clusters included in career and technical education (Advance CTE, 2018)

ASSOCIATION FOR CAREER AND TECHNICAL EDUCATION (ACTE) = A comprehensive organization of teachers, faculty, advocates, and industry whose mission is to "provide leadership in developing a competitive workforce" (ACTE 2018)

CAREER AND TECHNICAL STUDENT ORGANIZATION (CTSO) = Youth leadership organizations (N = 11) recognized through the United Stated Department of Education through the Office of Career and Technical Education (USDE, 2017). The purpose of CTSOs is to foster "leadership development, academic and career achievement, professional development, and community service" (ACTE, 2011, p. 2) in students enrolled in CTE courses. Of the 11 CTSOs recognized, three are agriculturally related: the FFA, National Post-Secondary Agricultural Student Organization (PAS), and the National Young Farmer Educational Association (USDE, 2017)

CAREER CLUSTER = A grouping of industries, subjects, and occupations based on certain commonalities of academic and technical knowledge and skills. There are 16 career clusters representing 79 different career pathways (ACTE, 2019)

CAREER DEVELOPMENT EVENT (CDE) = A competitive event where students in the AFNR career cluster are able to apply career-based skills learned in their program in a setting designed to emulate real-world situations (FFA, 2018c)

INTRA-CURRICULAR = The idea that the three-components of agricultural education (Classroom Instruction, FFA, and SAE) are all inter-related. The FFA and SAE are part of the curriculum of the classroom and that the classroom is extended through FFA and SAE activities

LEADERSHIP DEVELOPMENT EVENT (LDE) = Similar to CDE's, LDEs provide competitive opportunities for students to apply their speaking, communication, and leadership skills in a competitive setting (Texas FFA, 2018c)

NATIONAL ASSOCIATION OF AGRICULTURAL EDUCATORS (NAAE) = Where the AAAE is primarily an organization of post-secondary educators and faculty, the NAAE is a national organization of secondary AFNR teacher organizations with a close connection to post-secondary institutions (NAAE, 2018b)

NATIONAL CAREER TECHNICAL EDUCATION FOUNDATION (NCTEF) = A fundraising and lobbying partner organization of Advance CTE formerly known as NASDCTEc (Advance CTE, 2018b)

NATIONAL FFA ORGANIZATION (FFA) = The FFA was originally titled "Future Farmers of America" but changed its name to reflect a more diverse student and career base. It serves as the primary career and technical student organization (CTSO) for students in the AFNR field and is a component of the "three-circle" model of agricultural education. In addition to the career and leadership development events (CDE and LDE respectively), the FFA provides structure for proficiency awards associated with supervised agricultural experiences (SAE)

PROFICIENCY AWARD = An award offered through the FFA at levels ranging from local to notational that recognize outstanding SAE programs in the AFNR pathways.

These programs can include Agriscience research projects, programs where a student works with or for an agriculturally related business, or where the student member is the business owner. Recent changes also recognize school-based or community service projects (FFA, 2018d)

SUPERVISED AGRICULTURAL EXPERIENCE (SAE) = A personalized learning project based on the principles of experiential learning opportunities in agriculture where students work quasi-independently outside of school time. It is suggested that these experiences are guided by four principles: 1) The project should be based on the interests of the student, 2) The student will document learning and activities, 3) An agricultural instructor or FFA advisor will supervise the project, and 4) the project is based on AFNR topics (Rayfield, Smith, Park, & Croom, 2017)

THE NATIONAL COUNCIL FOR AGRICULTURAL EDUCATION (COUNCIL) = A collaboration-based leadership group that serves to bring together stakeholders in agriculture, food (fiber), and natural resources (AFNR) education. Its board of directors included officers from the Association for Career and Technical Education (ACTE), American Association for Agricultural Education (AAAE), National Association of Agricultural Educators (NAAE), and The National Association of Supervisors of Agricultural Education (NASAE) as well as representatives from eight other youth-based education stakeholder positions (Council 2012b)

METHODS

Phase I

To accomplish the purpose of identifying a definition for programmatic balance, it was decided to employ an adaptation of the Delphi method. Developed by the Rand

corporation for the military (Dalkey & Helmer, 1963), the Delphi method is based on the idea that "two heads are better than one" (Dalkey, 1969, p. v). The techniques in a Delphi study are utilized to generate consensus among a group of experts (Hsu & Sanford, 2007) and refining input from group judgments (Dalkey, 1969). Linstone and Turoff (2002) describe the techniques as a "method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem"(p. 3).

Rowe and Wright (2011) described the Delphi method as having gone through evolutions and suggest that describing the method as a series of "techniques" (p. 1487) as a more accurate term. Regardless of the specific variation of the method, a Delphi study has three specific features: anonymous response, controlled and iterative feedback, and statistical group response aggregation (Dalkey, 1969; Geist 2010; Linstone & Turoff, 2002). Anonymity is achieved through the use of face-to-face or digital survey methods (Linstone &Turoff, 2002) as opposed to group interviews or panels.

The iterative feedback is achieved through a series of data collection rounds. The initial round is often referred to as the generative round (Warner, 2017) and is characterized by a short questionnaire or prompt of an open-ended nature (Geist, 2010, Linstone & Turoff, 2002). Data collected from the generative round is analyzed using qualitative techniques (Hsu & Sanford, 2007) to create a more traditional, quantitative survey where the panel respond to their level of agreement utilizing a Likert, or Likert-type scale (Warner, 2017; Hsu & Sanford, 2007). Subsequent rounds of quantitative, or mixed method, surveys are utilized until a mathematical consensus is created among the panel (Rowe & Wright, 2011, Warner, 2017; Linstone & Turoff, 2002).

Delphi Population

A key structure in the use of Delphi techniques is accessing and gaining input from a panel of experts who are willing to provide input and are knowledgeable in the subject being discussed (Hsu & Sanford, 2007; Warner, 2017; Iqbal & Pipon-Young, 2009) and whose opinions reflect "current knowledge and perceptions" (Powell, 2003, p. 379) of the topic at hand. A review of the literature also suggests the benefit of heterogenous group of experts with varying perspectives (Delbecq, Van de Ven, & Gustofsen, 1975; Murphy et al, 1998). Regarding the size of the Delphi panel, the literature is varied. Most studies cite the recommendation to utilize a panel of at least 13 to achieve a reliability level of .9 (Dalkey, 1969; Dalkey, 2002,). Linstone and Turoff (2002) recommended a panel of between 10 and 50 while Reid (1988) reported the use of panels ranging between 10 and 1,685. Delbecq et al. (1975) cautioned against using a panel so large that the analysis of data becomes a challenge.

For this study it was decided to utilize the members of the National Association of Supervisors of Agricultural Education (NASAE). The NASAE is a national professional organization who have listed in their purposes to advance school based agricultural education programs by "providing information on the characteristics of quality programs" and is composed of those who are administrators or supervisors of agricultural education programs ranging from the district to national levels (NASAE, 2012). The national scope of the organization provides diversity of opinions and geographic representation to the study. State supervisors and executive FFA secretaries are suited to be experts in the field as they represent a unique nexus by interacting with state departments education, classroom instructors, state, and national FFA organizations.

The organization has an email list-serve and granted the researcher limited access to it by forwarding provided communications. Actual access to the list of emails was not permitted by NASAE. This inability to select specific participants to serve as the expert panel dictated the contact list for data collection consist of all (N = 168) email addresses on the list-serv. This population size provided enough opportunity to collect responses from at least 13 participants and still maintain manageable data volumes. Instruments were shared with participants using the steps outlined by Dillman, Smyth, and Christian (2014) in that an initial contact email was sent out prior to distributing any instrumentation and, for every round, three points of contact were made: initial distribution and two reminder emails at approximately one-week intervals.

Round One

The initial, or generative round of a Delphi study is characterized by brief surveys that typically utilize open-ended questions (Warner, 2017). An instrument was developed and revised that contained two questions. The first question was a demographic question regarding job title and the second was an open-ended question written to elicit input on programmatic balance. The instrument was recreated in Qualtrics and distributed to a group of colleagues and graduate students for face and content validity.

The study received approval by the Institutional Review Board (Appendix A) and, following minor revisions for grammar, a link to the updated questionnaire (Appendix B) was included in an email sent to the contact person of NASAE for distribution on October 12, 2018. The second contact for the first-round instrument was a modification to Dillman et al. method as well as the Delphi technique. The researcher

was invited to the national meeting of the NASAE to provide information and context on the study. Geist (2010) suggests that meeting with your expert panel during the introductory or subsequent rounds of the study can help clarify intent of the study and encourage participation. This encouragement and contact are suggested to reduce panelist fatigue common in Delphi studies. A final round-one reminder was sent to the NASAE contact on October 31, 2018. When no additional responses were received a follow-up email was sent to the contact on November 6, 2018 who indicated that it had been overlooked. The final reminder was distributed to the panel on November 7, 2018 and data collection ended for round on November 14.

Data were exported from Qualtrics to Microsoft Excel, formatted for size, and printed for evaluation and coding. Saldana (2013) suggests that small scale studies or novice researchers code data on hardcopy as the process "gives more ownership and control" (p. 26) to the researcher to manage data. With the specific and structured purpose of the study, coding methods were specifically selected to assist the identification of codes aligned with the *a priori* goal of defining programmatic balance.

The unique format of this Delphi study provided expository round-one responses that necessitated employing qualitative data analysis methods. Following initial read and subsequent re-read for a general overview of the data, coding began using a combination of holistic, structural, and *in vivo* methods. Holistic coding provides general statements regarding the idea expressed in a passage and is suggested to be applicable when the researcher has an idea of what they will be finding in the data (Saldana, 2013). In the case of this study, the *a priori* expectations were on programmatic balance and extraneous comments were excluded. Structural coding is similar to holistic coding in

that general ideas of a passage are recorded in the coding process in the form of questions. Structural coding is particularly useful in analyzing the transcripts of structured interviews and open-ended survey questions (Saldana, 2013). *In vivo*, or literal coding, (Saldana, 2013) uses "the terms used by the participants themselves" (Strauss, 1987, p. 26). When possible, direct quotes were used in the coding process. Second cycle data analysis was performed using pattern coding techniques to coordinate initial codes into major themes. Miles and Huberman (1984) describe pattern coding as a way to "pull together a lot of material into a more meaningful and parsimonious unit" (p. 69).

Reflexivity is an important step in analyzing qualitative data to minimize potential researcher bias (Cohen & Crabtree, 2006). Lincoln and Guba (1985) suggested keeping a reflexive journal while Saldana (2013) noted, on smaller projects, self-reflection through analytic memos give the researcher a chance to "reflect on how you personally relate to the participants and the phenomenon" (p. 43). Additional perspective was gained through triangulation with peers and advisors. Saldana (2013) noted that, particularly when solo-coding among dissertation students, that casual "shop talk" on the codes and themes help students "verbally articulate" (p. 206) ideas and patterns which bring personal perspectives into view. Reflective conversations were held with colleagues and advisors and reflexive notes were taken throughout the coding process.

Round Two

Initial codes (99) were collapsed into eight themes with multiple data and a ninth section labeled "other" for pertinent codes that were isolated responses. These codes and themes were used to create the second-round survey. The original 99 codes were collapsed into 36 prompts and, after review and feedback, four prompts were removed for

being redundant to existing questions. The final, second-round questionnaire (Appendix C) contained one demographic question and 33 statements for the panel to respond to on a Likert-type scale (1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Disagree, 4 = Slightly Agree, 5 = Agree, 6 = Strongly Agree). The initial round-two email was sent to the NASAE contact on November 26, 2018. When no responses were received, a follow-up email was sent to verify distribution. The email containing the Qualtrics link was sent to the expert panel on December 3. A reminder email was sent on December 10 and again on December 17.

Data were exported and analyzed in SPSS for frequency, percent, mean, and standard deviation. First round consensus levels were set *a priori*. Any item with a mean agreement score of greater than five or where more than 83% of the respondents indicated some level of agreement, were deemed to be in immediate consensus and needed no further input. Any items where at least 50% of the respondents indicated any level of agreement were used to generate the round three instrument. Items failing to reach the 50% agreement threshold were removed from consideration.

Round Three

The data from round two were used to determine the instrument content for the final round of the survey process. Statements from round two that met the agreement threshold were provided to the panel along with means, standard deviations, frequencies, and percentages. Statements that did not meet the 50 % threshold were provided as a reference only with no statistics. The remaining survey items (Appendix D) were presented to the panel with the same Likert-type scale along with the results from round two. The expert panelists were asked to reflect on the statement and re-answer the

questionnaire. Results from the third round were compiled with round-two data and a statement was synthesized to answer the research questions.

Phase II

The second phase of the study utilized survey research methods. The two studies in the second phase were based on the same survey instrument developed by the researcher (Appendix E). The components in the survey were based on the literature and include five demographic questions, two questions on programmatic balance that utilized slider indicators (Figure 1.9), and 11 Likert-type block questions to measure the utilization of the suggested factors for determining programmatic direction and balance. An example question is provided in Figure 1.10. The instrument was evaluated for face and content validity and distributed to 60 teachers in New Mexico as pilot study to determine the internal consistency of the instrument to be calculated with a Cronbach's Alpha.

The study received approval from the institutional review board for its initial design to include Texas agricultural educators and their administration. When it was decided to expand the study to three states and incentivize participation an amendment was submitted to the review board and approval was received for the amended study (Appendix F). Following the completion of the pilot study, the instrument was distributed to the sample.

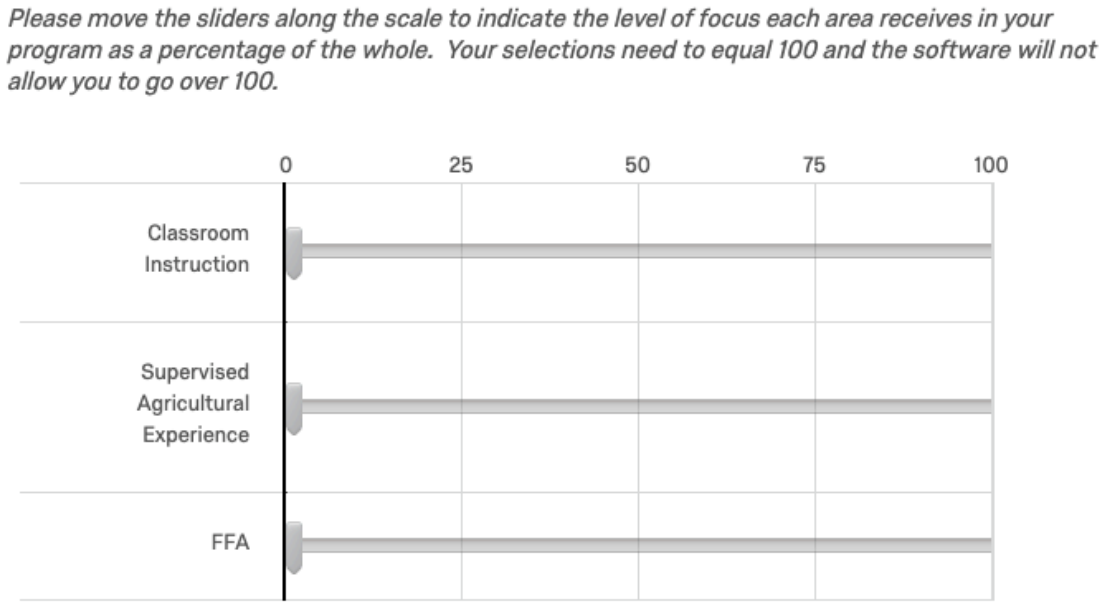

Figure 1.9 Programmatic balance question utilizing percentages measured by a slider-based prompt in Qualtrics.

Figure 1.9 An example of the Likert-type block question used to measure use of influencing factors in program development and planning.

Sample

The population of interest includes currently employed agricultural educators in the states of Texas, Georgia, and Oregon. These states were selected because they

represent three geographic areas of the country and three different sizes of statewide program. It is recognized that there are program priority differences based on the area of the state that a SBAE program exists. To accommodate this, a stratified random sample based on FFA designated regions was utilized. Texas has twelve designated "areas", Georgia three "regions", and Oregon four "sections". Sample size was determined based on a combination of state population of teachers, the need to keep sample sizes similar to protect against any violation of assumptions in running one-way ANOVA tests, while still maintaining a large enough group to satisfy the requirements of running a linear regression model of the factors influencing the program. VanVoorhis and Morgan (2007) suggested that when testing a whole model to calculate the sample size based on $N = 50 + 8k$ where k represents the number of predictor variables. In this study, with 11 predictors, the minimum sample would be $n = 138$ or 48 from each state. To provide allowance for non-responders, the calculated minimum was expanded to accessing 60 teachers from each state. This would represent five teachers from each of the 12 sections in Texas, 20 teachers from Georgia's three regions, and 15 from each of Oregon's four sections.

Statistical Analysis

The data collected were exported to SPSS for analysis. The demographic questions were reported by state and from all respondents using frequencies, percentages, means, and standard deviations as appropriat. A paired-sample *t*-test was used to compare the responses of instructors by state and their perceptions of programmatic balance with their reported ideal program balance by element of the model.

Texas:

RQ2: Perceived vs Ideal Balance on Classroom Instruction

RQ3: Perceived vs Ideal Balance on SAE

RQ4: Perceived vs Ideal Balance on FFA

Georgia:

RQ2: Perceived vs Ideal Balance on Classroom Instruction

RQ3: Perceived vs Ideal Balance on SAE

RQ4: Perceived vs Ideal Balance on FFA

Oregon:

RQ2: Perceived vs Ideal Balance on Classroom Instruction

RQ3: Perceived vs Ideal Balance on SAE

RQ4: Perceived vs Ideal Balance on FFA

Means for the six dependent variables (Perceived Classroom, SAE, FFA & Ideal Classroom, SAE, & FFA) between the three states were compared using six separate One-way ANOVAs.

RQ5:

Perceived Classroom Instruction Levels:	Texas v Georgia v Oregon
Perceived SAE Levels:	Texas v Georgia v Oregon
Perceived FFA Levels:	Texas v Georgia v Oregon

RQ6:

Ideal Classroom Instruction Levels:	Texas v Georgia v Oregon
Ideal SAE Levels:	Texas v Georgia v Oregon
Ideal FFA Levels:	Texas v Georgia v Oregon

Research questions relating to predicting programmatic focus were answered using a backwards step-wise multiple linear regression model. This analysis looks at all predictors and evaluates the weakest predictors first. If the predictor is not significant, it is removed from the model and the model reassessed. This is repeated until all significant predictors have been calculated.

ASSUMPTIONS OF THE STUDY

Vogt (2005) defines a research assumption as "a statement that is presumed to be true, often only temporarily or for a specific purpose" (p 14). The methodologies of this study are slightly different in the two phases of research and are listed separately despite some overlap.

Phase I

The purpose of Delphi techniques includes generating group consensus and identifying "professionals' views" (Hasson, Keeney, & McKenna, 2000, p. 1009) in areas where they (the panel) have expertise (Woudenberg, 1991), are representative of their profession (Duffield, 1993), in an anonymous manner that reduces the "influence of some undesirable psychological effects among participants (Landeta, 2005), and is more accurate than other group communication techniques (Woudenberg, 1991). As such the assumptions of the Delphi phase of this project are:

- The participants expressed their views accurately with minimal bias or error (Woudenberg, 1991).
- Opinions and responses were presented anonymously and without influence of other participants.

- Members of the expert panel answered all questions honestly and based on a level of expertise in agricultural education.
- The use of a larger, non-selective sample of respondents provided enough diversity to represent the whole of the group.
- The use of Delphi techniques is more likely to produce an accurate representation of group consensus and opinion when compared to other group communication methods (Woudenberg, 1991).

Phase II

The second phase of the study used survey and questionnaire techniques utilizing an electronically distributed, Qualtrics instrument. The assumptions for the demographic and quantitative second phase study are:

- The SBAE instructors receiving the survey are the individuals completing the survey.
- Survey completers dedicated adequate time to answer the questions thoughtfully, honestly, and to the best of their ability.
- Participants were truthful provided information that was honest and reflective of their opinions.

LIMITATIONS OF THE STUDY

Phase I

To fill the gap in the literature regarding a definition of programmatic balance, a modified Delphi study was employed. While Delphi techniques are broadly viewed as the best way to generate group consensus from a panel of experts regardless of geographic limitations and minimizing dominant voices (Keeney, Hasson, & McKenna,

2001), there are limitations to the method. Woudenberg (1991) recognized Delphi studies produce more accurate results than unstructured or structured interviews but cautions practitioners. He indicated claiming reliability in responses or instruments is problematic and should be considered a limitation.

The respondents were members of the NASAE and were mostly represented by state executive directors and secretaries. While it was a deliberate decision to access this group owing to their unique positions in agricultural education the views of the respondents cannot be compared to those in different segments of the profession. Furthermore, experience and knowledge of a field or topic has been challenged as not necessarily equating to expertise (Keeney, et al., 2001). Avella (2016) suggested that panel members with research bias in the form of disagreement in the use of a semi-qualitative approach like Delphi study, or disdain for research requests in general, can lead to the absence of particular viewpoints. An important limitation of the study is that the results of any of the three rounds of the study cannot be generalized beyond the respondents of that round.

Phase II

Where the limitations of Phase I were largely derived from the design of the study, Phase II limitations derive from sampling decisions and instrumentation. One-way ANOVAs were be utilized in the analysis of programmatic balance and are considered robust to violations of assumptions if sample sizes are similar. To accommodate potential difference based on program location within the state, a stratified random sample (n = 60) from each state was identified. Based on the number of teachers in each state, the representativeness of each state sample is different. Oregon employs

just over 100 agricultural educators and a sample size of 60 is more than large enough to generalize from. However, that same sample size in Georgia only represents approximately 10% of the population and, in Texas only 3%. As such, no generalizations should be made to the remainder of those states. Additionally, agricultural education exists in all 50 states with additional programs in US Territories. This study only accesses three states and the results from each state may not be representative of the remaining states.

The instrument utilized in the Phase II study was developed by the researcher. The technique used to measure programmatic balance is based on established survey research question options but has not been utilized in this manner before. Additionally, the potential factors for influencing programmatic balance and direction are rooted in the literature. However, the factors included are not an exhaustive list and were not selected based on statistical information from a factor analysis, as one has not been presented in the literature yet. Another primary limitation of the Phase II study is the new and unproven, researcher developed instrument.

SUMMARY

School based agricultural education programs exist in all 50 states where over one million students are served by approximately 12,000 SBAE teachers (Council 2012). These programs employ a three-component model of education that includes classroom instruction, supervised agricultural experiences, and the FFA. Classroom instruction is based on the broad field of agriculture, food, and natural resource systems and can include instruction and laboratory experiences in eight distinct pathways including agribusiness, animal science, biotechnology, environmental systems, food products,

natural resource systems, plant science, and agricultural mechanics. SAEs allow students to explore content areas in a real-world context outside of the classroom environment. SAEs are divided into two broad types and nine sub-categories. FFA provides opportunities to compete in 26 career or leadership development events as well as providing methods of recognizing holistic growth utilizing a degree ladder and SAE development through proficiency awards. Adding to the complexity of SBAE programs are the sources of input on the direction of programs. Teacher preparation texts, organizational guides, program evaluation rubrics, and legislation provides at least eight sources of influences on the teachers in SBAE (Newcomb, et al., 2004; Talbert, et al., 2007; Oregon Department of Education, n.d.; FFA, 2002) . Teaching in this profession is complex and requires long hours. Studies have reported the average SBAE teacher recording 55-58 hours per week (Sorenson, McKim & Velez, 2016; Hainline, et al., 2015; Crutchfield, Ritz & Burris, 2013; Murray, Flowers, Croom & Wilson, 2011). With the complexity, pressures and workload, it is not surprising that there is a shortage of SBAE teachers and hundreds of teachers leave the profession before retirement every year (Kantrovich, 2007; Smith, Lawver, & Foster, 2018).

This research was structured in two phases with three unique studies. The first phase utilized Delphi methods to generate an empirically based definition of programmatic balance. The second phase used survey research methods to measure perceived and ideal inclusion levels of program components in the second study. The third study utilized the same instrument and methods as study two but used linear regression methods to measure the relative impact of potential influencers. To provide background, a review of the history, development, and current structure of the three

program components was provided including research on the topics. Additional review was provided on the similarities and parallels of agricultural education and career and technical education. Methodologies employed including assumptions and limitations were also provided.

CHAPTER II

DEFINING PROGRAMMATIC BALANCE:

A MODIFIED DELPHI STUDY

Abstract

Although utilizing the three components of school based agricultural education programs (classroom instruction, SAE, and FFA) is suggested, there is no empirical definition of "programmatic balance" or what is included in a balanced program. This study used a modified Delphi process to engage members of the National Association of Supervisors in Agricultural Education (NASAE). The purpose of the study was to identify components of a balanced agricultural education program and to provide a consensus-based definition of programmatic balance. In the second round fifteen codes met consensus levels and another three met consensus in round three. These eighteen codes were summarized and used to create a definition of programmatic balance.

Introduction

The origins of agricultural education in the United States are generally attributed to the passage of the Smith-Hughes Act of 1917 (Imperatore, 2017). However, the roots supporting the movement go back further. Croom (2008) suggested that agricultural education stemmed from the non-formal practicality of teaching agricultural skills as a means of family and community survival. Citizen advocates supported legislating support for formal agricultural education as early as 1749, prior to the existence of an independent country or legislature (Shelly-Tolbert, Conroy, & Dailey, 2000). Following the passage of the Morrill and Hatch Acts in 1862 and 1887, New York's Nixon Law was the first legislation to fund agricultural education at the pre-collegiate level. By the time the Smith-Hughes legislation was passed federally, approximately 30 states provided funding for agricultural training and education (Croom, 2008).

Pragmatism has been a part of agricultural education from the earliest days. Charles Prosser was a member of a coalition called the *National Society for the Promotion of Industrial Education* that lobbied for passage of the Smith-Hughes Act (Hillison, 1995) and the effective author of the act (Wirth, 1972). Similarities can be seen between the language of *Prosser's Sixteen Theorems* for vocational education and the contents of the Smith-Hughes act including phrases like: "such education shall be fit for useful employment" and "designed to meet the needs of persons over fourteen years of age who have entered or a preparing to enter work on the farm." (Smith-Hughes Act, 1917).

The notion of practical instruction was not limited to "learning to do" in classroom and laboratory situations. During his tenure at the Smith Agricultural College,

Rufus Stimson developed a model called the "home-school cooperation plan" which called for students to apply concepts learned in the school environment at their home farms. Stimson's model is cited as the predecessor of the modern Supervised Agricultural Experience (SAE) project (Moore, 1988; Smith & Rayfield, 2016) where modern students in a school based agricultural education (SBAE) program have the opportunity to have entrepreneurial ventures or work for another party in agricultural settings.

In modern settings, formalized secondary agricultural education is almost synonymous with the National FFA Organization (FFA). However, while pragmatic school and work-based learning was part of the teaching model from the earliest days of agricultural education, the FFA component came later in the evolution. FFA has its origins in earlier, localized, informal agricultural education groups such as corn, tomato, and poultry clubs (Urrichio, Moore, & Coley, 2013; Tummons, Simonsen, & Martin, 2017). Regional and state level groups including the Junior Farmers Association and the Future Farmers of Virginia were part of annual meetings of the National Congress for Agriculture Students. These meetings included various competitions and the first national level contest was a livestock evaluation event at the American Royal in 1926. Two years later at the American Royal, these regional groups were consolidated, and the Future Farmers of America was formed (Tummons et al., 2017; FFA 2015b). More than 90 years later, FFA boasts over 660,000 members in all 50 states and the territories of Puerto Rico and the U.S. Virgin Islands (FFA, 2019).

Classroom instruction, off site work in the form of SAEs, and opportunities for awards, recognition, and competition through the FFA are the three components of SBAE

programs and have been for most of its history. These elements are visually represented in a Venn-type diagram similar to Figure 2.1. Various agricultural education organizations including the FFA and the National Association of Agricultural Educators (NAAE) have published variations of the model (FFA, n.d.; NAAE, 2018a) suggesting slightly different interpretations exist in the profession. The commonality between all of the existing images is three equally sized and overlapping circles suggesting a certain equality or balance between the three components.

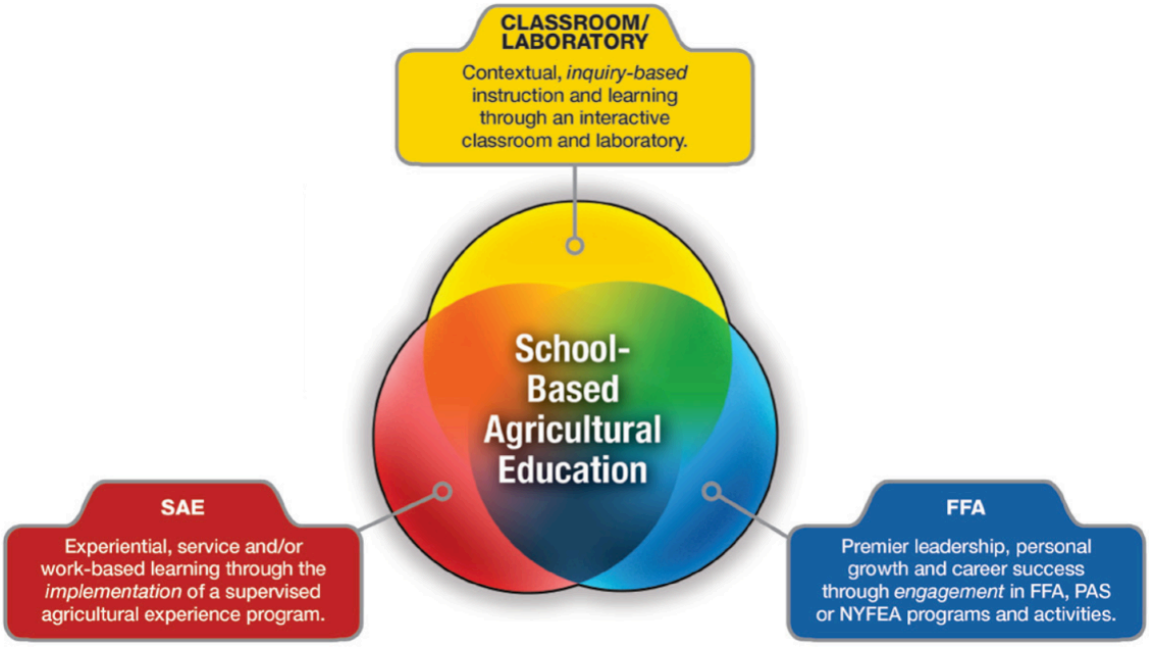

Figure 2.1 The three-element or three-circle model of agricultural education (FFA 2018).

Purpose and Objectives

In searching the literature for program or programmatic balance in agricultural education, results varied. Research has generally focused on work-life balance and lay resources on helping teachers find balance. Broadening the search to program balance in Career and Technical Education (CTE) programs, focus centered around the balance between CTE and "academic courses". Although the North Carolina and Georgia

Agricultural Education web-pages make reference to balancing a program within the context of the three-circle model, there exists an absence of scholarly literature on the notion of program balance and no definitions of the term exists. Therefore, the purpose of this study was to answer the following:

RQ1: What are the elements of balanced secondary school based agricultural education programs as identified by a panel of experts?

RQ2: How do experts in agricultural define programmatic balance?

Theoretical Framework

Ajzen's Theory of Planned Behavior (TPB) served as the theoretical underpinning for this study. TPB (Figure 2.2) suggests that an individual's actions are preceded by intentions to act. These intentions are influenced by three factors: individual attitudes towards the behavior, subjective-normative attitudes about acting on or completing the behavior, and perceived behavioral control (Ajzen, 1991; 2002). These attitudes are shaped by individualized beliefs regarding potential to complete the task (self-efficacy), peer influence on views regarding the activity (vicarious experiences), and perceptions of control within the system of executing the behavior (Ajzen, 2006).

Searching the agricultural education literature on balance in agricultural education yields several articles on balancing work and "life" elements and an inability of teachers to feel efficacious in balancing all the perceived requirements of teaching and the impacts of the imbalance on attrition. (Sorenson, McKim & Velez, 2016; Murray, Flowers, Croom, & Wilson, 2011; Rowland, 2016; Blackburn, Bunch, & Haynes, 2017). Additional studies noted SBAE teachers averaging 55+ hours per week throughout the year (Murray, et al., 2011; Hainline, Ulmer, Ritz, Burris, & Gibson, 2015).

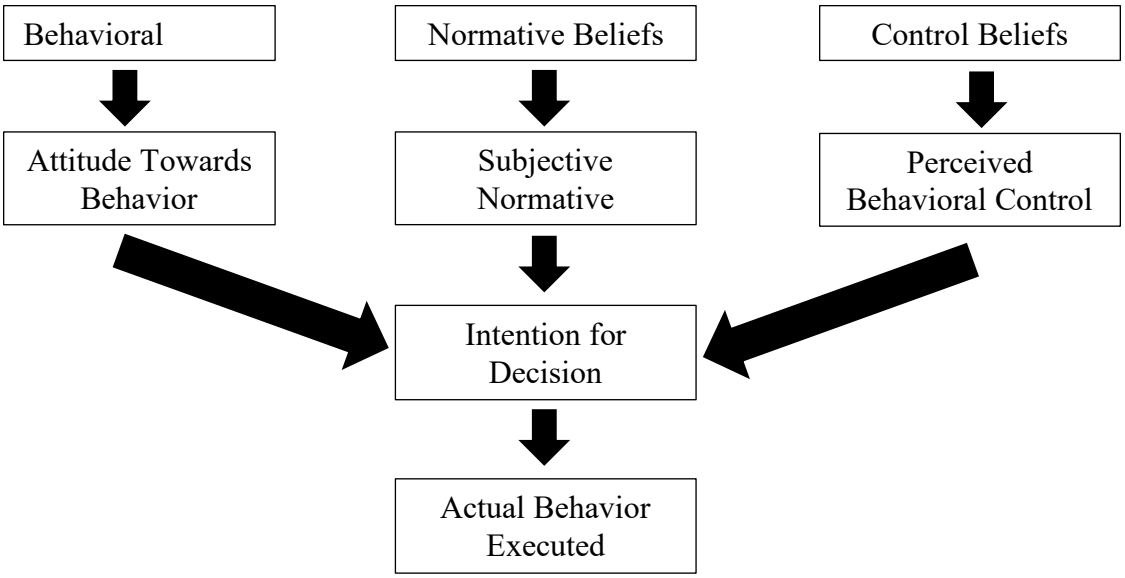

Figure 2.2 Visual depiction of Ajzen's Theory of Planned Behavior.

This study connected to the line of questions on workload and balance based on a new, researcher suggested premise: difficulty in work-life balance is predicated from an imbalance in the school-based programs themselves.

The premise of potential programmatic imbalance connects to the theoretical framework thus: if programmatic balance is not part of the language or planning process for an agricultural educator two of the three elements of TPB are non-existent . If behavioral intentions are predicated by personal and subjective group norms as assumed by this study, there can be no expectations for a change in behavior until the opportunity is provided to reflect on the idea of balancing the elements of a program by first creating a definition.

Methods

An adaptation of the Delphi method was employed to address the research questions. Developed by the Rand corporation for the military (Dalkey & Helmer, 1963), the Delphi method is based on the idea that "two heads are better than one" (Dalkey,

1969, p. v) and utilized to generate consensus among a group of experts (Hsu & Sanford, 2007) and refine input from group judgments (Dalkey, 1969). Linstone and Turoff (2002) described the Delphi process as a "method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem" (p. 3).

Rowe and Wright (2011) described the Delphi method as having gone through evolutions and suggested that Delphi "techniques" (p. 1487) as a more accurate term than a singular method. Regardless of methodological variations, a Delphi study has three specific features: anonymous response, controlled and iterative feedback, and statistical group response aggregation (Dalkey, 1969; Geist 2010; Linstone & Turoff, 2002). Anonymity is achieved through the use of face-to-face or digital survey methods (Linstone &Turoff, 2002) as opposed to group interviews or panels while iterative feedback is achieved through a series of data collection rounds.

The initial or generative round is characterized by a short questionnaire or prompt of an open-ended nature (Geist, 2010, Linstone & Turoff, 2002; Warner, 2017). Data collected from the generative round is analyzed using qualitative techniques (Hsu & Sanford, 2007). Round one data were used to create a more traditional, quantitative survey where the panel respond to their level of agreement utilizing a Likert, or Likert-type scale (Warner, 2017; Hsu & Sanford, 2007). Subsequent rounds of quantitative, or mixed method, surveys are utilized until a mathematical consensus is created among the panel (Rowe & Wright, 2011, Warner, 2017; Linstone & Turoff, 2002).

Delphi Population

A key structure in the use of Delphi techniques is accessing and gaining input from a panel of experts who are willing to provide input and are knowledgeable in the subject being discussed (Hsu & Sanford, 2007; Warner, 2017; Iqbal & Pipon-Young, 2009) and whose opinions reflect "current knowledge and perceptions" (Powell, 2003, p. 379) of the topic at hand. A review of the literature suggested utilizing a heterogenous group of experts with varying perspectives (Delbecq, Van de Ven, & Gustofsen, 1975; Rowe & Wright, 2011; Murphy et al, 1998). The literature is varied regarding the size of the panel. Most studies utilizing Delphi techniques cited Dalkey's (1969; 2002) recommendations to utilize a panel of at least 13 to achieve a reliability level of .9. Linstone and Turoff (2002) recommended a panel of between 10 and 50 while Reid (1988) reported on studies using panels ranging between 10 and 1,685. Delbecq et al. (1975) cautioned against using a panel so large that the analysis of data, particularly in the opening round, becomes a challenge.

The panel for this study were members of the National Association of Supervisors of Agricultural Education (NASAE). The NASAE is a national professional organization of state directors, executive secretaries, and other state FFA leadership personnel whose aim is to advance school based agricultural education programs by "providing information on the characteristics of quality programs" and is composed of those who are administrators or supervisors of agricultural education programs ranging from the district to national levels (NASAE, 2012). The national scope of the organization provides diversity of opinions and geographic representation to the study. State supervisors and executive FFA secretaries are suited to be experts in the field. Their positions sit at a

nexus of agricultural education where the members interact with state departments of education, classroom instructors, state, and national FFA organizations.

Access to the membership was provided by facilitated use of the organizations list-serve. The email addresses were not provided by NASAE and all contact was performed by sending an email to an officer on the NASAE leadership team who then forwarded all messages to the members. This limitations prevented the selection of specific participants and dictated that the expert panel consist of all (N = 168) email addresses on the list-serv. This population size provided enough opportunity to collect responses from at least 13 participants and still maintain manageable data volumes. Instruments were shared with participants using the steps outlined by Dillman, Smyth, and Christian (2014). An initial contact email was sent prior to distributing any instrumentation and, for every round, three points of contact were made: an initial distribution and two reminder emails at approximately one-week intervals (Appendices G, H, I)

Round One

The generative round of a Delphi study is characterized by brief surveys that typically utilize open-ended questions (Warner, 2017). An instrument was developed and revised containing two questions. The first question was a demographic question regarding job title and the second was an open-ended question written to elicit input on programmatic balance. The instrument was recreated in Qualtrics and distributed for face and content validity.

Following approval by the Institutional Review Board a link to the updated questionnaire was sent to the contact person of NASAE for distribution on October 12,

2018. The second contact for the first-round instrument was a modification to outlined distribution methods (Dillman, et al., 2014). The researcher was invited to the national meeting of NASAE to provide information and context on the study. This personal contact aligns with Geist (2010) who suggested meeting with your expert panel during the introductory or subsequent rounds of the study can help clarify intent of the study and encourage participation. This encouragement and contact is suggested to reduce panelist fatigue that is common in Delphi studies. A final round-one reminder was sent and, when no additional responses were received a follow-up email was sent to the contact who indicated that it had been overlooked. The final reminder was distributed to the panel and data collection was concluded one week later.

Data were exported from Qualtrics to Microsoft Excel, formatted, and printed for evaluation and coding. Saldana (2013) recommended small-scale studies or novice researchers code data on hardcopy as the process "gives more ownership and control" (p. 26) to the researcher to manage data. With the specific and structured purpose of the study, coding methods were aligned to the *a priori* goal of defining programmatic balance. While the initial rounds of Delphi studies produce lists and simple statements (Dalkey, 1969), the generative question for this study yielded expository statements that needed to be analyzed for research specific content. As such, qualitative analysis methods were employed.

Following initial read and subsequent re-reads for general overview, coding began using a combination of holistic, structural, and *in vivo* methods. Holistic coding provides general statements regarding the idea expressed in a passage and is suggested to be applicable when the researcher has an idea of what they will be finding in the data

(Saldana, 2013). In the case of this study, the *a priori* expectations were on programmatic balance and extraneous comments were excluded. Structural coding is similar to holistic coding in that general ideas of a passage are recorded in the coding process in the form of questions and is particularly useful in analyzing the transcripts of structured interviews and open-ended survey questions (Saldana, 2013). *In vivo*, or literal coding, (Saldana, 2013) provides richness to the analysis because the codes use "the terms used by the participants themselves" (Strauss, 1987, p. 26). When possible, direct quotes were used in the coding process. Second cycle data analysis was performed using pattern coding techniques to coordinate initial codes into major themes. Miles and Huberman (1984) describe pattern coding as a way to "pull together a lot of material into a more meaningful and parsimonious unit" (p. 69).

Round Two

Initial codes (99) were collapsed into eight themes with multiple data and a ninth section labeled "other" for pertinent codes that were isolated responses. These codes and themes were used to create the second-round survey. The original 99 codes were collapsed into 36 prompts and, after review and feedback, four prompts were removed for being redundant to existing questions. The final, second-round questionnaire contained one demographic question and 33 statements for the panel to respond to on a Likert-type scale (1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Disagree, 4 = Slightly Agree, 5 = Agree, 6 = Strongly Agree). The email containing the Qualtrics link was sent to the expert panel with reminder emails at one-week intervals.

Data were exported and analyzed in SPSS for frequencies, percentages, means, and standard deviations. First round consensus levels were set *a priori*. Any item with a

mean agreement score of greater than five or where more than 83% of the respondents indicated some level of agreement, were deemed to be in immediate consensus and needed no further input. Any items where at least 50% of the respondents indicated any level of agreement were used to generate the round three instrument. Items failing to reach the 50% agreement threshold were removed from consideration.

Round Three

The data from round two were used to determine the instrument content for the final round of the survey process. Statements from round two that met the agreement threshold were provided to the panel along with means, standard deviations, frequencies, and percentages. Statements that did not meet the 50 % threshold were provided as a reference only with no statistics. The remaining survey items were presented to the panel with the same Likert-type scale along with the results from round two. The expert panelists were asked to reflect on the statement and re-answer the questionnaire. Results from the third round were compiled with round-two data and a statement was synthesized to answer the research questions.

Limitations

The purpose of this study was to attempt to generate a definition of programmatic balance based on the input from experts in the field of agricultural education. To meet this goal, it was decided to utilize a modified Delphi study to generate consensus on what should be included. While Delphi studies are reported to provide more accurate results than unstructured or structured interviews, overcome geographic limitations, an minimize the potential influence of dominant persons or voices (Woudenberg, 1991; Keeney, Hasson, & McKenna, 2001); the methods are not without critique or limitation.

The limitations for this study come principally from the design of the study and the limitations of sampling. A traditional Delphi study uses an expert panel of between 10 and 50 (Linstone & Turoff, 2002). The population of interest for this study were members of NASAE and represented a national cross section of state directors and executive secretaries in agricultural education. Unfortunately, access to the list serve to contact individual members could not be provided and the instruments were distributed to the entire list-serve (N = 168). As a result, there was no way to document that those who participated in each round were the same individuals.

Moreover, this group was selected because of their unique positions and experience in agricultural education at the nexus of state departments of education, SBAE teachers, and FFA organizations at the state and national levels. The representative viewpoints of NASAE members may not reflect views from individuals in other segments of the profession. Additionally, Keeney et al (2001) suggests that experience in a field does not necessarily translate to expertise. Thus, a key limitation of this study is that the results cannot be generalized beyond the respondents of each round of the study.

Results

Round One

The first-round instrument contained two questions: a demographic question regarding job title and an open-ended question regarding programmatic balance. A total of 68 responses were received however, 27 respondents only completed the demographic question and were deleted from further consideration. The final response count was 41. Of the viable responses, 16 listed their job title as state supervisor, 13 as executive secretary, three as both executive secretary and nine as “other” (Table 2.1).

Table 2.1

Job Titles of Respondents Completing Round One Instrument

Job Title	*f*	%
State Supervisor	16	39.0
Executive Secretary	13	31.7
Both State Supervisor and Executive Secretary	3	7.3
Other *	9	22.0

Note. Leadership Development Coordinator (n = 3), Executive Director (n = 2), State Advisor, LPS Specialist, Scholarship Coordinator, and one did not provide a job title.

Responses were compiled by job title, printed, and the initial reading process conducted. In the subsequent re-reads, eight themes emerged with multiple statements or statement segments. An additional area called "other" was created to house the five additional statements that merited consideration but did not have similar statements from other participants. Out of the original 99 codes, further data analysis yielded 36 statements under the nine sections. These statements or sections were utilized to generate the round two instrument. The instrument was placed under further scrutiny for overlap and similarity and reduced to 33 prompts.

Round Two

A total of 74 members of NASAE responded to the second-round instrument. Five respondents only completed the single demographic question regarding job title and were deleted. Any respondent who responded to at least one of the prompts were retained for data analysis. Although not a research objective, responses from the demographic question are reported in Table 2.2 for purposes of round two reliability

statements. Dalkey (1969, 2002) suggests that a panel of 13 is large enough for a reliability level of 0.9. Of the 69 respondents, 31 were state supervisors, directors, or executive directors, 21 were executive secretaries or coordinators, three filled the roles of both state supervisor and executive secretary, and additional 14 had other job titles.

Table 2.2

Job Titles of Respondents Completing Round Two Instrument

Job Title	*f*	%
State Supervisor, State Advisor, Executive Director	31.0	45.5
Executive Secretary, Leadership Development Coordinator, Scholarship Coordinator	21.0	30.8
Both State Supervisor and Executive Secretary	3.0	4.4
Other *	14.0	20.6

Note. Program Specialist (n = 2), Associate State Director, District Supervisor, Secondary Ag-Ed Program Improvement Specialist, Region Supervisor, Regional Coordinator, SAE Specialist, State Ag-Ed Specialist, State Area Supervisor (n = 1 each), and two did not provide titles

Levels of agreement for consensus in the second round were set *a priori*. A six-point Likert-type scale was utilized (1=Strongly Disagree, 6=Strongly Agree, no neutral answer). Items receiving a mean score of five or higher (n = 11), or where 83.3% of the respondents indicated some level of agreement (n = 4), were considered to have met group consensus (Table 2.3). Items not meeting this threshold were analyzed for frequency and percentage of responses. Not all participants responded to each prompt. As a result, the percentage was calculated by summing all responses in the "Agree" category (slightly agree, agree, strongly agree) and dividing by the number of

respondents to the prompt. One prompt was reverse coded prior to calculation owing to phrasing that included negative outcome language.

Table 2.3

Round-One Statements Reaching Immediate Consensus

Statement (Prompt) from Round One (*n = number of respondents*)	*% of* Agreement	*Average Agreement*	*SD*
Student SAE projects should be based on what the student is interested in and not just what is easiest for the advisor or school.	100.0	5.54	.59
There needs to be evidence recorded of student work-based learning.	100.0	5.51	.59
Classroom instruction should include field or laboratory/shop components.	100.0	5.48	.61
Exemplary programs work to strengthen, not only, their classroom instruction, FFA, and SAE components, but also their program marketing, partnerships, program planning, and professional growth.	96.8	5.33	.84
Personal and leadership development can be developed in many ways including the classroom, shop, or through community engagement.	100.0	5.30	.63
Programs are seen as "successful" if they have proficiency winners, frequent state officers, or numerous fair/show projects each year, but a truly successful program is where students are enrolled in agricultural education courses each year, have SAE projects that they work on outside of class, and are involved in the FFA at least at the local level.	96.8	5.25	.85
Placing equal importance to classroom instruction, FFA, and SAE is essential to having a successful agricultural education program.	86.8	5.12	1.35

Table 2.3. *Continued*

Instruction needs to be relevant to the student and the needs of the community.	100.0	5.11	.65
Teachers should not just teach the "contest kids". If there is not value in teaching the concepts of the CDE to all students, perhaps the CDE is irrelevant	93.7	5.10	.92
A program should equally incorporate all elements of the three-circle model.	87.0	5.06	1.34
Chapters need to have monthly meetings, functioning committees, and be engaged in service to the community. Competitions and contests should not take precedence over the aforementioned.	90.5	5.02	.95
Students and student leadership opportunities need to engage the community. (n = 63)	100.0	4.95	.59
The goals and balance of the program should be based on input from the community. (n = 63)	95.2	4.68	.81
FFA and SAE Programs should grow out of what is taught in the classroom. (n = 64)	87.5	4.67	1.05
A portion of the student's grade should be based on FFA involvement and completing and SAE project. (n = 63)	87.3	4.70	1.12

Likert-Type Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Disagree, 4 = Slightly Agree, 5 = Agree, 6 = Strongly Agree

Items where 50% of the respondents indicated some level of agreement (n = 9) were retained for the round three instrument (Table 2.4). Items where less than 50% of respondents indicated agreement (n = 8) were considered to be rejected by the group for consensus (Table 2.5). Rejected items were presented to the group in the third-round instrument for reference purposes.

Table 2.4

Round-One Statements Retained for Round-Three

Statement from Round One (Prompt)	*N* Respondents	*f* Agree	% Agree
The classroom is where it all starts. Without which, the other two circles don't exist.	64	52	81.3
Too many programs try to build it backwards and create a strong FFA first, when the classroom focus should be the priority.	64	52	81.3
All students need experiences to develop leadership potential and to work with others to achieve a common goal. These experiences can come from the FFA but do not need to. We've lost a lot of focus that can happen at the local (community) level.	63	48	76.2
The FFA is a component of agricultural education but, really, it is the tail that wags the dog.	63	45	71.4
It is not realistic for SAE to carry the same weight as classroom instruction or the FFA.	64	45	70.3
10% of a student's grade should be based on their consistent work on an SAE and another 10% on FFA activities.	63	41	65.1
The classroom is the foundation of the other two elements. SAE programs should be built on what has been presented in class and the interests of students. FFA is used to support the other two areas.	64	38	59.4
Agriscience teachers are hired to teach students first. Classroom curriculum should include FFA and SAE content, but spending equal time on all three is not realistic.	64	37	57.8
Classroom instruction and FFA activities are the foundation of a program and SAE should be built off these two components.	64	34	53.1

Table 2.5

Round-One Statements Not Meeting Consensus

Statement fom Round One (Prompt)	*N* Respondents	*f* Agree	% Agree
Agriculture teachers should spend the vast majority of their time teaching. There is no way (or there shouldn't be) the other two circles should equal the amount of time spent teaching.	64	30	46.9
The classroom circle should be the largest and the FFA and SAE circles should be smaller, but equal.	64	23	35.9
Classroom instruction should be the driving factor for a program. In the model, the FFA and SAE circles should be equal and resided inside the larger "Classroom" circle.	63	27	42.9
The classroom/laboratory component should represent about 70%, the FFA 15%, and SAE 15%.	62	15	24.2
45% of the time should be spent on AFNR curriculum and instruction, 35% on FFA and 25% on SAE.	63	14	22.2
There needs to be a fourth circle called community.	62	15	24.2
The classroom circle should be the largest, SAE the second largest, and the FFA the smallest.	64	6	9.4
The classroom circle should be the largest, FFA the second largest, and SAE the smallest.	64	5	7.8

Round Three

The third-round instrument was written, reviewed and distributed using the same methods as previous rounds with an initial email and two additional reminder emails at one-week intervals. Following the first-round email, responses were received similarly to the first rounds of the study. It is unclear if the reminder emails were forwarded by the

association contact person as only two responses were received after the first week. In total, 23 NASAE members responded to the third and final round. Although this response rate is roughly half of round one and one third of round two, it is still greater than the 13 recommended by Dalkey (1969; 2002) to considered reliable at a .9 level. Of the 23 respondents, 11 were state supervisors, directors, or executive directors, nine were executive secretaries or coordinators, one filled the roles of both state supervisor and executive secretary, and additional two had other job titles (Table 2.6).

The instrument contained nine prompts carried over from round two for consideration. Six of the nine statements failed to reach the consensus level set *a priori.* Of the three that did reach consensus, a commonality emerged in the idea of the classroom being a foundational or central element of the program (Table 2.7).

Table 2.6.

Job Titles of Respondents Completing Round Three Instrument

Job Title	*f*	%
State Supervisor, State Advisor, Executive Director	11	47.8
Executive Secretary, Leadership Development Coordinator, Scholarship Coordinator	9	39.1
Both State Supervisor and Executive Secretary	1	4.3
Other *	2	8.7

Note. Program Specialist (n = 1), Area Specialist (n = 1)

Table 2.7

Round Three Statements Meeting Consensus

Statement from Rounds One and Two (Prompt)	*N* Respondents	*f* Agree	% Agree
The classroom is where it all starts. Without which, the other two circles don't exist.	22	21	95.5
The classroom is the foundation of the other two elements. SAE programs should be built on what has been presented in class and the interests of students. FFA is used to support the other two areas.	23	21	91.30
Too many programs try to build it backwards and create a strong FFA first, when the classroom focus should be the priority.	19	21	86.4

The first research questions sought to identify what elements should be included in a balanced SBAE program. Most feedback was linked to existing elements of the three-circle model: SAE, FFA, and classroom instruction. Regarding SAE activities, comments and consensus centered around the idea that individual SAE activities should stem from the interests of the students and be an extension of what is taught in the classroom.

Most of the items reaching consensus on FFA and leadership development focused on local engagement and participation. One of the statements reaching immediate consensus in the first round indicated that a successful program is one where students are enrolled in an agricultural course every year, have SAE projects, and are active in the FFA at the chapter level. The local focus of the chapter was echoed in a statement that read "Chapters need to have monthly meetings, functioning committees, and be engaged in service to community" and further indicated that competitions should

not take precedence over this local engagement. Focus on local efforts included leadership development opportunities which should be presented in classrooms, laboratories, shops, and the local community. The panel also agreed, evidence of FFA and SAE activities needs to be recorded by the student and included in the grading process.

Three prompts reaching consensus focused on classroom instruction in isolation. The prompts generated and agreed upon by the group included the ideas that classroom instruction should be relevant to the students, based on the needs of the community, and include field, laboratory, or shop elements. Most classroom related prompts reaching consensus centered around the relationship between classroom instruction, SAE, and FFA. Although agreement was met on two prompts indicating equal importance of all three elements or that "a program should equally incorporate all elements of the three circle model", more prompts met consensus indicating that FFA and SAE should stem from what is taught in the classroom, that the classroom is the foundation of FFA and SAE activities, and that focus needs to be placed on classroom instruction in order to develop a "strong" program. An additional prompt tied classroom instruction to FFA activities in a cautionary manner. It read "Teachers should not just teach the "contest kids". If there is not value in teaching the concepts of the CDE to all students, perhaps the CDE is irrelevant."

A final statement met consensus in the second round that does not tie directly to the three-circle model but indicates that the advisor has additional roles that require their attention. The statement generated in the first round said that "exemplary programs" work on program marketing, partnerships, and planning as well as continued professional

development in addition to the three elements (Classroom, FFA, SAE) included in the model.

The second research question aimed to create a definition of a balance program based on the input of the expert panel. From the three rounds of the study, the researcher compiled the following definition;

A balanced SBAE program is one where:

- The classroom is the foundation of the program, and should be driven by the needs of the community, the interest of the students, and include field, laboratory and/or shop activities;
- Equal importance is placed on FFA and SAE engagement for all students and where those (FFA and SAE) opportunities are relevant to the students, build from what is taught, and evidence of activities are included in the overall performance evaluation of the student; and where
- Leadership and career development are not exclusive to formal FFA functions and opportunities exist in classroom, lab, and in the community.

Conclusions, Implications and Recommendations

The panel indicated classroom and curriculum should be the foundation of both SAE and FFA activities with equal emphasis placed on all three areas. These recommendations seemingly conflict and raise more questions than they answer. Specifically, how can there be equal focus and emphasis of the three areas if one is foundational and the other two are offshoots of the first? Is the current model of three equal and overlapping circles truly representative of how a program is supposed to operate or if the current Venn-type diagram is more fitting to represent what a student may experience. The findings and definition need to be presented to teaching professionals, teacher-preparation faculty, organizational leadership, and students of agricultural education for qualitative and quantitative exploration.

The findings indicated that all elements of the program, particularly classroom instruction, need to be based on the needs of the community. The primary questions stemming from this are: how are the needs of the community to be assessed and how are those needs to be integrated into the curriculum? While not mentioned by the respondents, the use of advisory committees may provide a source of community and industry connection. Advisory committees are intended to be a steering group made up of local industry experts with no administrative authority or specific connection to the program (FFA, n.d.) and recommended by agricultural education organizations and teacher preparation texts (FFA, n.d.; Newcomb, McCracken, Warmbrod, & Whittington, 2004; Talbert, Vaughn, Croom & Lee, 2007). While advisory committees seem a clear venue for input, what role to the parents, community members, and school boards play? Further research and clarification are needed regarding methods of surveying and implementing community input and interaction with administrative or legislative forces. Additionally, a needs assessment should be performed to determine what supports can be provided for new or current SBAE teachers in community and programmatic needs assessment areas.

Localized focus for leadership, career development, and engagement was another key theme in stark contrast to a complete lack of statements provided encouraging increased focus on CDE or LDE preparation. The responses regarding a need to provide localized opportunities suggests an area of importance and, perhaps concern. Further study on how leadership and professional development opportunities are provided is recommended.

This project was part of larger study exploring the idea of programmatic balance, perceptions of actual and ideal balance, and sources of influence on balance. The impetus of the program stemmed from anecdotal observations coupled with a lack of published literature on the subject. As an initial study in this line of research, it is not surprising to have generated more questions than definitive answers. Further research on the subject is encouraged for all regions to develop a national picture of programmatic balance, potential imbalance, and curb potential negative outcomes from imbalanced programs.

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CHAPTER III

A COMPARISON OF PERCEIVED CURRENT AND IDEAL PROGRAM BALANCE OF SCHOOL BASED AGRICULTURAL EDUCATION PROGRAMS IN THREE STATES

Abstract

School based agricultural education programs include the components classroom instruction, supervised agricultural experiences, and FFA activities to deliver content in agriculture and provide opportunities for extending learning outside the classroom. This study sought the input of a stratified random sample of SBAE teachers in Texas, Georgia, and Oregon to investigate perceived levels of component use and compare those levels to what would be "ideal" as well as make comparisons between the reporting states. Responses (n = 121) indicate SBAE teachers in all three states reported significant differences between their current and ideal programs, particularly in the areas of classroom instruction and SAE. When comparing perceived component levels between the states, Oregon reported significantly more emphasis on classroom instruction than Texas and significantly lower SAE activity levels than either Texas or Georgia. All three states indicated wanting a reduction in classroom instruction emphasis and an increase in FFA activities with the Texas teachers looking for the most change in those areas.

Introduction / Literature Review

There is a current shortage of teachers for school based agricultural education programs, and has been since 1965 (Smith, Lawver, & Foster, 2018; Kantrovich, 2007). A portion of the shortage is attributed to retirements and the creation of new positions, but these do not account for all of the shortfall. According to the 2017 supply and demand study for agricultural education, over 500 teachers left the profession (Smith, et al., 2018). In a study of teacher attrition, Ingersoll and Smith (2003) noted 42% of teachers left the field because of conflict between work and family expectations. Sorenson, McKim, and Velez (2016) found that work obligations interfering with family were significant predictors of intentions to leave the field. Work-life balance has been the subject of several studies that noted the challenges of SBAE teachers working more than 55 hours per week (Hainline, Ulmer, Ritz, Burris & Gibson, 2015; Crutchfield, Ritz & Burris, 2013; Murray, Flowers, Croom & Wilson, 2011). This study is part of a larger line of inquiry looking beyond the idea of work-life balance and into the balance of the programs themselves.

SBAE is generally comprised of three components: classroom and laboratory instruction within the scope of agriculture, food, and natural resource (AFNR) systems, intra-curricular work based experiential learning opportunities through supervised agricultural experiences (SAEs), and opportunities for leadership and personal development through activities associated with the National FFA Organization (FFA). These elements are typically depicted as three equally sized overlapping circles as shown in Figure 3.1. The description of program with three components is accurate, but not representative of the complexity of each element.

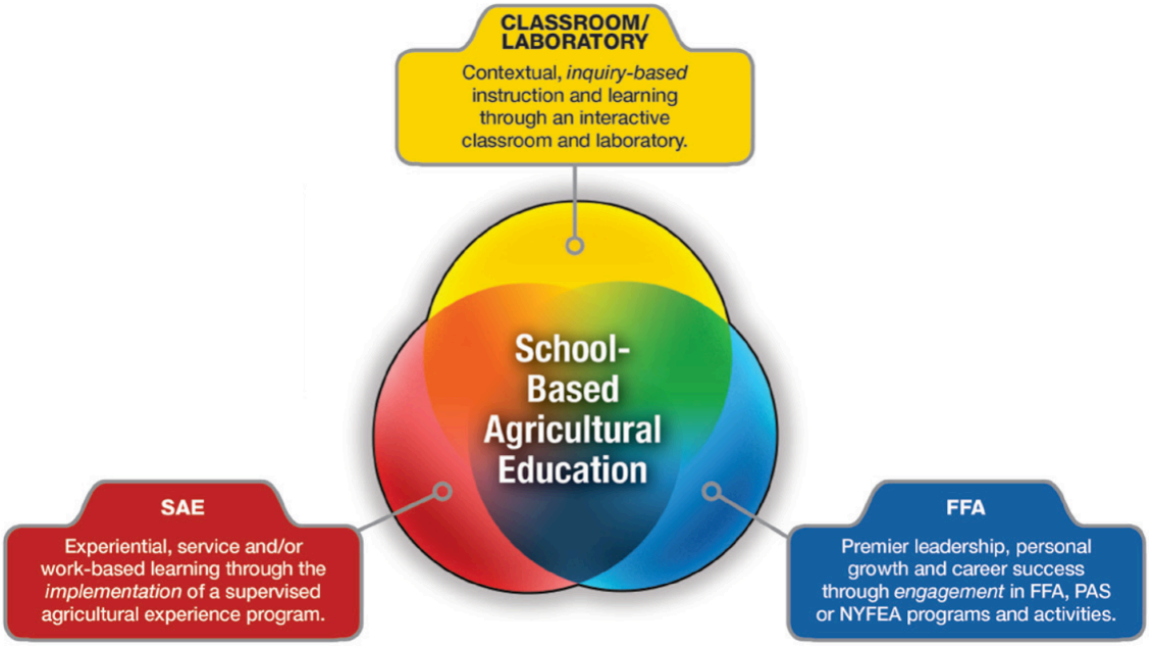

Figure 3.1 The three-element or three-circle model of agricultural education (FFA 2018).

Classroom Instruction

SBAE programs teach content and skills within the context of the broad field of agriculture. The U.S. Department of Education includes AFNR content as one of 16 career clusters within the broader scope of career and technical education (CTE). The National Council for Agricultural Education has eight content areas within the AFNR pathway including agribusiness systems, animal systems, biotechnology systems, environmental service systems, food products and processing systems, natural resource systems, power structure and technical systems, and plant systems (Council, 2015). Some states have adopted the content areas as presented, while others have combined or eliminated some areas (California Department of Education, 2017; Kansas State Department of Education, 2019; Texas CTE, 2019). Some states further define the content areas and standards. The Texas legislature has published 31 individual subject course listings within the seven content areas used in the state (TEA, 2017).

In addition to the breadth of subject areas, the program is further complicated by the pedagogical options for teaching the content. The most current model of agricultural education published by FFA describes the classroom instruction level as contextual teaching through interactive classroom and laboratory teaching. The laboratory setting for the previously mentioned content areas could include more traditional laboratory settings, but often includes metal and wood working shops, greenhouses, farms, and livestock facilities. Though inquiry-based laboratory instruction is often used, it is not the only teaching method SBAE teachers are expected to use. Talbert, Vaughn, Croom, and Lee (2007) describe six different group instruction methods and five individual instruction methods for use in the agricultural classroom.

SAE

With roots going back to early apprenticeship programs (Knoll, 1997; Croom 2008), the modern SAE program, as used in formal education, stems from the *Home School Cooperation Plan* developed by Rufus Stimson while at the Smith Agricultural College (Smith & Rayfield, 2016). The National Council for Agricultural Education suggested SAEs to be foundational to agricultural education and provide an opportunity to extend classroom learning beyond the school and into the community (NCAE, 2015).

SAEs provide opportunities for students to engage in contextual, real-world learning outside the classroom and extend concepts taught. SAEs also provide opportunities for students to engage in AFNR areas of interest that may not be offered in their school's program of study (NCAE, 2015; Council 2017).

FFA

FFA is the largest career and technical student organization (CTSO) recognized by the department of education with over 650,000 members in all 50 states and the territories of Puerto Rico and the US Virgin Islands (FFA, 2019). Since its inception, the organization has grown in numbers, inclusion, and content to keep current with the industry and the culture of the times. In 1988, the name was changed to The National FFA Organization to reflect the broader mission of the organization to train more than the next generation of "farmers".

To aid in developing leadership and personal growth, FFA offers a wide range of opportunities. Competitive events were part of the early stages of FFA and continue on today. There are currently 19 career development events (CDEs) and seven leadership development events (LDEs) offered by the national FFA that allow students to compete in educational events in a way that extends classroom knowledge (FFA, 2018). In many states additional CDE or LDEs are offered to accommodate state preferences or address content specific to their area (FFA, 2018; Texas FFA, 2018).

SAE is a key element of SBAE programming and FFA provides supporting opportunities for SAEs. To reward exemplary development of individual SAE's, FFA offers proficiency awards 30 categories of AFNR content areas including service, production, and research categories in plant and animal sciences, environmental systems, and agricultural mechanics. There are additional opportunities through fairs and stock shows to exhibit plant, animal, mechanics, and science projects.

Purpose and Objectives

This purpose of this study was to investigate how SBAE teachers perceive the balance of their program within the context of the three-circle model of agricultural education and how, if given the opportunity, they would balance a program under ideal circumstances. The research questions guiding this study were:

RQ1: What are the perceived and ideal levels of focus of the three elements of agricultural education among agricultural educators in Texas, Georgia, and Oregon?

RQ2: Are there differences in perceived and ideal levels of focus for the classroom instruction element of the agricultural education model in teachers from Texas, Georgia, and Oregon?

RQ3: Are there differences in perceived and ideal levels of focus for the Supervised Agricultural Experience element of the agricultural education model in teachers from Texas, Georgia, and Oregon respectively?

RQ4: Are there differences in perceived and ideal levels of focus for the FFA element of the agricultural education model in teachers from Texas, Georgia, and Oregon respectively?

RQ5: Are there differences in perceived levels of classroom instruction, SAE, and FFA activities among teachers from Texas, Georgia, and Oregon?

RQ6: Are there differences in "ideal" levels of classroom instruction, SAE, and FFA activities among teachers from Texas, Georgia, and Oregon?

Theoretical Framework

The theories shaping this study were Expectancy Value Theory (EVT) and the Theory of Planned Behavior (TPB). EVT originated from work with adolescent performance in mathematic achievement where it was noted achievement, persistence, and engagement were related to the level of success students expected as a result of their efforts and the value placed on the task (Wigfield, 1994; Wigfield & Eccles, 2000). Although the model has developed to include multiple preceding factors, this study referenced the three antecedents theorized to be immediately prior to the decision-making process: expectations for success, intrinsic value of the task, and utility value of attainment (Figure 3.2).

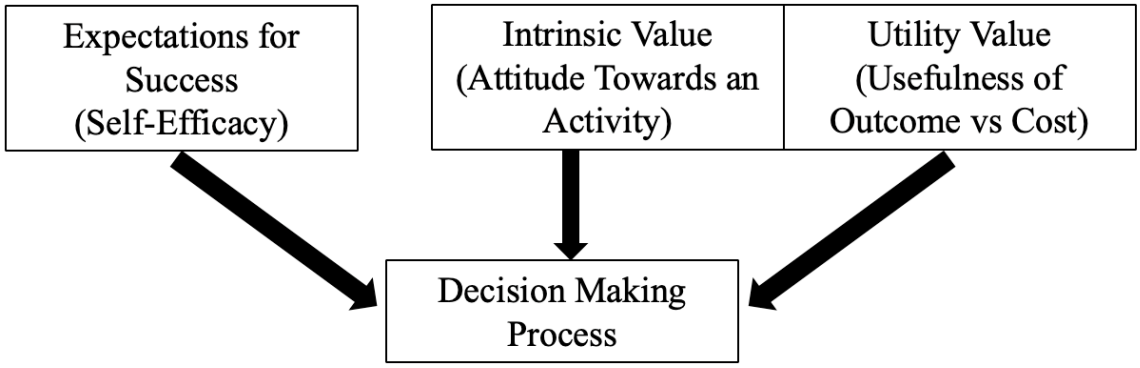

Figure 3.2 Visual model of expectancy value theory components used in this study.

Wigfield and Eccles (2000) concluded the decision-making process to engage in a given activity is shaped by the expectations held by an individual about their ability to be successful as a result of their efforts coupled with the value of the outcome. The values in the model are the internal value one places on the task and the utility value. Utility value is an internal comparison of the usefulness of the outcome compared against the real costs of completion in terms of time, effort, or money and/or the opportunity cost of not engaging in other tasks (Wigfield & Eccles, 2000).

Ajzen's theory of planned behavior was developed in an attempt to predict behavior based on attitudes and beliefs around the activity (Ajzen, 2006). In the model (Figure 3.3), intentions to make a decision or act are predicated on one's personal attitude towards the behavior, subjective attitudes, and perceived behavioral control.

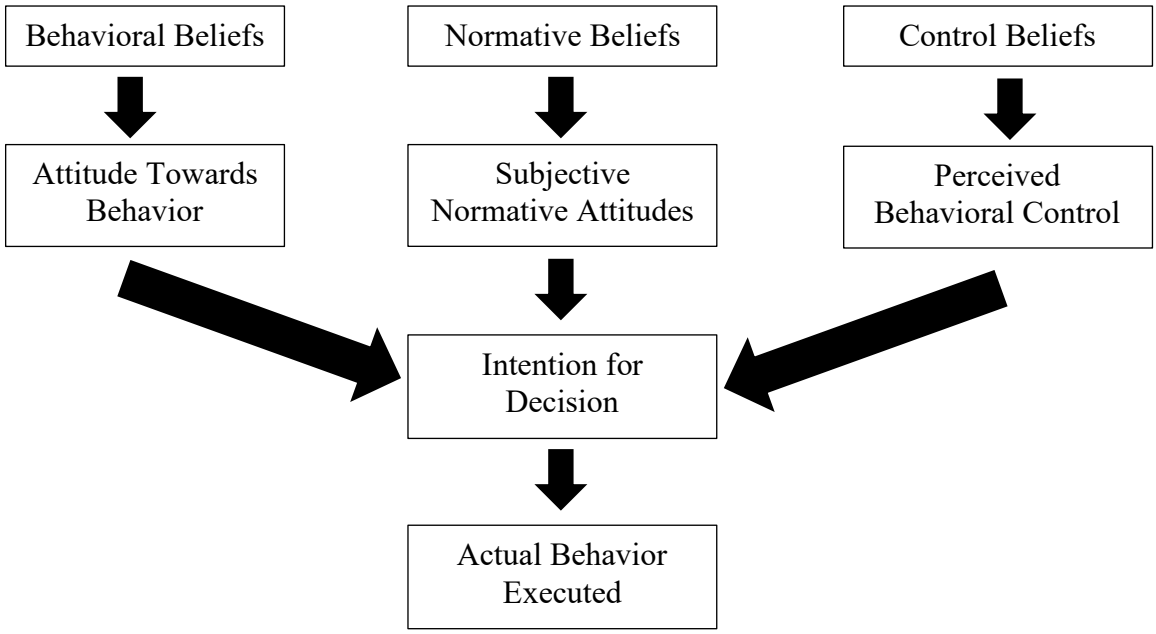

Figure 3.3 Visual depiction of Ajzen's Theory of Planned Behavior.

Personal attitudes toward the behavior are shaped by a combination of intrinsic beliefs about the task coupled with self-efficacy beliefs shaped by personal or vicarious experiences. Subjective attitudes stem from normative beliefs shaped by perceived social pressure or influence to complete a task. This social pressure is similar to Bandura's idea of social pressure and comes from personal or professional groups containing "important" or "referent individuals" (Ajzen, 2000, pp. 62). Perceived behavioral control is separate from self-efficacy or behavioral beliefs and is described as a notion of potential success or failure stemming from a potential lack of resources or support. (Madden, Ellen, & Ajzen, 1992).

A visual conceptualization of the interconnectedness of the included theories is provided in Figure 3.4. This framework shaped the study through an assumption of at least partial autonomy and independence of SBAE teachers. SBAE programs have more curricular, SAE, and FFA options to choose from than can be practically engaged. The shape, direction, and "balance" of the program is dictated by the choices of what activities to participate in. These choices, as depicted in the model, are influence by personal and subjective attitudes, intrinsic and utility values, and expectations for success which are all influence by personal and external factors.

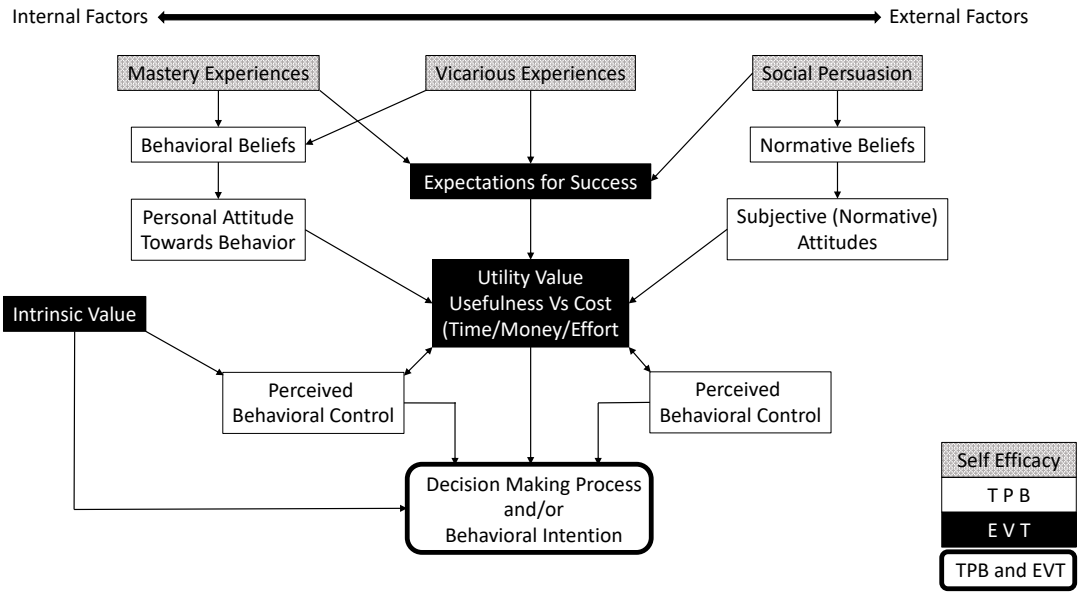

Figure 3.4 Visual model of merging Theory of Planned Behavior, Expectancy Value Theory, and included elements of Self-Efficacy.

Methods

Population

The target population for this study included all currently employed SBAE instructors in the states of Texas, Georgia, and Oregon. The three states were chosen

because they represent distinctly different geographic regions of the country and three different sizes of statewide programs in terms of number of FFA members and agriscience teachers. Sample size was determined based on multiple factors of a larger study. Analysis involved descriptive statistics, *t* -Tests, and ANOVA. Field (2013) stated that ANOVA is robust to violations of assumptions when sample sizes are similar. To achieve parity in sample size while accounting for geographic and programmatic diversity across the three states, a stratified random sample was selected. The respective state FFA Associations divide their state into smaller segments. Texas is divided into 12 areas, Georgia into three regions, and Oregon in four sections. A random sample was generated that provided five ag teachers from each area of Texas (n = 60), 20 from each region of Georgia (n = 60), and 15 from each section of Oregon (n = 60) for a total sample size of N = 180.

Instrumentation and Data Collection

The instrument used was designed by the researcher and included five demographic questions and two questions on programmatic balance using "slider" response questions (Figure 3.5). The instrument was reviewed for face and content validity by a panel of experts with experience in agricultural education research. For this study, the components of an SBAE program are operationalized to include the three broad categories found in the three-circle model of agricultural education (Figure 1): classroom instruction, SAE, and FFA. The first question asked respondents to provide perceptions of the balance of their current program and the second asked for an "ideal" balance for a program. Participants provided their responses for each prompt by sliding an indicator representing classroom instruction, FFA, and SAE to a position that

represented the percent of the program an area represented. The numerical value of the three sliders had to combine to equal 100%, representing the whole program.

The study was approved by the institutional review board and a list of email addresses was generated for each of the state samples using online directories provided by the state FFA or agricultural teachers associations. Following the protocol suggested by Dillman, Smyth, and Christian (2014), an initial contact invitation was sent followed by the first survey distribution and three subsequent reminder distributions at one-week intervals. The survey was generated in Qualtrics and distributed via their email system. It was determined that the protective filters of some school districts were preventing recipients from receiving the Qualtrics emails and a subsequent series of invitations were sent utilizing individualized links and emailing them directly from the researcher's university email account.

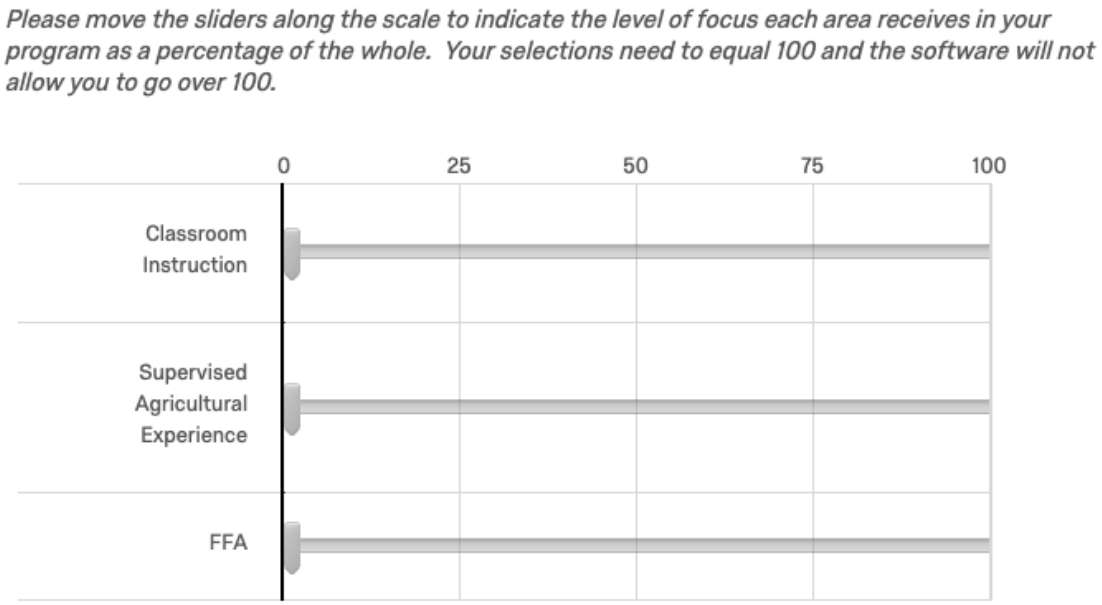

Figure 3.5 Programmatic balance question utilizing percentages measured by a slider-based prompt in Qualtrics.

Data Analysis

All data were exported from Qualtrics to IBM SPSS 25 for analysis. Prior to statistical calculations and reporting, all data were checked for completeness, skew, kurtosis, and normality. All significance levels were set *a priori* at $\alpha = .05$.

RQ1:

Research question one was descriptive in nature. Data were reported for means and standard deviations of perceived and ideal levels of classroom instruction, SAE, and FFA from respondents for each respective state plus aggregate group means.

RQ2-4:

Research questions two, three, and four asked if there are differences between perceived and ideal levels of classroom instruction, SAE, and FFA activities of Agriscience teachers in Texas, Georgia, and Oregon. The statistical null hypothesis states there are no differences between the means and will be tested using paired sample *t*-tests for each of the conditions. The assumptions for this test require that the dependent variables are continuous and that the observations are independent of each other. Both are met by the nature of data collection. Responses were provided on separate questions for perceived and ideal levels of activity using virtual sliding indicators representing percentage of focus values from 0-100. Normality is another assumption of the test, specifically the normality of the differences between scores (Field, 2013). Although robust to differences based on sample size, normality was checked using histograms, Q-Q plots, Kolmogorov-Smirnov tests, and box plots to verify that the assumption was not violated.

RQ5-6:

Research questions five and six asked if there are differences between perceived and ideal levels of classroom instruction, SAE, and FFA activities between Agriscience teachers in the three sampled states. The null hypothesis for the six conditions states that, in the populations, there are no differences. The hypotheses were tested using six one-way ANOVAs as listed.

Perceived Classroom Instruction Levels:	Texas v Georgia v Oregon
Perceived SAE Levels:	Texas v Georgia v Oregon
Perceived FFA Levels:	Texas v Georgia v Oregon
Ideal Classroom Instruction Levels:	Texas v Georgia v Oregon
Ideal SAE Levels:	Texas v Georgia v Oregon
Ideal FFA Levels:	Texas v Georgia v Oregon

The primary assumption for an ANOVA is homogeneity of variance between the groups. Although ANOVA's are generally robust to violations of this assumptions if sample sizes are relatively equal (Field, 2013), a Lavene's test was run for each ANOVA and a corrected F value and degrees of freedom was reported when appropriate using a Welsch correction model. Any ANOVA results showing significant differences between groups were followed with a Bonferoni *post hoc* analysis to determine where the differences lie. Field (2013) suggested that a Bonferoni analysis reduces the chance of committing a type-I error. Both t and p values were reported with effect sizes. Effect size was reported as Cohen's f and calculated based on recommended criterion (Koltrick, Williams, & Jabor, 2011).

Limitations

Limitations for this study are instrument and sample driven. The instrument utilized electronic "sliders" to indicate percentages of a whole in three different areas. This type of response is part of standard question options through Qualtrics but has not been utilized in this manner before in the field of agricultural education. Teachers were sampled from Texas, Georgia, and Oregon and the results cannot be generalized beyond those states. Caution should be exercised when generalizing within the states as well. Part of the statistical analysis strategy utilized one-way ANOVA to compare the mean responses between the three states. ANOVA is robust to violations of assumptions when sample sizes are relatively equal. To account for this, a stratified random sample (N = 60) was selected from each state. Oregon employs just over 100 SBAE teachers while there are over 600 in Georgia and more than 2000 in Texas and a common sample of 60 represented a different percent of the available populations.

Assumptions

An assumption for the sake of research methodology is a concept or statement that is presumed to be true for a specific purpose or timeframe (Vogt, 2005). This study was conducted using survey methods and used a newly designed instrument. The assumptions for this study were:

- The agriscience teachers who received the study were the same individuals completing the instrument,
- Survey completers dedicated adequate time and focus to answer the questions honestly and thoughtfully,

- Participants provided information that was truthful and an honest reflection of their opinions, and
- Though examined for face and content validity, it was assumed the instrument accurately assessed the objectives of the study.

Results

A total of 121 usable responses were collected for a total response rate of 62.1%. Oregon had the highest response rate at 80% (n = 48), followed by Georgia at 70% (n = 42, and Texas at 62.1% (n = 31). Data were explored for normality and the assumption of normal distributions were met. To account for potential non response error early responders were compared to late responders. Early responders were defined as those who responded in the first three weeks of data collection (n = 79) and responders were those who provided data during the second three weeks (n = 42). No significant differences were found between early and late responders on perceived levels of classroom instruction $t(119) = -.402$, $p = .688$, SAE $t(119) = -.205$, $p = .838$, or FFA $t(119) = .774$, $p = .440$.

The first research question sought to describe the perceived an ideal levels of classroom instruction, SAE, and FFA of the three included states (Table 1). The three states combined reported the most perceived focus on classroom instruction (M = 49.50, SD = 14.46), followed by FFA (M = 32.23, SD = 9.67), and SAE (M = 21.75, SD = 9.55). Oregon reported the highest perceived levels of classroom instruction (M = 50.85, SD = 14.50), followed by Georgia (M = 46.11, SD = 14.43), and Texas (M = 40.27, SD = 12.33). Texas reported the highest levels of activity in FFA (M = 24.85, SD = 9.95) and SAE (M = 34.88, SD = 9.95). Georgia Agriscience teachers reported the next highest

levels in FFA (*M* = 30.72, *SD* = 9.94) and SAE (*M* = 23.17, *SD* = 7.92). Oregon teachers reported the lowest perceived focus on FFA (*M* = 30.63, *SD* = 10.00) and SAE (*M* = 18.52, *SD* = 9.82). This pattern continued with reported "ideal" levels of classroom instruction, SAE and FFA as shown in Table 3.1.

Table 3.1

Descriptive Statistics for Perceived and Ideal Levels of Classroom Instruction, FFA, and SAE in SBAE Programs in Oregon, Georgia, and Texas

		Classroom Instruction		FFA		SAE	
	N	*M*	*SD*	*M*	*SD*	*M*	*SD*
Oregon	48						
Perceived		50.85	14.50	30.63	10.00	18.52	9.82
Ideal		41.19	13.49	30.16	8.60	28.64	8.06
Georgia	42						
Perceived		46.12	14.43	30.72	9.94	23.17	7.92
Ideal		41.11	15.51	31.14	9.79	27.76	10.41
Texas	31						
Perceived		40.27	12.33	37.88	9.95	24.85	9.95
Ideal		32.18	12.10	36.91	9.77	30.90	10.41
Overall	121						
Perceived		46.50	14.46	31.75	10.05	21.75	9.55
Ideal		38.85	14.34	32.23	9.67	28.91	9.54

Research questions two, three, and four asked if there were differences between the perceived and ideal levels of classroom instruction, FFA, and SAE activities among

Agriscience teachers in each state or as a corporate group. Paired sample *t* – Tests were run with *a priori* significance level set at $\alpha = .05$. There were significant differences (Table 3.2) found between the perceived and ideal means of classroom instruction levels among Agriscience teachers from Oregon ($M_{perceived} = 50.85$, $M_{ideal} = 38.85$, $t(47) = 5.07$, $p < .001$, $d = .69$), Georgia ($M_{perceived} = 40.27$, $M_{ideal} = 32.18$, $d = .33$), $t(30) = 2.68$, $p = .010$), Texas ($M_{perceived} = 40.27$, $M_{ideal} = 32.18$, $t(30) = 5.06$, $p < .001$, $d = .66$), as well as the differences between the entire sample ($M_{perceived} = 46.50$ $M_{ideal} = 38.85$, $t(120) = 7.05$, $p < .001$, $d = .53$). There were also significant differences found between the mean and ideal SAE levels in Oregon ($M_{perceived} = 18.52$, $M_{ideal} = 28.64$, $t(47) = -8.96$, $p < .001$, $d = 1.12$), Georgia ($M_{perceived} = 23.17$, $M_{ideal} = 27.76$, $t(41) = -3.04$, $p = .004$, $d = .50$), Texas ($M_{perceived} = 24.85$, $M_{ideal} = 30.90$, $t(30) = -3.40$, $p = .002$, $d = .60$), as well as the differences between the entire sample ($M_{perceived} = 21.75$, $M_{ideal} = 28.91$, $t(120) = -8.42$, $p < .001$, $d = .75$). There were no significant differences between the perceived and ideal levels of FFA activities in any state or with a combined analysis.

Table 3.2

Differences Between Perceived and Ideal Levels of Classroom Instruction and SAE in Oregon, Georgia, and Texas

	n	*t*	df	*p*	Cohen's d	Effect
Classroom Instruction						
Oregon	48	5.07	47	< .001	.69	Medium
Georgia	42	2.68	41	.010	.33	Small
Texas	31	5.06	30	<.001	.66	Medium
Overall	121	7.05	120	<.001	.53	Medium

Table 3.2. *Continued*

SAE						
Oregon	48	-8.96	47	< .001	1.12	Large
Georgia	42	-3.04	41	.004	.50	Small
Texas	31	-3.40	30	.002	.60	Medium
Overall	121	-8.43	120	< .001	.75	Medium

Research question five sought to determine if the perceived levels of classroom instruction, FFA, and SAE were different between the states (Table 3.3). One-way ANOVA's were run which indicated there were significant differences between perceived classroom levels $F(2, 118) = 5.44$, $p = .006$ as well as perceived SAE levels $F(2, 118) = 5.18$, $p = .007$ between the states. Bonferoni post-hoc analysis indicated that the mean level of perceived classroom instruction for Oregon ($M = 50.85$, $SD = 14.50$) was significantly higher than Texas ($M = 40.27$, $SD = 12.33$). Georgia was not significantly different from either state in perceived classroom instruction. Post-hoc analysis for perceived SAE levels showed that Texas ($M = 24.85$, $SD = 9.95$) and Georgia ($M = 23.17$, $SD = 7.92$) reported significantly more SAE activity than Oregon ($M = 18.52$, $SD = 9.82$). There were no significant differences found in perceived FFA levels.

Research question six sought to determine if there were differences in "ideal" levels of classroom instruction, FFA, and SAE (Table 3.4). The results from the one-way ANOVA showed significant differences in ideal levels of classroom instruction $F(2, 118) = 4.80$, $p = .010$ and FFA activity $F(2, 118) = 5.37$, $p = .006$ between the states. There were no significant differences found in ideal SAE levels. Bonferoni post-hoc analysis

indicated that Texas instructors would, ideally, have a lower percentage of classroom instruction (*M* = 32.18, *SD* = 12.10) than would teachers from Georgia (*M* = 41.11, *SD* = 15.51) and Oregon (*M* = 41.19, *SD* = 13.49). Similarly, post-hoc analysis showed that Texas Agriscience teachers would prefer significantly more FFA activity (*M* = 36.91, *SD* = 9.77) than those from Georgia (*M* = 31.14, *SD* = 9.79) or Oregon (*M* = 30.16, *SD* = 8.60).

Table 3.3

Analysis of Variance for Perceived Levels of Classroom Instruction and SAE for SBAE Teachers in Oregon, Georgia, and Texas

Source	df	SS	MS	*F*	*p*	η^2	*f*	Effect
Classroom Instruction								
Between Groups	2	2,116.65	1058.32	5.44	.006	.09	.31	Medium
Within Groups	118	22,967.36	194.64					
Total	120	25,084.01						
SAE								
Between Groups	2	884.46	442.23	5.18	.007	.08	.30	Medium
Within Groups	118	10,066.97	85.31					
Total	120	10,951.43						

Table 3.4

Analysis of Variance for Ideal Levels of Classroom Instruction and FFA for SBAE Teachers in Oregon, Georgia, and Texas

Source	df	SS	MS	*F*	*p*	η^2	*f*	Effect
Classroom Instruction								
Between Groups	2	1,855.01	927.50	4.80	.010	.08	.29	Medium
Within Groups	118	22,967.36	193.27					
Total	120	22,805.56						
FFA								
Between Groups	2	935.49	467.75	5.37	.006	.08	.30	Medium
Within Groups	118	10,275.68	87.08					
Total	120	11,211.17						

Conclusions / Implications / Recommendations

Significant differences were found between the mean perceived and ideal levels of classroom instruction when measured as a percent of the whole program. Each reporting state indicated a preference to reduce the percent of time allocated to teaching by 5-10%. This perceived surplus of resource allocation could be a potential source of work-work or work-life imbalance which has potential implications on career longevity choices as illustrated in the literature on work life balance (Ingersoll & Smith, 2003; Sorenson, McKim & Velez, 2016). A follow-up study should be conducted to explore where teachers would like to trim or change time allocation.

Similarly, all reporting states had significant differences in perceived and ideal levels of SAE activities where each state indicated a preference for more SAE activities. While a desire for SAE to be a larger part of the greater program, it is unknown from the data if this increase should come from more time allocated for SBAE teachers to be involved in SAEs, more students engaging in SAEs, more opportunities for students to exhibit their projects, or a more diverse offering of SAE project areas. This is particularly salient for a state like Oregon where perceived levels of SAE activity were significantly lower than that of Georgia and Texas, at less than 20% of the program. Needs assessments should be conducted to help identify additional SAE opportunities and or other areas of improvement for SAE implementation.

The comparisons of ideal program component levels are perhaps the greatest source of discussion. Texas reported the lowest perceived levels of classroom instruction (40.27%) and their ideal levels were even lower at 32.18%. Both of these values were significantly lower than values for Georgia and Oregon. In light of the three-circle model of agricultural education, the balance suggested by Texas (Classroom = 31.2, FFA = 36.9, SAE = 30.9) is closer to the mathematical perfect split (33.3% each) than the combined responses from Georgia and Oregon who indicated a preference for more weight on instruction (Classroom = 41.2, FFA = 30.7, SAE = 28.3).

The origins of the three-circle visual model stem from an evolution of practice and not from empirical studies (Croom, 2008). Perhaps the time has come for the profession to reconsider the model and recognize it as an overly simplified tool suitable for use in “elevator” explanations to lay-persons. A nearly even split of activities may be

an appropriate target for SBAE students in terms of time or resource allocation, but not for teachers.

The national average for a "school day" is 6.7 hours (Murray, 2019) plus additional time for grading, administrative work, and preparation. If we assume a (conservative) time allocation of 6 hours per day (30 hours per week) for an SBAE teacher, and further assume equal time allocation to SAE and FFA, we would be projecting a 90-hour workload expectation. Even in recognizing that emphasis shifts throughout the year and 90-hour work weeks are exceptions to the norm, the reality is that most SBAE teachers work, on average, well over 50 hours per week throughout the year (Sorenson, McKim & Velez, 2016; Hainline, Ulmer, Ritz, Burris & Gibson, 2015; Crutchfield, Ritz & Burris, 2013; Murray, Flowers, Croom & Wilson, 2011). Further research is needed to develop a national picture of practitioner experience and preferences. From this data a more accurate and possibly new model should be developed and presented.

It is recommended for student teacher preparation programs to include programmatic balance and planning into their respective curriculum. Similarly, professional development opportunities should be provided to early career and veteran teachers on the same topics. In a distinguished lecture presentation, the attending members of the national research conference of the American Association for Agricultural Education were asked "who was driving the pickup truck?" in reference to providing leadership for the profession. The response options were: Federal Officials, FFA, the Council, Association for Career and Technical Education, and "none of the above" (Moore, 2006). In the time since Dr. Moore posed this question, the changes in

legislation and education have only made the factors influencing educators and SBAE programs more diverse. If there is no-one "driving the pickup truck", teacher preparation professionals and programs have the opportunity impact the direction of young teachers and should take steps to assure that new teachers have the tools and training necessary so they can assume leadership in providing deliberate direction to their programs instead of continually reacting to varied inputs or, worse yet, operating without direction at all.

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CHAPTER IV

POTENTIAL SHAPING FACTORS ON PROGRAMMATIC BALANCE OF SCHOOL BASED AGRICULTURAL EDUCATION PROGRAMS IN THREE STATES

Abstract

School based agriculture programs generally include classroom instruction, SAE, and FFA activities within the broad scope of agriculture. To help determine the needs and direction of a program sources suggest utilizing advisory committees, parental or alumni groups, post-secondary and industry partners, as well as aligning your program with the desires of the school district. Additional input could also come from the community and its sense of history as well as personal preferences from teachers. This study used survey methods to access teachers in Texas, Georgia, and Oregon to assess the roles of these potential factors play in determining the shape or balance of a program. Teachers were asked to provide the level of influence the above groups played in shaping the overall direction of their program, class and curricular focus, FFA activities, and SAE involvement. Responses were aggregated into summated variables and used in three backward, step-wise linear regression models. No factors loaded for any of the three regressions.

Introduction / Literature Review

School Based Agricultural Education (SBAE) is a broad term to describe an organized program of study centered around content in agriculture, food, and natural resources (AFNR). The U. S. Department of Education recognizes 16 career clusters as part of the broader content of career and technical education. Within the AFNR cluster are eight content areas including agribusiness systems, animal systems, biotechnology systems, environmental service systems, food products and processing systems, natural resource systems, power structure and technical systems, and plant systems (Council, 2015).

Classroom instruction is only part of the comprehensive model of agricultural education (Figure 4.1). Supervised agricultural experiences (SAEs) provide opportunities for students to extend classroom concepts in real-world settings or to develop knowledge and skills in an AFNR content area that is not taught (NCAE, 2015). FFA offers proficiency awards in 30 different areas at the national level (FFA, 2018). Outside of SAE support structures for SAEs, opportunities exist for members to develop through leadership and career development events (LDE, CDE). Although states can offer additional contest areas, there are currently 19 CDE and seven LDE areas offered by FFA (FFA, 2018b; Texas FFA 2018; 2018b). To reward members for progressing in classroom, SAE, and FFA areas, FFA offers a series of "degrees" that can be earned starting with the Discovery FFA Degree for middle school students and culminating with the American Degree for members who have graduated and have engaged three components of agricultural education at the highest levels (FFA, 2018c).

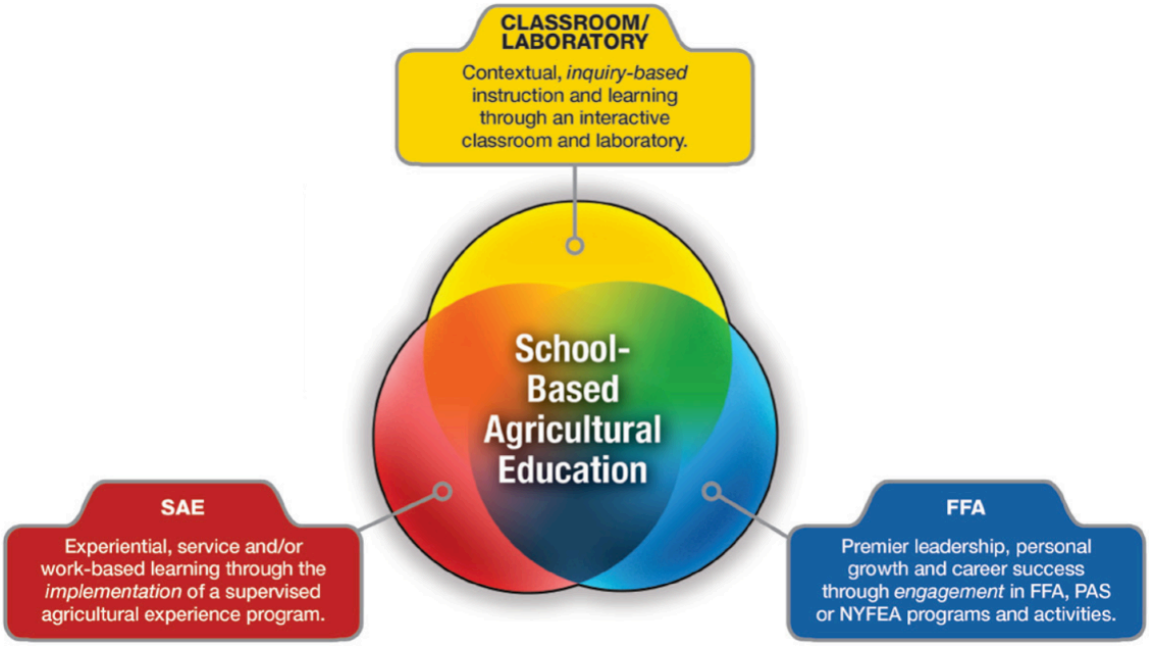

Figure 4.1 The three-element or three-circle model of agricultural education (FFA 2018).

SBAE teachers often serve in all three-component areas serving as teacher, coach, advisor, and program coordinator. Adding to this complexity are the sources of input on how to prioritize efforts and activities. In a textbook on agricultural education, Talbert, Vaughn, Croom, and Lee (2007) described the SBAE program as directly linked to the school district, administration, and community groups they serve. Another teacher preparation text suggested program planning and development include assessing resources and facilities available through the district and community while accessing advisory committees, parental and alumni groups as well as school administration (Newcomb, McCracken, Warmbrod, & Whittington, 2004). "Local Program Success" guides, published by FFA also included the importance of using alumni, parental, and advisory groups to shape the direction of the program.

Programmatic input is also partially dictated by state or federal legislation. Oregon utilizes a statewide program of study shaped by Perkin's legislation that specifies programs use advisory committees and are aligned with post-secondary and industry partners (Oregon Department of Education, n.d.). Georgia has a program of work system that outlines programmatic requirements (Georgia Ag-Ed, 2017), and Texas has legislatively approved curriculum, standards, and requirements (TEA, 2017).

SBAE programs are complicated, involved, and require specialized knowledge, skills, and a considerable time commitment. A study of Georgia SBAE teachers reported an average work week of 57 hours (Murray, Flowers, Croom & Wilson (2011). Similar data were reported from western programs and Texas where average weekly hour allocation was in excess of 55 and 58 hours respectively (Sorensen & McKim 2014; Hainline, Ulmer, Ritz, Burris, & Gibson, 2015). This workload was suggested as a source of challenge in balancing work and family life. This imbalance was linked to intentions to leave the profession (Sorensen, McKim, & Velez, 2016). SBAE teacher attrition is an issue in our profession. There has been a shortage of agriscience teachers every year since 1965 (Kantrovich, 2007) and a portion of the shortage is caused by teachers leaving the profession before retirement. In a 2017 executive summary, it was reported that over 500 SBAE teachers left the field of agricultural education (Smith, Lawver, & Foster, 2019).

Purpose and Objectives

This study is part of a larger line of questioning looking beyond the idea of work life balance and into the balance of programs themselves. The purpose of this study was

to identify potential factors that influence programmatic balance or shape program direction. The research questions guiding this study are:

RQ1: What factors can be used to predict programmatic focus in the area of classroom instruction as part of the three-component model of agricultural education?

RQ2: What factors can be used to predict programmatic focus in the area of Supervised Agricultural Experience as part of the three-component model of agricultural education?

RQ3: What factors can be used to predict programmatic focus in the area of FFA activities as part of the three-component model of agricultural education?

Conceptual Framework

The conceptual framework developed here provides a visual for the complex series of influences of SBAE programs. The impetus for the model stemmed from an article that described the organization structure of SBAE within a business model (White, 2018). Figure 4.2 provides lines of connection and potential influence on the SBAE teacher from various sources (FFA, 2018c; Newcomb, et al., 2004; Talbert, et al., 2007; Georgia Ag-Ed, 2017; Oregon Department of Education, n.d.). Beginning on the top left of the model, scholarships through multiple sources and awards for individuals or chapters are suggested to influence the SBAE teacher directly or through community influencers like parents, booster groups, or alumni associations. Additionally, these community influencers can affect programmatic balance based on personal preferences and programmatic history. The right side of the model shows the connection for Federal and State Law to influence the school district administration. The administration, with or

without changes in law, can influence the SABE teacher or make direct changes to the program.

Additionally, in the center of the visual, a section is provided for the direct influence of external partnerships with groups, organizations, or industry. These partnerships may be a result of mutually beneficial agreements, or as a result of requirements of laws or policies regarding agricultural education. Similarly, awareness of these laws or policies can be a direct influencer of the SBAE teacher. Finally, many SBAE teachers are allowed a certain level of autonomy and a potential source of input on programmatic influence comes from the personal preferences of the instructor.

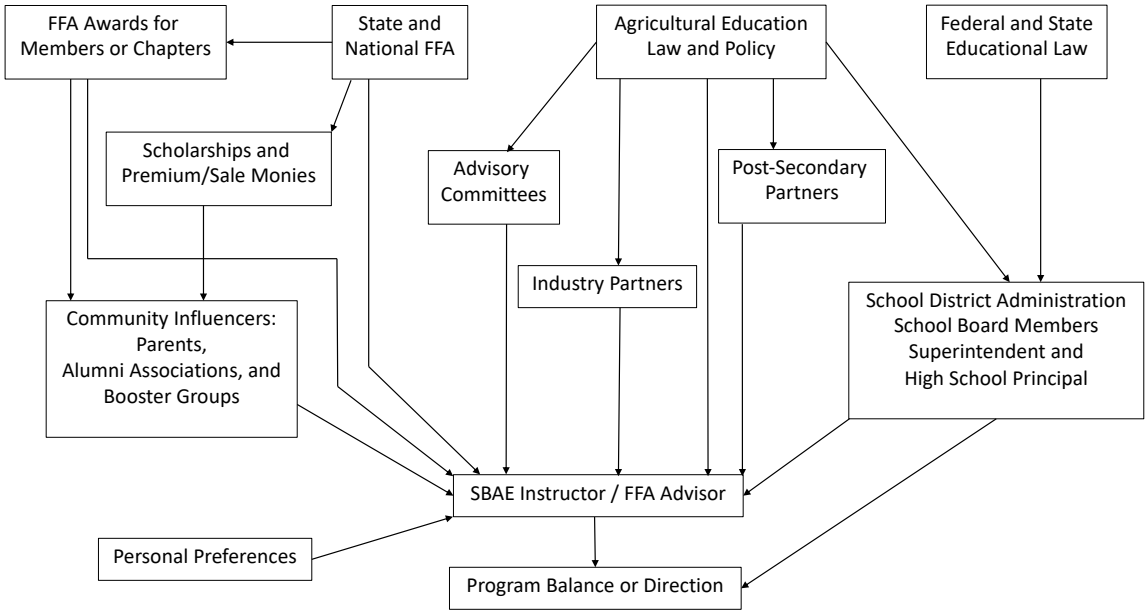

Figure 4.2 A conceptual model of sources of programmatic influence regarding balance, focus or direction.

Methods

Population

The population of interest was all currently employed SBAE teachers in Texas, Georgia, and Oregon. These states were selected because they represent a broad difference in terms of enrollment, FFA members, number of teachers employed, and geography. Analysis of the research questions were performed using a backward, step-wise linear regression model. Field (2013) suggested a sample of 77 is adequate to evaluate a model of up to 20 predictors if a large effect size is expected. If a medium effect sizes is expected, the sample recommendation increases to 160. As the first study in this area, there are no previous publications to estimate effect with. VanVoorhis and Morgan (2007) recommended a sample size of $N = 50 + 8k$ where k represents the number of predictor variables is adequate to evaluate the model. In this study, with 8 predictors, the minimum sample would be $n = 114$. This project was part of a larger line of study where some data were analyzed using ANOVAs which are sensitive to differences in sample groups. A stratified random sample was generated from the three states by identifying five teachers from each of the 12 FFA areas in Texas ($n = 60$), 20 teachers from Georgia's three FFA regions ($n = 60$), and 15 from each of Oregon's four sections ($n = 60$) for a final sample size of $N = 180$.

Instrumentation and Data Collection

The instrument was designed by the researcher and, in addition to demographic questions, included eight blocks of questions (Figure 4.3) on the use of potential influencing factors on the overall direction of the program and curriculum as well as how FFA and SAE activities are incorporated. The eight identified factors were advisory

committees, community support groups (i.e. alumni or booster groups), post-secondary partners, industry partners, district administration, personal preferences, program history, and state program requirements.

The outcome variables were perceived levels of classroom instruction, SAE, and FFA as part of the whole program. Data were collected on the outcome variables by utilizing electronic sliders where respondents indicated what percentage of the program each area represented by moving an indicator on a scale of 0-100. The software was set so that all three sliders had to equal 100 and the total could not exceed that value (Figure 4.4).

In our program, Advisory Committees are used to help determine:

	Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
The overall direction of our program.	○	○	○	○	○	○
Curriculum focus or content in the classes taught.	○	○	○	○	○	○
The FFA activities and contests we participate in.	○	○	○	○	○	○
The focus of SAE activities for members and participation at Stock Shows or Fairs.	○	○	○	○	○	○

Figure 4.3 Sample instrument question on the use of advisory committees.

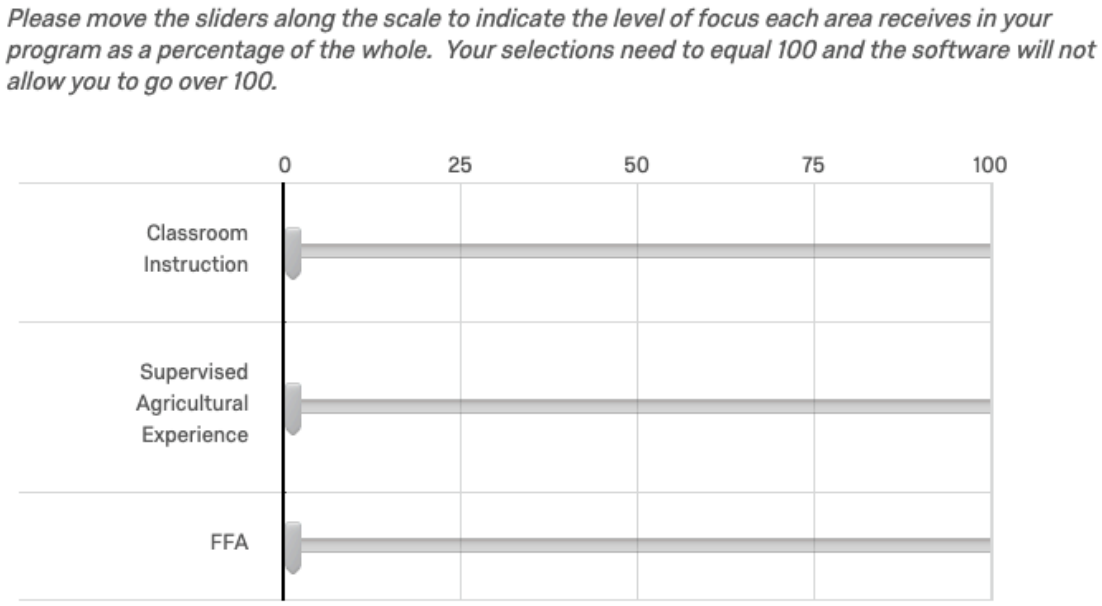

Figure 4.4 Survey question to assess perceived classroom instruction, SAE, and FFA levels as part of the whole program.

The instrument was reviewed for face and content validity by faculty members and colleagues with experience in teaching SBAE. Following study approval by the Institutional Review Board, the instrument was pilot tested by a random sample of 60 SBAE teachers in New Mexico. Data were compiled and a Chronbach's alpha level was calculated ($\alpha = .94$).

Instrument distribution and data collection used Qualtrics and followed the recommended protocol outlined by Dillman, Smyth, and Christian (2014). An initial contact email was sent followed by the first survey distribution and three subsequent reminders at one-week intervals. When it was discovered that some of the email filters used by school districts were preventing teachers from receiving the instrument, a second series of distributions were initiated using personalized links and the university email system.

Data Analysis

Data were collected and exported from Qualtrics into IBM SPSS 25 for analysis. The data file was cleaned by deleting extraneous information provided by Qualtrics. Each of the eight predictors had four questions associated with them. The instrument used a Likert type scale with six options from strongly disagree to strongly agree. Values were assigned in SPSS where 1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Disagree, 4 = Slightly Agree, 5 = Agree, and 6 = Strongly Agree. New variables were created by summating the scores for the included sub-questions. These new, summated variables were checked for normality by examining skew values and plots. Significance was set *a priori* at $\alpha = .05$.

All three research questions sought to predict potential predictors on perceived program focus in the areas of classroom instruction, SAE, and FFA which were calculated as the mean of all provided scores in the respective areas. The predictors were the eight summated variables for advisory committees, community support groups (i.e. alumni or booster groups), post-secondary partners, industry partners, district administration, personal preferences, program history, and state program requirements. Three separate multiple linear regressions were run using a backward, step-wise loading where the model was run in multiple iterations. After each analysis the least impactful, non-significant factor was eliminated and the model re-run until zero non-significant factors remained.

Two key assumptions of multiple regression are independence of errors and collinearity. To assess the assumptions of independence of errors, a Durbin-Watson test was run with each regression model. The Durbin-Watson reports a value of 0-4. Field

(2013) suggested that values less than one and greater than three are cause for concern. No values were reported outside of this range and the assumption was satisfied. To assess the assumption of collinearity, correlations and variance inflation factors (VIFs) were calculated. Correlations above .80 or any one VIF above 10 is cause for concern (Field, 2013). No values outside these thresholds were found and the assumption was considered satisfied.

Limitations

The sample accessed is the primary limitation for this study. A sample was generated large enough to satisfy the needs for a linear regression analysis. However, as part of a larger study, the state samples needed to be similar in size. A sample of 60 teachers in Oregon represents over half of the population. In Texas, that same sample size represents approximately 3%. The data and results should not be generalized beyond the states included, and caution should be exercised in generalizing to the Texas population.

Assumptions

Vogt (2005) defines a research assumption as a statement, idea, or concept that is presumed to be true for a situation, purpose, or time. A new instrument developed for this survey-based study. As such, the assumptions for what follows are:

- The agriscience teachers who received the study were the same individuals completing the instrument,
- Survey completers dedicated adequate time and focus to answer the questions honestly and thoughtfully,

- Participants provided information that was truthful and an honest reflection of their opinions, and
- Though examined for face and content validity, it was assumed the instrument accurately assessed the objectives of the study.

Results

The final response rate was 62.1% (n = 121) with 48 from Oregon (80%), 42 from Georgia (70%), and 31 from Texas (62.1%). There were random holes in the third section of the data set on programmatic influencers that could be caused by participant oversight, error, or a choice to not answer the section of questions. These holes were left blank and SPSS excluded them from the regression calculations. The final, usable sample size was n = 106. Early responders were compared with late responders on the three dependent variables to account for non-response error. Early responders were defined as those who responded in the first three weeks of data collection (n = 79) and responders were those who provided data during the second three weeks (n = 42). No significant differences were found between early and late responders on perceived levels of classroom instruction $t(119) = -.402$, $p = .688$, SAE $t(119) = -.205$, $p = .838$, or FFA $t(119) = .774$, $p = .440$.

Though not a research question, the mean perceived levels of classroom instruction, SAE, and FFA are provided in Table 41. Additionally, correlations between the factors and dependent variables are provided in Table 4.2. Collinearity is a key statistical assumption and the correlations between factors are presented in Table 4.3.

Table 4.1

Descriptive Statistics for Perceived Levels of Classroom Instruction, FFA, and SAE in SBAE Programs in Oregon, Georgia, and Texas

		Classroom Instruction		FFA		SAE	
	N	*M*	*SD*	*M*	*SD*	*M*	*SD*
Overall	121	46.50	14.46	31.75	10.05	21.75	9.55
Oregon	48	50.85	14.50	30.63	10.00	18.52	9.82
Georgia	42	46.12	14.43	30.72	9.94	23.17	7.92
Texas	21	40.27	12.33	37.88	9.95	24.85	9.95

Table 4.2

Correlations of Factors (IV) With Outcome Factors of Perceived Mean Levels Classroom Instruction, FFA, and SAE (n = 106)

	Classroom Instruction	FFA	SAE
Advisory Committees	-.31	-.08	.13
Support Groups	-.84	.08	.05
Post-Secondary Partners	-.50	-.04	.12
Industry Partners	-.12	-.01	.18
District Administration	-.14	.13	.08
Personal Preferences	-.65	.10	-.01
Program History	-.080	.15	-.31
State Program Requirements	.02	-.040	.01

Table 4.3

Pearson's Correlations for Collinearity Assumption Assessment of Factors (n = 121)

Factor	1	2	3	4	5	6	7	8
1	-	. 45	.46	.54	.24	.16	-.09	.01
2		-	.43	.39	.29	.21	-.03	.13
3			-	.64	.33	.16	-.02	.13
4				-	.31	.14	-.12	.19
5					-	.40	.17	.31
6						-	.19	.04
7							-	.13
8								-

Note. Factor 1 = Advisory Committees, Factor 2 = Community Support Groups, Factor 3 = Post-Secondary Partners, Factor 4 = Industry Partners, Factor 5 = District Administration, Factor 6 = Personal Preferences, Factor 7 = Program History, Factor 8 = State Program Requirements

Research questions 1-3 sought to determine if any of the summated predictor factors could be used to predict the outcome levels of perceived classroom instruction, FFA, and SAE percentages of a whole program. A backward step-wise regression model was run for each of the three dependent variables. In each analysis, the non-significant factor with the least impact was eliminated and the model re-run until only significant factors loaded. No predictors loaded for any of the dependent variables. For reference, Table 4.4 provides data for the model with all factors as well as the last factor retained.

Table 4.4

Backward Step-Wise Regression Model Summaries of Predicting Factors on Classroom Instruction, FFA, and SAE

	R^2	*F*	*df*	*p*
Classroom Instruction				
Whole Model	.04	.52	8, 97	.83
Last Factor (Admin)	.02	.60	1, 103	.44
FFA				
Whole Model	.06	.83	8, 97	.58
Last Factor (History)	.02	1.11	1, 103	.30
SAE				
Whole Model	.05	.58	8, 97	.80
Last Factor (Industry)	.03	.43	1, 103	.51

Conclusions / Implications / Recommendations

The results for this study were not statistically significant. No factors loaded in the backward step-wise regression analyses for the dependent variables of perceived levels of classroom instruction, FFA, or SAE levels. The researchers recognize many possibilities for this. While the results are accurate and representative of the sample, the possibility exists that perhaps the instrument is flawed and does not accurately measure program influencing factors. Another possibility exists that summating the sub-set data into an aggregated variable nullified the impact of specific factors. For each of the

suggested predictors, respondents were asked to indicate the level of influence the predictor had on the overall direction of the program, curricular/classroom focus, FFA activities, and SAE involvement (Figure 4.5). The possibility exists the data is providing conflicting values whereby a factor may have strong influence in one area and minimal influence in another and the values are offsetting. By way of clarification in the provided sample question, Advisory Committees may have a strong impact on program direction or curriculum but little to no impact on SAE activities. The analysis should be re-run with dis-aggregated data such that the dependent variables are only predicted by those responses relating to them.

In our program, Advisory Committees are used to help determine:

	Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
The overall direction of our program.	○	○	○	○	○	○
Curriculum focus or content in the classes taught.	○	○	○	○	○	○
The FFA activities and contests we participate in.	○	○	○	○	○	○
The focus of SAE activities for members and participation at Stock Shows or Fairs.	○	○	○	○	○	○

Figure 4.5 Sample instrument question on the use of advisory committees.

Further research opportunities exist in different methodologies. A targeted Delphi study would provide opportunities for open-ended input on sources of programmatic influence. Additionally, the questionnaire and conceptual model suggested could be used in an exploratory factor analysis (EFA). The EFA study would be structured such that programmatic balance is categorically operationalized based on the relative levels of

three dependent variables in this study similar and factors calculated from the potential influencers suggested here.

The non-significant findings of this study should not be the end to this line of questioning. There is an ongoing loss of SBAE teachers prior to retirement and a shortage of teachers in the profession for over 50 years (Kantrovich 2007; Smith et al., 2018). Some of the loss is caused by burnout the heavy workload and/or an inability to prevent work obligations from interfering with family (Sorenson, McKim, & Velez, 2016). Dis-aggregating the data and revising the modeling process could provide insight into factors creating this interference or overload. The possibility of not being able to identify the sources of direction, balance, and potential overload is troubling. It may be that the factors suggested here are genuinely not influences on the program. The suggested Delphi study would help remedy this problem. Instrumentation and analysis may not be the issue. SBAE teachers may be unaware of the systemic or specific influence of factors on their program and professional lives. Needs assessments should be conducted and professional development opportunities developed. Additionally, the idea of programmatic balance, direction, and intentional planning should be included in all teacher preparation programs of agricultural education.

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CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

While this study is not focused on work life balance directly; the impetus for this study stemmed from continued reports on the shortage of SBAE teachers (Kantrovich, 2007; Smith, Lawver, & Foster, 2017) coupled with the studies indicating that difficulty in balancing work and family life have negative impacts on career longevity (Sorenson, McKim & Velez, 2016; Hainline, Ulmer, Ritz, Burris & Gibson, 2015; Crutchfield, Ritz & Burris, 2013; Murray, Flowers, Croom & Wilson, 2011). The initial aim for this study was to look beyond the idea of balancing workload or work-life balance and into the balance of the programs themselves.

Though suggested in places, the idea of a balanced program or "programmatic balance" is not defined in literature. This void altered the structure of this project into three studies in two phases. The first phase employed a modified Delphi method to identify elements of balanced programs and suggest a definition of "programmatic balance". The second phase used a researcher designed instrument for two separate investigations. The first assessed perceived and ideal levels of programmatic balance in three states and made statistical comparisons using *t* – Tests and one-way ANOVAS. The second investigated factors of program influence using a reverse, step-wise regression analysis.

Phase I- Defining Programmatic Balance Conclusions

The first study utilized a modified Delphi method to identify elements of a balanced program and define "programmatic balance" within the context of SBAE programs. Members of the National Association of Supervisors in Agricultural

Education (NASAE) were utilized as the panel of experts. The generative round asked panel members how they would define program balance within the context of classroom instruction, FFA, SAE, or other program components. The responses (n = 41) provided 99 initial codes under eight themes that were used to create the second-round instrument. In the second and third rounds, any item with a mean agreement score of 5+ on a 1-6 Likert-type scale or where 83.3% of members indicated agreement were considered accepted for consensus. Fifteen prompts met consensus levels and were used to generate the following definition:

> A balanced SBAE program is one where:
>
> - The classroom is the foundation of the program, and should be driven by the needs of the community, the interest of the students, and include field, laboratory and/or shop activities;
>
> - Equal importance is placed on FFA and SAE engagement for all students and where those (FFA and SAE) opportunities are relevant to the students, build from what is taught, and evidence of activities are included in the overall performance evaluation of the student; and where
>
> - Leadership and career development are not exclusive to formal FFA functions and opportunities exist in classroom, lab, and in the community.

The idea of the classroom as the foundation of the program and FFA and SAE should build from what is taught was a recurring theme. These ideas challenged the idea of the three-circle model. It was difficult to visualize and communicate balance with two circles stemming from another that is foundational. A new visual is suggested in Figure 5.1 where the classroom component is literally the foundation of the model and represents the suggested position from the panel.

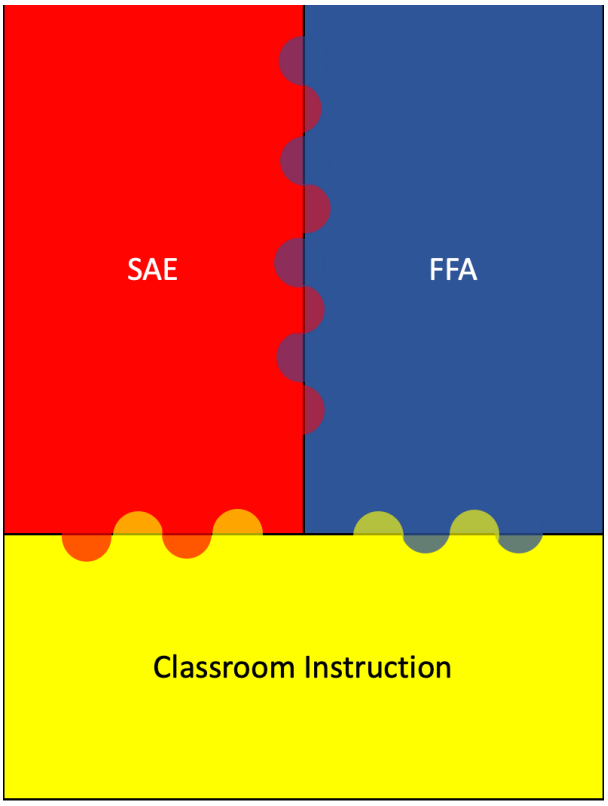

Figure 5.1 Suggested new visual model of programmatic balance where the classroom serves as the foundation of SAE and FFA activities.

Phase II

The second phase of the study utilized survey research methods to collect data for two separate studies. A stratified random sample (N = 180) was taken from SBAE teachers in Texas (n = 60), Georgia (n = 60), and Oregon (n = 60). The instrument was developed by the researcher, evaluated for face and content validity, and pilot tested on a random sample of New Mexico SBAE teachers (n = 60). Reliability was calculated (α = .94) using pilot test data.

Measuring and Comparing Perceived and Ideal Program Component Levels

The first study in phase two measured perceived and programmatic balance of the classroom instruction, FFA, and SAE components of an SBAE program. The recorded

data (n = 121) were used in two sets of analyses where perceived and ideal levels of each component were compared for each state (Table 5.1). SBAE teachers reported statistically significant differences between perceived and ideal levels of classroom instruction and SAE activities. All three states indicated a preference for SAE activity levels to increase and a reduction in the weight placed on classroom instruction.

Table 5.1

Differences Between Perceived and Ideal Levels of Classroom Instruction and SAE in Oregon, Georgia, and Texas

	n	*t*	df	*p*	Cohen's *d*	Effect
Classroom Instruction						
Oregon	48	5.07	47	< .001	.69	Medium
Georgia	42	2.68	41	.010	.33	Small
Texas	31	5.06	30	<.001	.66	Medium
Overall	121	7.05	120	<.001	.53	Medium
SAE						
Oregon	48	-8.96	47	< .001	1.13	Large
Georgia	42	-3.04	41	.004	.50	Small
Texas	31	-3.40	30	.002	.59	Medium
Overall	121	-8.42	120	< .001	.75	Medium

Further analysis compared mean levels of perceived classroom instruction, FFA, and SAE levels between the states and made a parallel comparison of ideal levels of the same components. Significant differences were found between Oregon and Texas in perceived levels of classroom instruction ($F(2, 118) = 5.44$, $p = .006$) with Oregon

teachers indicating teaching made up nearly 10% more of their program's activities. Perceived SAE levels also produced significant differences. Texas and Georgia teachers indicated SAE activities were a more heavily utilized program component than in Oregon ($F(2, 118) = 5.18$, $p = .007$). When comparing ideal component levels between states, significant differences were found in classroom instruction ($F(2, 118) = 4.80$, $p = .010$) and FFA activity levels ($F(2, 118) = 5.37$, $p = .006$). Texas was significantly different in both areas than Georgia and Oregon. Texas SBAE teachers indicated that they would allocate less time to classroom instruction and more focus on FFA activities than their counterparts in the other states (Figure 5.2).

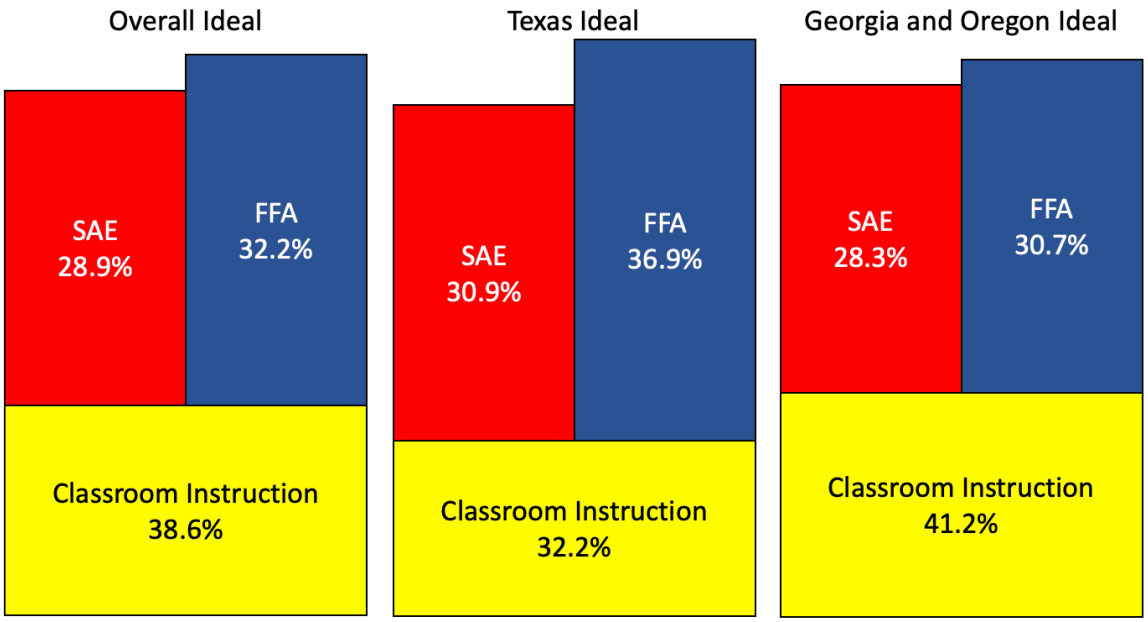

Figure 5.2 Visual comparison of ideal levels of classroom instruction, FFA and SAE level between the three states combined, Texas, Georgia and Oregon.

Potential Shaping Factors on Programmatic Balance

The second study in Phase II investigated the role potential influencing factors play in shaping the overall balance of the program. The instrument used was the same

for both studies in the second phase. The outcome variables were the perceived levels of classroom instruction, FFA, and SAE levels reported by respondents from the included states (n = 121). Data for predictor variables came from eight blocks of questions for the following potential influencers: advisory committees, community support groups (i.e. alumni or booster groups), post-secondary partners, industry partners, district administration, personal preferences, program history, and state program requirements. For each influencer, participants were asked to indicate to what extent the factor shaped the overall direction of the program, curriculum focus or content in classes, FFA activities and contests, and focus of SAE activities including participation in stock shows or fairs. The four data components under each influencer were summated to create new aggregated variables. Collinearity was checked using VIF factors and correlation tables as recommended by Field (2013).

Three separate linear regression models were run with mean perceived classroom instruction, FFA, and SAE levels as the respective outcome variables. The predictor variables were loaded in a backward, step-wise analysis where the model was run with all factors first, followed by subsequent re-running of the model after the elimination of the least influential, non-significant factor until only significant factors loaded. In all three analyses, no factors loaded as significant influencers on programmatic direction. One of the contributing factors to this outcome was likely caused by the creation of summated, aggregate variables. Respondents were asked to indicate the impact of the predictor on four different program areas which could be providing offsetting values of influence. The data should be dis-aggregated and the analysis re run.

Implications and Recommendations

This disparity found between "what is" and "what should be" could be the impetus for frustration, burnout, or perceptions of imbalance. The decision-making model proposed here by merging Theory of Planned Behavior, Expectancy Value Theory, and Self-Efficacy (Figure 5.3) shows the decision-making process is influenced by personal beliefs, values, subjective norms, and a cost/usefulness value. If an SBAE teacher believes their ideal program cannot be created owing to external influences or subjective community and cultural norms, frustration and burnout are likely outcomes.

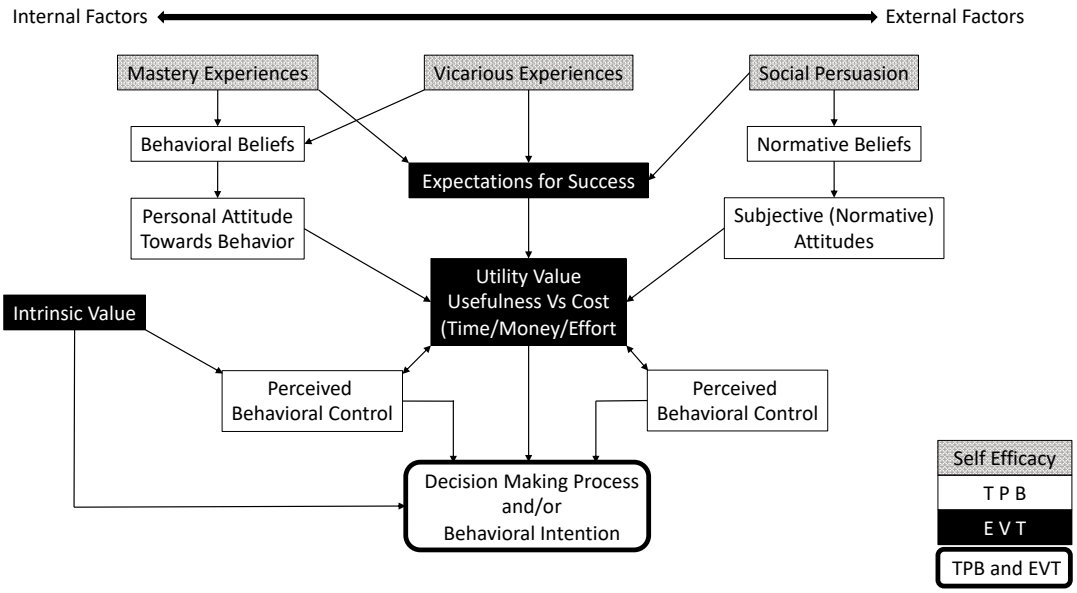

Figure 5.3 Decision making model based on the Theory of Planned Behavior, Expectancy Value Theory, and Self-Efficacy.

More research is needed on this topic. Utilizing the slider response questions and a minimal number of demographic questions, collecting data would be brief and minimally intrusive on SBAE teachers. A national picture of ideal programmatic balance could be used to set a baseline recommendation for SBAE and teacher preparation programs. However, the ANOVA analysis suggests regional differences exist. When

comparing ideal programmatic balance levels, Texas was significantly different than Georgia or Oregon in classroom instruction and SAE levels. The recommended national study should also include identifying differences between the states.

Further study is also needed to explore regional differences within states. States with large numbers of teachers should be sampled by geographic or FFA areas and the data analyzed statistically. States with smaller numbers may not meet the statistical assumptions for inferential analysis, but descriptive information could be used to identify patterns for future inquiry.

While a great foundation, knowing how teachers would prefer to shape their programs is insufficient. How programmatic development decisions are made is another area where more research is needed. The proposed model of potential influencers (Figure 5.4) was developed from a combination of program planning and design recommendations from teacher preparation textbooks and agricultural education organizations like FFA and the Council. Additional input came from statewide programs of study or work in conjunction with personal and anecdotal or vicarious experiences. Although the regression analysis (as run) did not support the influence of the suggested components, the conceptual model still stands and should be used for new teacher training and further study. The simplest option for further research is to dis-aggregate the summated variables and re-run the data while isolating inputs on classroom instruction, SAE, and FFA on their respective outcome variables.

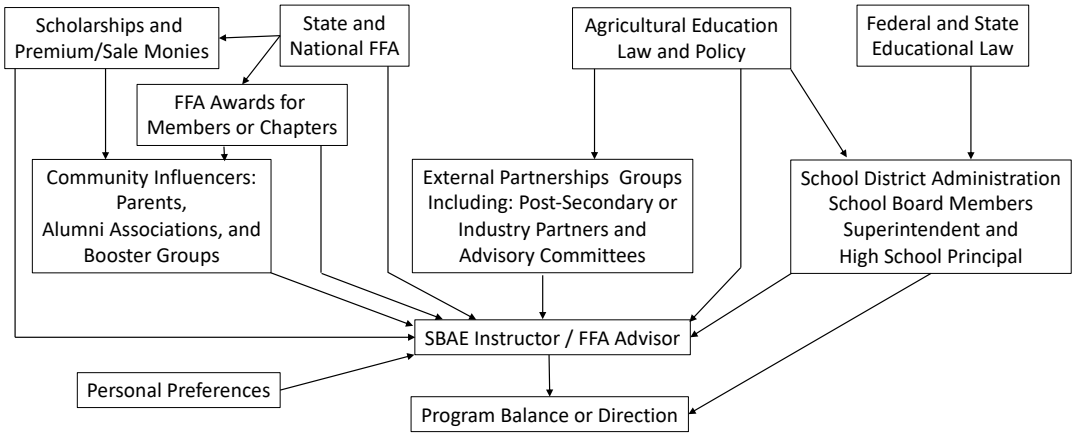

Figure 5.4 Potential influencers of programmatic balance in school based agricultural education.

The instrument measuring program influencers may need revision and re-development to more accurately capture potential impact. The possibility also exists that SBAE teachers may not be aware of how, or if, certain outside forces are shaping their program. The model shown in 5.4 should be included in teacher preparation programs as part of the program planning curriculum. Professional development opportunities should be provided to SBAE teachers in program assessment and evaluation to help develop awareness of the process as well. A proposed model utilizing all of the components of the process, from program input and influence through student outcomes is presented in Figure 5.5.

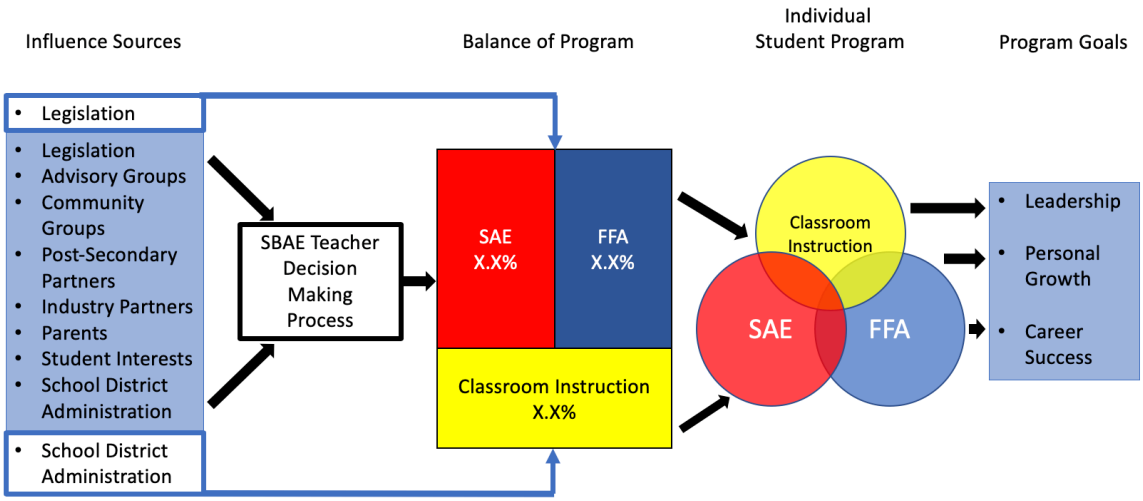

Figure 5.5 Visual depiction of SBAE program structure of input, balance and outcomes.

Developing an awareness of stakeholder influence should only be one step in future efforts. The directionality of influence should become part of the research and professional development agenda. SBAE teachers should have the resources, opportunity, and training to proactively seek the input of key stakeholders in a concerted and deliberate effort to create a program based on the needs of students, community, and school district interests (Figure 5.6).

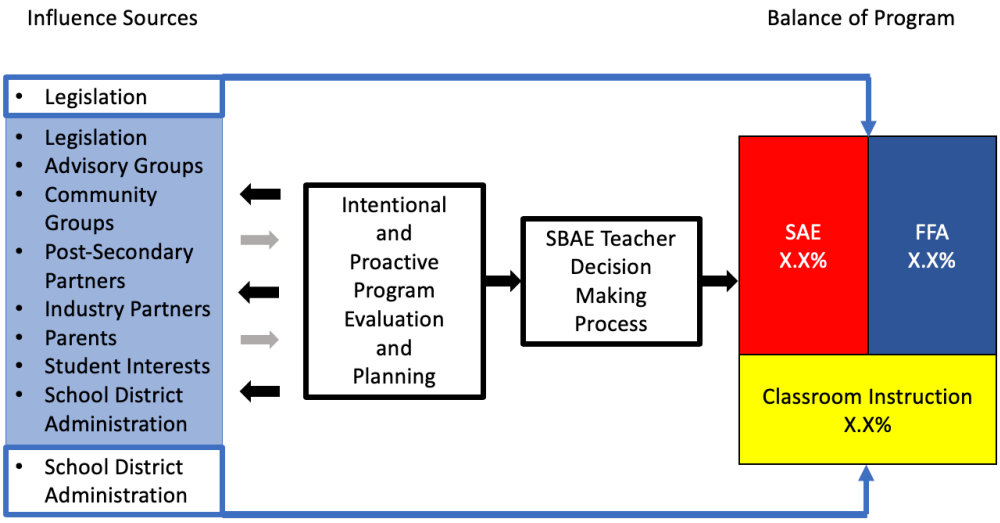

Figure 5.6 Proposed model for planning programmatic balance using stakeholder input.

Recommendations for Research and Practice

An actual listing of NASAE members accessed for the Delphi study could not be accessed. As such, a limitation developed owing from not being able to identify individual respondents and verify similarities from round to round. Additionally, the researchers were not able to directly contact the panel for reminders which may account for the different response rates in subsequent rounds. The proposed definition of programmatic balance should be submitted to practitioners and peers for review, feedback, and revision. Additional research should be to re-establish a formal and repeatable panel and perform rounds two and three again.

The study on perceived and ideal programmatic balance should be replicated in all states. This national study will help create a stronger awareness of the national balance as well as any disparities between what is and what is desired. The data from this study should be used to enhance curriculum on intentional programmatic planning. The collected demographic data from this and future studies should be included in additional analyses based on age, gender, and years of experience.

In this study, the components of agricultural education for students and programs only included classroom instruction, FFA, and SAE. Further study should investigate, not only the tasks performed by an agricultural educator, but how those tasks are classified. While many of these tasks may classify neatly into the three included in this study, the possibility for additional components to the model should be investigated. An updated model for program or instructor focus would better serve the planning process.

Agricultural education is one of many individual subjects under the broader umbrella of career and technical education. In recent years CTE has adopted the three-

component model of education with the categories of classroom instruction, experiential education, and CTSO. Expanding the scope of this line of research to include the broader range of CTE should be a consideration.

Overarching Implications

Prior to passing the Vocational Education Act of 1963, national and state directors provided much of the leadership direction for SBAE programs. More than forty years later, the question of who is providing leadership in agricultural education was posed to faculty members in the profession with the following options. The majority response indicated that none of the expected sources of leadership were, in fact, leading the profession (Moore, 2006). Instead of a lack of leadership, we are now experiencing input that lacks cohesion or provides contradictory advice and requirements. State and national FFA organizations develop new programs, the council recommends policy or program shifts in FFA programs, CTE legislation mandates program components and requirements, state and federal law continually shift, school districts are under pressure to improve student performance, industry partners are asking for workforce skills, and parents simply want what is best for their students on an individualized basis. All of this input can be overwhelming.

Whether you are looking at process, inputs, or content; agricultural education is complex. Teacher education programs do an outstanding job of assuring content knowledge, providing pedagogical options, and teaching youth program management. As leaders in the profession, I believe our greatest opportunity is to develop a deeper understanding of programmatic balance and its sources. With this deeper understanding of the complexity of program planning, we will be more able to deliver content to

preservice teachers in such a way that they enter the profession of agricultural education better prepared for the challenges in front of them.

The teacher shortage in agricultural education is a real and ongoing problem (Kantrovich, 2007; Smith, Lawver, & Foster, 2018). Many studies have investigated work-life balance within the context of agricultural education and noted that SBAE teachers are working more than 55 hours per week and are challenged by balancing work and life requirements (Sorenson, McKim & Velez, 2016; Hainline, Ulmer, Ritz, Burris & Gibson, 2015; Crutchfield, Ritz & Burris, 2013; Murray, Flowers, Croom & Wilson, 2011). While not a study on work-life balance, this project began a line of inquiry into one half of the work life balance issue. By developing a deeper understanding of how programs are balanced, we can further examine the *work* side of work life balance. If we are to stem the loss of agricultural educators from the profession, we need to continually and critically examine all facets of the field with an eye towards improvement.

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Appendix A – IRB Approval

TEXAS TECH UNIVERSITY
Human Research
Protection Program

Nov 1, 2018 8:11 AM CDT

John Rayfield
Ag Education and Communication

Re: IRB2018-975 Exploring Programmatic Balance in Texas School Based Agricultural Education Programs

Findings: *Good luck with your research.*

Dear Dr. John Rayfield, Keith Frost:

The Human Research Protection Program determined that your project is no more than minimal risk to the participants and meets at least one of the federal exempt categories under 45 CFR 46:
Category 2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Therefore, annual review is not required, and no expiration date will be listed on your exempt letter. Once your research is complete, please use a **Closure Submission** to archive this study.

The research must follow Texas Tech University's Operating Procedures, the Belmont Report, and 45 CFR 46. If changes to the approved protocol occur, a modification submission must be reviewed and approved by the IRB before implementation. Please contact the Human Research Protection Program to determine if a modification is needed or submit a **Modification Submission** in Cayuse IRB. Please be aware that changes to the research protocol may prevent the research from qualifying for exempt review and require submission of a new IRB application or other materials to the Texas Tech University IRB.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite our best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your research, please notify the Texas Tech University, Human Research Protection Program as soon as possible. We will ask for a complete explanation of the event and for you to submit an **Incident Submission** in Cayuse IRB.

Your study may be selected for a Post-Approval Monitoring (PAM). You will be notified if your study has been chosen for a PAM.

Sincerely,

Scott Burris, Ph.D.
Chair Texas Tech University Institutional Review Board Professor,
Department of Agricultural Education and Communications

Human Research Protection Program
357 Administration Building
Lubbock, Texas 79409-1075
T 806.742.2064
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Appendix B – Delphi Study Round One Instrument

Defining Programmatic Balance - A Delphi Study Round One

iQ Score: Fair | Published

Block 1 — Block Options

Q1 What is your primary role?

- State Supervisor
- Executive Secretary
- Both: State Supervisor and Executive Secretary
- Other

Import Questions From... | Create a New Question

Add Block

Default Question Block — Block Options

Q2

The "Three-Circle" model used to describe the elements of school based agricultural education (SBAE) has been in use since it first appeared in the National FFA Handbook in 1975 (Croom, 2008). It depicts three overlapping circles of equal size representing classroom/laboratory instruction, supervised agricultural experiences, and the FFA. Although it has undergone some revisions, the elements of three equally sized circles has remained constant.

Although the model shows an equal balance of all three elements, is it representative of how SBAE programs should be operated? There are examples of programs, across the country where only one or two elements of the model are represented very heavily, and others nearly ignored.

In the space below, please provide your input on the following question: How do you define a balanced agricultural education program in terms of classroom instruction, FFA, SAE, or other programmatic activities?

(You are not limited on word count. Please include as much information or content as you like.)

Appendix C – Delphi Study Round Two Instrument

Defining Programmatic Balance - A Delphi Study Round Two

iQ Score: Fair | Draft Version

Role — Block Options

Q1 What is your primary role

- State Supervisor, State Advisor, Executive Director
- Executive Secretary, Leadership Development Coordinator, Scholarship Coordinator
- Both: State Supervisor and Executive Secretary
- Other:

Import Questions From... | Create a New Question

Add Block

Theme: Equal Balance Among the Three Circles — Block Options

Q2 A program should equally incorporate all elements of the three-circle model.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q3 Placing equal importance to classroom instruction, FFA, and SAE is essential to having a successful school based agricultural education program.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Import Questions From... | Create a New Question

Classroom Instruction is Foundational

Block Options

Q4 Classroom instruction and FFA activities are the foundation of a program and SAE should build off these two components.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q5 It is not realistic for SAE to carry the same weight as clasroom instruction or the FFA

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q6 The classroom is where it all starts without which, the other two circles don't exist.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q7 The classroom circle should be the largest and the FFA and SAE circles should be smaller, but equal.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q8 The classroom is the foundation of the other two elements. SAE programs should be built based on what has been presented in class and the interests of the students. FFA is used to reward and support the other two areas.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q9 The classroom circle should be the largest, the FFA the second largest, and SAE the smallest.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q10 Too many programs try to build it backwards and create a strong FFA first when the classroom focus should be the priority.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q10

Too many programs try to build it backwards and create a strong FFA first when the classroom focus should be the priority.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q11

Classroom instruction should be the driving factor for a program. In the model, the FFA and SAE circles should be equal and reside inside the larger "Classroom" circle.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q12

Agriscience teachers are hired to teach students first. Classroom curriculum should include FFA and SAE content, but spending equal time on all three is not realistic.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q13

Agriculture teachers should spend the vast majority of their time teaching. There is no way (or there shouldn't be) the other two circles should equal the amount of time spent teaching.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q14

The classroom circle should be the largest, SAE the second largest, and FFA the smallest.

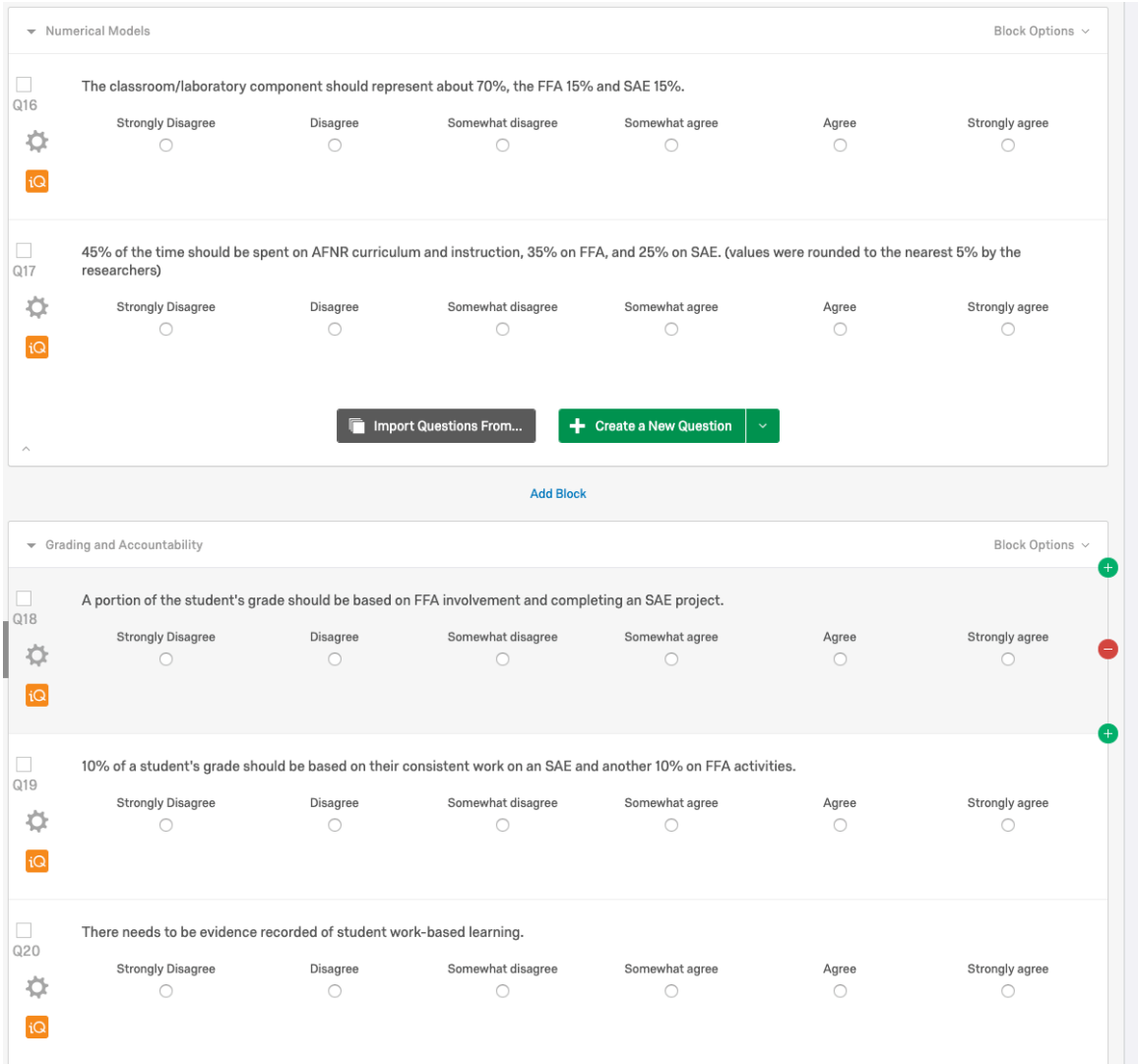
Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q15

FFA and SAE programs should grow out of what is taught in the classroom.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Import Questions From... | Create a New Question


Numerical Models
Block Options
Q16
The classroom/laboratory component should represent about 70%, the FFA 15% and SAE 15%.
Strongly Disagree
Disagree
Somewhat disagree
Somewhat agree
Agree
Strongly agree
Q17
45% of the time should be spent on AFNR curriculum and instruction, 35% on FFA, and 25% on SAE. (values were rounded to the nearest 5% by the researchers)
Strongly Disagree
Disagree
Somewhat disagree
Somewhat agree
Agree
Strongly agree
Import Questions From...
Create a New Question
Add Block
Grading and Accountability
Block Options
Q18
A portion of the student's grade should be based on FFA involvement and completing an SAE project.
Strongly Disagree
Disagree
Somewhat disagree
Somewhat agree
Agree
Strongly agree
Q19
10% of a student's grade should be based on their consistent work on an SAE and another 10% on FFA activities.
Strongly Disagree
Disagree
Somewhat disagree
Somewhat agree
Agree
Strongly agree
Q20
There needs to be evidence recorded of student work-based learning.
Strongly Disagree
Disagree
Somewhat disagree
Somewhat agree
Agree
Strongly agree

There may need to be other circles in the model

Block Options

Q21

There needs to be a fourth circle called "Community".

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q22

Exemplary programs and teachers work to strengthen not only their classroom instruction, FFA, and SAE components, but also their program marketing, partnerships, program planning, and professional growth.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Import Questions From... | Create a New Question

Add Block

Other Venues for Leadership and Personal Development

Block Options

Q23

Personal and leadership development can be developed in many ways including the classroom, shop, or through community engagement.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

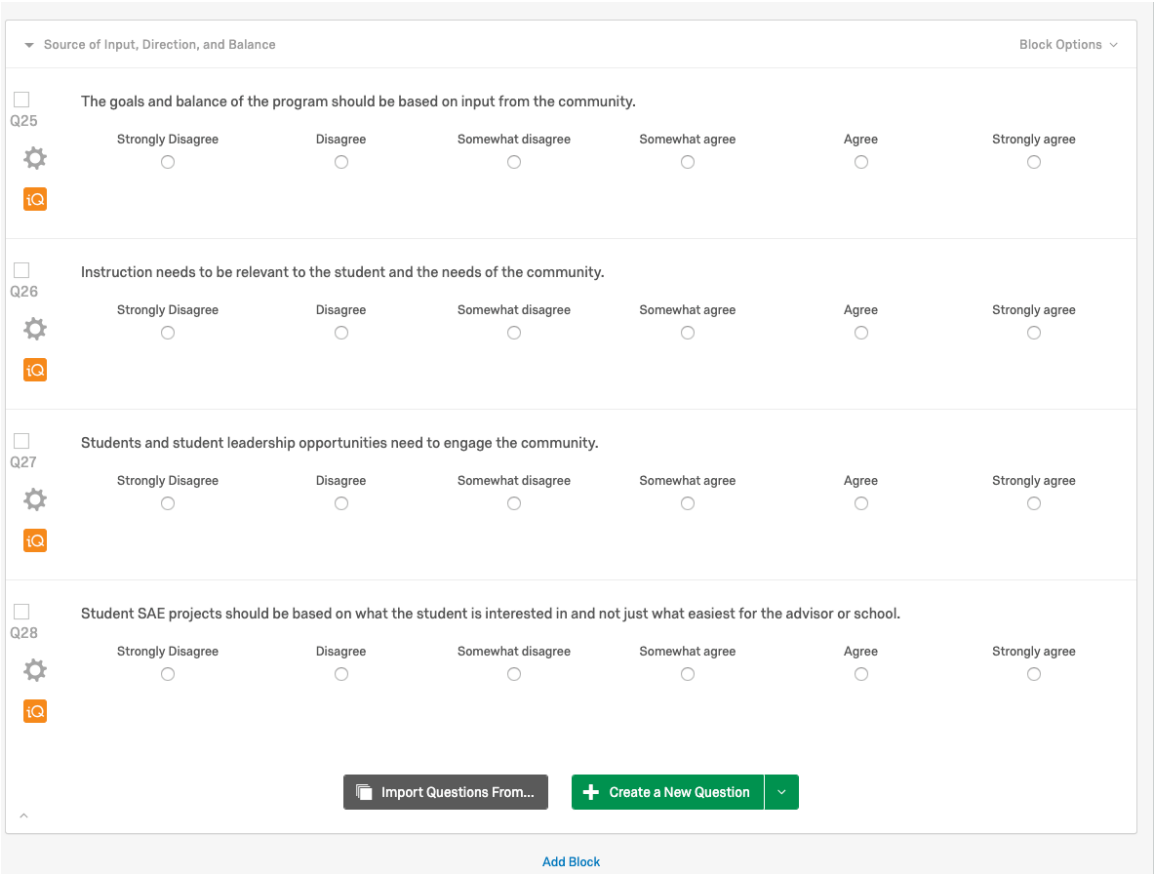
Q24

All students need experiences to develop leadership potential and to work with with others to achieve a common goal. These experiences can come from the FFA but do not need to. We've lost a lot of focus that can happen at the local (community) level.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Import Questions From... | Create a New Question

Add Block


Source of Input, Direction, and Balance
Block Options
Q25
The goals and balance of the program should be based on input from the community.
Strongly Disagree
Disagree
Somewhat disagree
Somewhat agree
Agree
Strongly agree
Q26
Instruction needs to be relevant to the student and the needs of the community.
Strongly Disagree
Disagree
Somewhat disagree
Somewhat agree
Agree
Strongly agree
Q27
Students and student leadership opportunities need to engage the community.
Strongly Disagree
Disagree
Somewhat disagree
Somewhat agree
Agree
Strongly agree
Q28
Student SAE projects should be based on what the student is interested in and not just what easiest for the advisor or school.
Strongly Disagree
Disagree
Somewhat disagree
Somewhat agree
Agree
Strongly agree
Import Questions From...
Create a New Question
Add Block

Other - Non-Classified

Block Options

Q29

Classroom instruction should include field or laboratory/shop components.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q30

Teachers should not just teach the "contest kids". If there is not value in teaching the concepts of the CDE to all students, perhaps the CDE is irrelevant.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q31

Chapters need to have monthly meetings, functioning committees, and be engaged in service to the community. Competitions and contests should not take precedence over the aforementioned.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q32

Programs are seen as "successful" if they have proficiency winners, have frequent state officers, or numerous fair/show projects each year, but a truly successful program is where students are enrolled in agricultural education courses each year, have SAE projects that they work on outside of class, and are involved in the FFA at least at the local level.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q33

The FFA is a component of agricultural education but, really, it is the tail that wags the dog.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Import Questions From... | Create a New Question

Appendix D – Delphi Study Round Three Instrument

Defining Programmatic Balance - A Delphi Study Round Three

iQ Score: Fair | Published

Role — Block Options

Q1 **What is your primary role**

- State Supervisor, State Advisor, Executive Director
- Executive Secretary, Leadership Development Coordinator, Scholarship Coordinator
- Both: State Supervisor and Executive Secretary
- Other:

Import Questions From... | Create a New Question

Add Block

Block 6 — Block Options

Q38 This survey is based on the previous (round two) instrument and contains 9 questions for you to re-consider for inclusion in our developing definition of "programmatic balance".

These questions were selected from your responses where at least half of those who responded indicated some level of agreement but the average was not at the level designated for immediate consensus of "Agree" or higher (5.0) or where 83% of respondents indicated some level of agreement.

For each question, the results from round two are included. The results for all questions were sent as email attachments.

For this round, questions will be considered in consensus if 80% of respondents indicate some level of agreement.

Import Questions From... | Create a New Question

Add Block

Q4

Classroom instruction and FFA activities are the foundation of a program and SAE should build off these two components.

Round 2 Results:

Number of Respondents in Agreement- 34
Percent of Respondents in Agreement- 53.1
Average Level of Agreement with (Standard Deviation)- 3.56(1.36)

Please indicate your level of agreement to the statement:

Classroom instruction and FFA activities are the foundation of a program and SAE should build off these two components.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q5

It is not realistic for SAE to carry the same weight as classroom instruction or the FFA.

Round 2 Results:

Number of Respondents in Agreement- 45
Percent of Respondents in Agreement- 70.3
Average Level of Agreement with (Standard Deviation)- 4.28(1.27)

Please indicate your level of agreement to the statement:

It is not realistic for SAE to carry the same weight as classroom instruction or the FFA.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q6

The classroom is where it all starts without which, the other two circles don't exist.

Round 2 Results:

Number of Respondents in Agreement- 52
Percent of Respondents in Agreement- 81.3
Average Level of Agreement with (Standard Deviation)- 4.92 (1.30)

Please indicate your level of agreement to the statement:

The classroom is where it all starts without which, the other two circles don't exist.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q8

The classroom is the foundation of the other two elements. SAE programs should be built based on what has been presented in class and the interests of the students. FFA is used to reward and support the other two areas.

Round 2 Results:
Number of Respondents in Agreement- 38
Percent of Respondents in Agreement- 59.4
Average Level of Agreement with (Standard Deviation)- 3.69(1.43)

Please indicate your level of agreement to the statement:

The classroom is the foundation of the other two elements. SAE programs should be built based on what has been presented in class and the interests of the students. FFA is used to reward and support the other two areas.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q10

Too many programs try to build it backwards and create a strong FFA first when the classroom focus should be the priority.

Round 2 Results:
Number of Respondents in Agreement- 52
Percent of Respondents in Agreement- 81.3
Average Level of Agreement with (Standard Deviation)- 4.45(1.17)

Please indicate your level of agreement to the statement:

Too many programs try to build it backwards and create a strong FFA first when the classroom focus should be the priority.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Q12

Agriscience teachers are hired to teach students first. Classroom curriculum should include FFA and SAE content, but spending equal time on all three is not realistic.

Round 2 Results:
Number of Respondents in Agreement- 37
Percent of Respondents in Agreement- 57.8
Average Level of Agreement with (Standard Deviation)- 3.69(1.36)

Please indicate your level of agreement to the statement:

Agriscience teachers are hired to teach students first. Classroom curriculum should include FFA and SAE content, but spending equal time on all three is not realistic.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Grading and Accountability

Block Options

Q19

10% of a student's grade should be based on their consistent work on an SAE and another 10% on FFA activities.

Round 2 Results:
Number of Respondents in Agreement- 41
Percent of Respondents in Agreement- 65.1
Average Level of Agreement with (Standard Deviation)- 3.81(1.12)

Please indicate your level of agreement to the statement:

10% of a student's grade should be based on their consistent work on an SAE and another 10% on FFA activities.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Import Questions From... | Create a New Question

Add Block

Other Venues for Leadership and Personal Development

Block Options

Q24

All students need experiences to develop leadership potential and to work with with others to achieve a common goal. These experiences can come from the FFA but do not need to. We've lost a lot of focus that can happen at the local (community) level.

Round 2 Results:
Number of Respondents in Agreement- 48
Percent of Respondents in Agreement- 76.2
Average Level of Agreement with (Standard Deviation)- 4.29(1.24)

Please indicate your level of agreement to the statement:

All students need experiences to develop leadership potential and to work with with others to achieve a common goal. These experiences can come from the FFA but do not need to. We've lost a lot of focus that can happen at the local (community) level.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Import Questions From... | Create a New Question

Other - Non-Classified

Block Options

Q33

The FFA is a component of agricultural education but, really, it is the tail that wags the dog.

Round 2 Results:
Number of Respondents in Agreement- 45
Percent of Respondents in Agreement- 71.4
Average Level of Agreement with (Standard Deviation)- 3.89(1.26)

Please indicate your level of agreement to the statement:

The FFA is a component of agricultural education but, really, it is the tail that wags the dog.

Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
○	○	○	○	○	○

Import Questions From... | Create a New Question

Add Block

Appendix E – Phase II Instrument

Programmatic Balance of School Based Agricultural Education Programs-OR

iQ Score: Fair | Published

Demographics | Block Options

Q1 What state are you currently teaching in?

- Georgia
- Texas
- Oregon
- New Mexico

Q2 How many years (including this year) have you been teaching in a School Based Agricultural Education Program?

Q3 What year were you born?

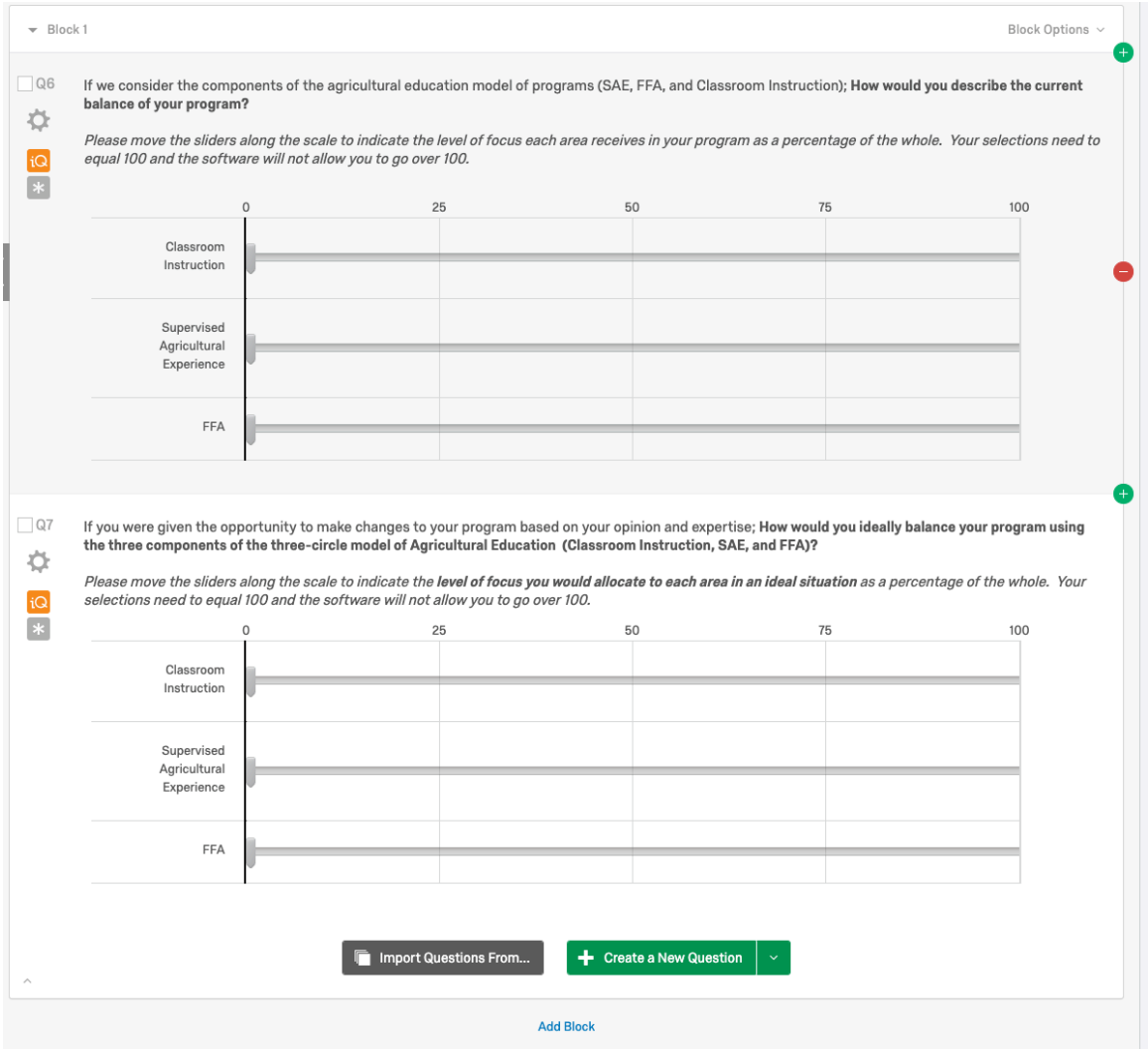
Q4 How did you earn your teaching license or certificate?

- Traditional University Degree Program (Undergraduate or Graduate)
- Alternate Licensure Program
- Other

Q5 What is your gender?

- Male
- Female
- I choose not to respond.

Import Questions From... | Create a New Question


Block 1
Block Options
Q6
If we consider the components of the agricultural education model of programs (SAE, FFA, and Classroom Instruction); How would you describe the current balance of your program?
Please move the sliders along the scale to indicate the level of focus each area receives in your program as a percentage of the whole. Your selections need to equal 100 and the software will not allow you to go over 100.
0
25
50
75
100
Classroom Instruction
Supervised Agricultural Experience
FFA
Q7
If you were given the opportunity to make changes to your program based on your opinion and expertise; How would you ideally balance your program using the three components of the three-circle model of Agricultural Education (Classroom Instruction, SAE, and FFA)?
Please move the sliders along the scale to indicate the level of focus you would allocate to each area in an ideal situation as a percentage of the whole. Your selections need to equal 100 and the software will not allow you to go over 100.
0
25
50
75
100
Classroom Instruction
Supervised Agricultural Experience
FFA
Import Questions From...
Create a New Question
Add Block

Block 2 Block Options

ost-Secondary partnerships include programs orking with community colleges, universities, nd t...

recommended by the FFA and Local Program Success programs as well as required components in some legislation.

Please indicate your level of utilization of advisory committees.

In our program, Advisory Committees are used to help determine:

	Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
The overall direction of our program.	○	○	○	○	○	○
Curriculum focus or content in the classes taught.	○	○	○	○	○	○
The FFA activities and contests we participate in.	○	○	○	○	○	○
The focus of SAE activities for members and participation at Stock Shows or Fairs.	○	○	○	○	○	○

Q9 Many programs have alumni chapters, booster groups, or some other community support organization to help their chapter.

Please indicate your level of utilization of alumni chapters, alumni groups or booster groups.

In our program, a Community Support Organization (i.e. alumni or booster group) is used to help determine:

	Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
The overall direction of our program.	○	○	○	○	○	○
Curriculum focus or content in the classes taught.	○	○	○	○	○	○
The FFA activities and contests we participate in.	○	○	○	○	○	○
The focus of SAE activities for members and participation at Stock Shows or Fairs.	○	○	○	○	○	○

Q10

Post-Secondary partnerships include programs working with community colleges, universities, and trade schools.

Please indicate your level of utilization of post-secondary partners.

In our program, post-secondary partnerships are used to help determine:

	Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
The overall direction of our program.	○	○	○	○	○	○
Curriculum focus or content in the classes taught.	○	○	○	○	○	○
The FFA activities and contests we participate in.	○	○	○	○	○	○
The focus of SAE activities for members and participation at Stock Shows or Fairs.	○	○	○	○	○	○

Q11

Industry partners include production agriculture, agricultural service and manufacturing businesses, as well as any other business that can assist students or the program.

Please indicate your level of utilization of industry partners.

In our program, industry partnerships are used to help determine:

	Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
The overall direction of our program.	○	○	○	○	○	○
Curriculum focus or content in the classes taught.	○	○	○	○	○	○
The FFA activities and contests we participate in.	○	○	○	○	○	○
The focus of SAE activities for members and participation at Stock Shows or Fairs.	○	○	○	○	○	○

Q12

The level of involvement of school or district administration on programs is as varied as the programs themselves.

Please indicate your level of utilization or influence of district or school administration.

In our program, school or district administrators to help determine:

	Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
The overall direction of our program.	○	○	○	○	○	○
Curriculum focus or content in the classes taught.	○	○	○	○	○	○
The FFA activities and contests we participate in.	○	○	○	○	○	○
The focus of SAE activities for members and participation at Stock Shows or Fairs.	○	○	○	○	○	○

Q13

In many schools, the history and traditions of a program play a role in programmatic balance.

Please indicate your level of agreement to the influence of programmatic history.

In our school and chapter, Programmatic History help determine:

	Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
The overall direction of our program.	○	○	○	○	○	○
Curriculum focus or content in the classes taught.	○	○	○	○	○	○
The FFA activities and contests we participate in.	○	○	○	○	○	○
The focus of SAE activities for members and participation at Stock Shows or Fairs.	○	○	○	○	○	○

Q14

The level of autonomy and choices based on personal preference vary from program to program.

Please indicate your level of agreement to the influence of personal preference.

In our program, my personal preferences help determine:

	Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
The overall direction of our program.	○	○	○	○	○	○
Curriculum focus or content in the classes taught.	○	○	○	○	○	○
The FFA activities and contests we participate in.	○	○	○	○	○	○
The focus of SAE activities for members and participation at Stock Shows or Fairs.	○	○	○	○	○	○

Q15

Some states utilize programs to help assure program quality or adherence to state requirements or recommendations. Along with these programs there maybe reporting requirements like "Programs of Work" or "Statewide Programs of Study"

Please indicate your level of agreement to the influence of state programs or reports on your program.

In our program, state programs or reports influence:

	Strongly Disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
The overall direction of our program.	○	○	○	○	○	○
Curriculum focus or content in the classes taught.	○	○	○	○	○	○
The FFA activities and contests we participate in.	○	○	○	○	○	○
The focus of SAE activities for members and participation at Stock Shows or Fairs.	○	○	○	○	○	○

Block 3

Block Options

Besides providing awards to students and FFA members, there are awards and recognition available...

Q16 The FFA has within it in a series of degrees to be earned and awards to compete for, but the FFA is not unique in this. There are other youth organizations (agricultural and academic) that provide award structures and other opportunities for students to gain recognition and earn awards.

Please indicate your level of use of awards or recognition in motivating students.

I use the awards available to students as motivators for students to:

	Never	Almost Never	Occaisionaly	Often	Almost Always	Always
Have SAE Projects.	○	○	○	○	○	○
Engage in FFA Activities.	○	○	○	○	○	○
Engage in Academic Activities.	○	○	○	○	○	○

Q17 The national FFA organization awards millions of dollars annually in scholarship monies every year and some states take pride in offering even more than that. Additionally, there is money to be made through award premiums and livestock sales through stock shows and fairs

Please indicate your level of use of financial incentives in motivating students.

I use available scholarships, premiums, and/or other financial incentives as motivators for students to:

	Never	Almost Never	Occaisionaly	Often	Almost Always	Always
Which SAEs to focus on or engage in.	○	○	○	○	○	○
Which FFA activities to focus on or engage in.	○	○	○	○	○	○
Curriculum or classroom focus.	○	○	○	○	○	○

Q18 Besides providing awards to students and FFA members, there are awards and recognition available for chapters and programs. In addition to specific and structured awards, there exist opportunities to market a program through the media.

Please indicate your level of use of chapter awards or recognition to determine program activities.

I use the awards or recognition available to the chapter as a factor in encouraging students to:

	Never	Almost Never	Occaisionaly	Often	Almost Always	Always
Have SAE Projects.	○	○	○	○	○	○
Engage in FFA Activities.	○	○	○	○	○	○
Engage in Academic Activities.	○	○	○	○	○	○

Import Questions From... | Create a New Question

Appendix F – IRB Modification Approval

TEXAS TECH UNIVERSITY
Human Research
Protection Program

Jan 31, 2019 3:15 PM CST

John Rayfield
Ag Education and Communication

Re: IRB2018-975 Exploring Programmatic Balance in Texas School Based Agricultural Education Programs

Findings: Modification approved. Good luck with your research.

Dear Dr. John Rayfield, Keith Frost:

The proposed modification has been approved to the protocol referenced above within the exempt category.

Exempt research is not subject to annual review by the IRB. Any change to your protocol requires a **Modification Submission** for review and approval prior to implementation.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite our best intent, unforeseen circumstances or events may arise during the research. If a deviation, unanticipated problem or adverse event happens during your research, please notify the Texas Tech University, Human Research Protection Program as soon as possible (45 CFR 46). We will ask for a complete explanation of the event and for you to submit an **Incident Submission** in Cayuse IRB.

Your study may be selected for a Post-Approval Monitoring (PAM). You will be notified if your study has been chosen for a PAM. A PAM investigator may request to observe your data collection procedures, including the consent process.

Once your research is complete, please use a **Closure Submission** to terminate this protocol.

Sincerely,

Scott Burris, Ph.D.
Chair Texas Tech University Institutional Review Board
Professor, Department of Agricultural Education and Communications
Human Research Protection Program
357 Administration Building
Lubbock, Texas 79409-1075
T 806.742.2064
www.hrpp.ttu.edu

Appendix G – Delphi Study Initial Contact

Request to Participate in a Research Project

Member of NASAE

I am a doctoral student at Texas Tech University and my dissertation research is investigating how programs determine how advisors work to "balance" the elements of agricultural education. Programmatic balance is a term often used in discussion but has not been defined beyond an individual or operational level.

I am seeking your participation in a national study to create a research-based working definition of "programmatic balance". This study will take place in three phases. The first round consists of one or two open ended questions. The written responses for these questions will be evaluated for common phrases, concepts, or themes. The second and third round will involve you providing levels of agreement with the collected themes to develop group consensus.

In a few days, you will receive an email for the first phase in which will include a link to a secure Qualtrix survey with the initial question. Your responses will be compiled, and subsequent rounds will come in the weeks that follow.

Your participation is completely voluntary, and your responses will be kept confidential. This study has been approved by the Institutional Review Board at Texas Tech University and no personally identifiable information with be associated with your responses in any form. If you have any questions regarding this study, please contact myself or my committee chair, Dr. John Rayfield (john.rayfield@ttu.edu).

You were selected specifically for this study because of your expertise in agricultural education and your unique position at the center of State and National FFA organizations, post-secondary teacher certification programs, and classroom school based agricultural education (SBAE) teachers. The value we place on your input cannot be understated.

Thank you for your time and consideration.

Keith J. Frost
Keith.Frost@ttu.edu
541.761.3445

Appendix H – Delphi Study First Study Email

Last week you should have received an email requesting your participation in a research study to define "Programmatic Balance" in secondary school based agricultural education (SBAE) programs.

The link below is connected to the secure, round one survey through Qualtrix. The survey consists of two questions, the first is a multiple choice (demographic question) and the second is an open-ended writing prompt where you will be able to write as much as you would like to share your thoughts. You have the option to open the survey and return to it after collecting your thoughts and/or using another program to write it.

LINK HERE - LINK HERE - LINK HERE - LINK HERE -

Your participation is completely voluntary, and your responses will be kept confidential. This study has been approved by the Institutional Review Board at Texas Tech University and no personally identifiable information with be associated with your responses in any form. If you have any questions regarding this study, please contact myself or my committee chair, Dr. John Rayfield (john.rayfield@ttu.edu).

Thank you again for your time and consideration. Your input is very valuable and your time is appreciated.

Keith J. Frost
Keith.Frost@ttu.edu
541.761.3445

Appendix I – Delphi Study First Reminder

On September 27th, I sent you an invitation to participate in a research study which was followed on October 1 with a link to the survey. This message is a follow up reminder to ask you to please participate and provide your valuable input.

Below is a link to a secure survey through Qualtrix. The survey consists of two questions, the first is a multiple choice (demographic question) and the second is an open-ended writing prompt where you will be able to write as much as you would like to share your thoughts.

You have the option to open the survey and return to it after collecting your thoughts and/or using another program to write your response.

https://ttucasnr.az1.qualtrics.com/jfe/form/SV_4UYStAfEi5wV9yZ

If you have any issues with the link or the survey, please contact me and I will work to resolve it as best I can.

As a reminder, your participation is completely voluntary, and your responses will be kept confidential. This study has been approved by the Institutional Review Board at Texas Tech University and no personally identifiable information with be associated with your responses in any form. If you have any questions regarding this study, please contact myself or my committee chair, Dr. John Rayfield (john.rayfield@ttu.edu).

Thank you again for your time and consideration. Your input is very valuable and your time is appreciated.

Keith J. Frost
Keith.Frost@ttu.edu
541.761.3445

Appendix J – Delphi Study Final Reminder

State Leaders of Agricultural Education,

I hope this message finds you well and, if you attended National Convention, on your way to being caught up and rested. As many of you know, I am conducting a study in an effort to define "programmatic balance" in agricultural education. I am thankful to have had the opportunity to speak at your national meeting and have conversations with some of you. Your comments and feedback were insightful and powerful.

Round one of this study is nearly complete and this message will be the last reminder to provide input. To date, I have received 35 completed surveys, all of which had outstanding feedback and input. More responses only serve to make the study stronger and the collaborative definition more accurate. If you have not yet had the time to complete both questions of the survey, please consider doing so. You are in a unique position and your perspective is respected and valued.

As with previous emails, I have included below a secure link to a Qualtrix survey. This portion of the study consists of two questions, the first is a multiple choice (demographic question) and the second is an open-ended writing prompt where you will be able to write as much as you would like to share your thoughts.

You have the option to open the survey and return to it after collecting your thoughts and/or using another program to write your response.

https://ttucasnr.az1.qualtrics.com/jfe/form/SV_4UYStAfEi5wV9yZ

If you have any issues with the link or the survey, please contact me and I will work to resolve it as best I can.

As a reminder, your participation is completely voluntary, and your responses will be kept confidential. This study has been approved by the Institutional Review Board at Texas Tech University and no personally identifiable information with be associated with your responses in any form. If you have any questions regarding this study, please contact myself or my committee chair, Dr. John Rayfield (john.rayfield@ttu.edu).

Thank you again for your time and consideration. Your input is very valuable, and your time is appreciated.

Keith J. Frost
Keith.Frost@ttu.edu
541.761.3445